

**An Examination of the Relationship Between
Athletic Identity and Career Maturity in Student-Athletes**

by

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Abstract

This study explored the extent to which athletic identity, belief of financial sustainability through participation at the professional level, scholarship status, and career decision-making self-efficacy predict career maturity in college athletes. In addition, whether the relationship between athletic identity and career maturity differed depending upon scholarship status, the student-athletes' belief that they can sustain themselves financially as professionals, or career decision-making self-efficacy was explored. In order to examine the link between these variables and career maturity, approximately 250 student-athletes from a large southeastern university were recruited to participate in the present study. Participants completed a demographic information sheet, the Athletic Identity Measurement Scale, Career Decision Self-Efficacy Scale-Short Form, and Career Decision Scale. Participants were recruited in the Student-Athlete Development Center. Hierarchical regression analyses were employed to test the extent to which athletic variables relate to career maturity. From the analyses, athletic identity predicted career maturity, such that high athletic identity was associated with low career maturity. Career decision-making self-efficacy also predicted career maturity, with high career decision-making self-efficacy associated with high career maturity. Study results did not support the hypotheses that athletic identity and career decision-making self-efficacy would interact to predict career maturity. Future research needs to further explore psychological variables that may explain the relationship between athletic identity and career maturity.

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I. Introduction

Collegiate student-athletes are a special population with unique demands and privileges (Figler & Figler, 1984). Student-athletes who receive scholarships (and even some who do not) are chosen and recruited from high school to participate in sports at their respective institutions (Figler & Figler). They are allotted priority scheduling (i.e., allowed to schedule for classes before the majority of college students), excused from classes due to competitions and events, seen at competition sights and in the media (Figler & Figler), and often admired by fellow students, faculty, administrators, and alumni. In addition, universities heavily invest in their student-athletes (e.g., Ohio State University's football team budget during the 2006-2007 academic year was approximately 101.8 million dollars; Wieberg & Whiteside, 2007). Athletes also invest in sport as part of their identity (Brewer, Van Raalte, & Linder, 1993). Athletes' identification with the athlete role is facilitated by not having to be employed to support school expenses, having coaches reinforce their self-definition as elite athletes, and having a team as a social network (Stephan & Brewer, 2007). These same individuals also report that their involvement in elite sport gives meaning to their lives.

Although it is true that student-athletes enjoy a certain amount of privilege in being student-athletes, they also experience pressures specifically related to being an athlete. Student-athletes must maintain a standard number of credit hours and grade point average to remain eligible to play their sport and to continue receiving funding (i.e., if they are on a scholarship). Athletes must also make time for practice, travel, and competition demands (Figler & Figler, 1984). The pressure, time demands, energy, and general investment athletes place on sport can

lead to a decrease in planning for life after college, decreased career planning, and decreased career maturity (Figler & Figler; Murphy, Petitpas, & Brewer, 1996).

Approximately 1% of student-athletes will continue their athletic career past college into the professional level (Figler & Figler, 1984), leaving 99% needing to find employment outside of the athlete role. The actual figure of 1% is drastically different than the 48% of student-athletes who expect to play at the professional level (Kennedy & Dimick, 1987). This raises the question to what extent student-athletes consider alternative options for their careers if they are not among the 1% continuing to the professional level. Student-athletes may believe that their history as an athlete will be sufficient for success in life or that they can ensure that they will reach the professional athlete level (Figler & Figler). These patterns of thinking highlight the importance of exploring the costs of identifying so heavily with the athlete role. If student-athletes are sacrificing other parts of their identity in the name of excellence in sport performance, critical developmental tasks and stages in other parts of life may be missed or ignored. These omissions may reduce the possibility of developing a multidimensional sense of self (Datish, Petitpas, & Hale, 1993).

Although some student-athletes sacrifice other aspects of their identity in the name of sport, this is not the case for all. Different factors may determine if individuals focus solely on being an athlete or expand their sense of self outside of sport. Level of athletic talent is positively related to likelihood of receiving a scholarship and, despite the fact that athletes in revenue producing sports (e.g., football and basketball) have unrealistic expectations of playing at the professional level (Kennedy & Dimick, 1987), revenue producing sport athletes are statistically more likely to go on to be professionals (2%; NCAA, 1998 as cited in Stankovich, Meeker, & Henderson, 2001). As such, some athletes have a higher probability of creating a professional

athletic career while others are statistically unlikely to reach the professional sport level. These differences may lead to important differences in how student-athletes think about their career options during their college years. In other words, the extent to which individuals fully consider their career options may differ depending upon factors such as scholarship status (i.e., scholarship vs. non-scholarship), the belief that they (i.e., the student-athletes) can sustain themselves financially as a professional athlete, overall level of investment in the athlete role, and the extent to which they perceive themselves as able to make good career decisions.

Identity Development

One model for understanding issues related to identity in student-athletes is Erik Erikson's theory of psychosocial development (1968). Erikson (1968) defined identity development as an unconscious process that unites personality in such a way that it connects the individual to the social world. He described the development of each individual as an invariant sequence of eight stages in which the individual confronts a different crisis at each stage. Perhaps the most central crisis to the theory is that of *identity development*, which coincides with the age of traditional college students. In fact, Erikson viewed earlier stages as preparing an individual for the *identity development* stage and believed failure to develop one's own identity was likely to lead to difficulty with later life stages (as cited in Miller, 2002). During this time period, adolescents may try to develop who they are by identifying with others, and in the latter part of this stage (college years), the identity of an individual is either solidified or questioned (Erikson).

Super (1990) proposed a theory of career development that can augment the application of Erikson's theory with regard to career-related identity issues. According to Super's theory, individuals confront various developmental tasks as they progress through different stages in which career and work become more or less a focal point of their identity. For example,

adolescents and young adults (i.e., ages 14-24) develop an early sense of career maturity as they go through the *exploration stage* of career development, in which they spend considerable time and effort reflecting on occupational interests and preferences. This stage of career development parallels Erikson's identity development stage of *identity versus role confusion*.

Athletic Identity

As adolescents begin developing their unique sense of self during Erikson's stage of *identity versus role confusion*, and begin to develop their career preferences during Super's *exploration stage*, athletics is just one of many potential areas that could serve as a vehicle or expression of this development. Recent research has begun to focus on identity and the identity development process in the athlete population. Athletic identity can be defined as the degree to which an individual identifies with the athlete role (Brewer et al., 1993). The majority of past research on athletic identity focused on athletic identity and career-ending injury in sport (Brewer, 1993), athletic retirement (Alfermann, Stambulova, & Zemaityte, 2004), and career related issues (e.g., Chartrand & Lent, 1987; Shachar, Brewer, Cornelius, & Petitpas, 2004). Much of the existing research on athletic identity, as it relates to career issues, focuses on negative factors associated with athletic identity upon ending one's career (e.g., increased depressive symptoms in response to career ending injuries, less pre-retirement planning, increased anxiety related to retirement, problems adapting to retirement; Alfermann et al., 2004; Brewer; Grove, Lavalley, & Gordon, 1997). In addition, increased identification with the athlete role appears to place individuals "at risk" for minimizing career exploration behaviors prior to retirement (Chartrand & Lent). In other words, those with high athletic identity spend less time exploring their career options. Essentially, athletes are particularly vulnerable to a lack of age-appropriate development of career maturity (Pearson & Petitpas, 1990).

Career Decision-Making Self-Efficacy

Related to the construct of career maturity is the concept of career decision-making self-efficacy (Betz, Klein, & Taylor, 1996; Betz & Vuyten, 1997; Luzzo, 1993b; Taylor & Betz, 1983). Career decision-making self-efficacy is defined as the belief that one can successfully complete a task or tasks necessary to make a career decision (Taylor & Betz). Career decision-making self-efficacy is associated with demographic variables (e.g., race; Chaney, Hammond, Betz, & Moulton, 2007; Chung, 2002; Gloria & Hird, 1999), indecision and decision-making difficulties (e.g., Amir & Gati, 2006; Osipow & Gati, 1998; Srsic & Walsh, 2001), and psychological variables (e.g., general self-efficacy, emotional intelligence, leadership confidence; Amir & Gati; Betz et al., 1996; Chaney et al., 2007).

Research exploring demographic variables in relation to career decision-making self-efficacy has failed to show substantial gender differences (Bergeron & Romano, 1994; Betz et al., 1996; Luzzo, 1993b; Luzzo, 1996), and literature appears to be mixed regarding differences amongst races and ethnicities (Chaney et al. 2007; Chung, 2002). In contrast, research on the relationship between decision-making difficulties and career decision-making self-efficacy is more consistent with greater career decision-making self-efficacy linked with lower levels of career decision-making difficulty and vocational indecision (Osipow & Gati, 1998; Taylor & Popma, 1990). Higher levels of career decision-making self-efficacy are also associated with higher levels of decidedness, exploratory intentions, career decision-making attitudes (i.e., career maturity), and occupational self-efficacy (Amir & Gati, 2006; Luzzo, 1993b; Taylor & Popma). Furthermore, career decision-making self-efficacy is linked with higher levels of general self-efficacy (Betz et al.), emotional intelligence (Brown, George-Curran, & Smith, 2003), leadership confidence (Paulsen & Betz, 2004), maternal and peer attachment (Wolfe & Betz, 2004),

openness, extraversion, and conscientiousness (Page, Bruch, & Haase, 2008), as well as the status of identity achievement (Nauta & Kahn, 2007) and adaptive perfectionism (Granske & Ashby, 2007; Page et al., 2008).

When compared to nonathletes, student-athletes have lower career decision-making self-efficacy (Brown, Glastetter-Fender, & Shelton, 2000). The number of hours training (i.e., per week) and the amount of identity foreclosure is negatively correlated with career decision-making self-efficacy in student-athletes. Also related to identity, after exposing student-athletes to the Positive Transitions Model of Sport Retirement, a program designed to build student-athletes' confidence in transferring their athletic skills beyond sport, athletic identity decreased and career decision-making self-efficacy and career maturity increased (Stankovich et al., 2001).

Career Maturity

Career maturity is defined as one's ability to make reasonable and responsible career decisions with an awareness of what the requirements are to make such decisions (Levinson, Ohler, Caswell, & Kiewra, 1998). In his model of career maturity, Crites (1974) broke down the construct into four smaller facets that included consistency of vocational choice (i.e., frequency of change in career choice over time), realism of vocational choice (i.e., career choice that matches both the interests and abilities of the individual), vocational choice competencies (i.e., individual's ability to plan, problem solve, choose career goals, gather information, and evaluate themselves), and vocational choice attitudes (i.e., involvement in the career choice process, orientation toward work, independence of decision-making, preferences for career choice factors, and the career choice process).

Several factors including demographic information, job related issues, and psychological variables are associated with the construct of career maturity (Bloor & Brook, 1993; Healy,

O'Shea, & Crook, 1985; Kornspan & Etzel, 2001; Luzzo, 1995b; Murphy et al., 1996; Patton & Lokan, 2001). Older age, female sex, (Busacca & Taber, 2002; Healy et al., 1985; Luzzo, 1995a; Naidoo, 1998; Patton & Creed, 2001), work salience (an individual's satisfaction with the work role compared to other life roles; Naidoo), and perceptions of congruence between current job and job aspirations are associated with higher levels of career maturity (Luzzo, 1995b). Career maturity is also positively associated with career decision-making self-efficacy (Luzzo, 1993b), increased commitment to career goals (i.e., high career maturity), and higher life satisfaction and self-esteem, (Bloor & Brook).

The unique career issues found among student-athletes have led a substantial number of researchers to examine career maturity in this population (Brown & Hartley, 1998; Kennedy & Dimick, 1987; Kornspan & Etzel, 2001; Murphy et al., 1996; Smallman & Sowa, 1996). One particularly salient psychological variable that relates to career maturity in student-athletes is athletic identity. The research linking athletic identity and career maturity has yielded mixed results with some researchers finding no relationship (Brown & Hartley; Kornspan & Etzel) and others finding a negative relationship (Murphy et al.). Researchers have also investigated two other athlete related variables, scholarship status and revenue status, in relation to career maturity (Kennedy & Dimick; Smallman & Sowa). When researchers combine the variables of revenue status, scholarship status, athletic identity, and career maturity, those student-athletes in revenue producing sports have significantly lower levels of career maturity than those in non-revenue producing sports and those with scholarships have lower levels of career maturity compared to their non-athletes counterparts (Blann, 1985; Murphy et al.).

Given that certain student-athletes have lower career maturity (e.g., scholarship athletes in revenue producing sports), it is understandable that 48% of student-athletes in revenue-

producing sports (i.e., football and basketball) have the unrealistic expectation of playing at the professional level (i.e., only 3% become professionals; Kennedy & Dimick; NCAA, 1998 as cited in Stankovich et al., 2001; Leonard, 1996). Research is needed that expands this finding beyond just revenue producing sports. For example, perhaps it is not the fact that an athlete is in a revenue producing sport that leads to lower career maturity, but in a broader sense, that the athlete believes that when he/she leaves the collegiate environment he/she will be able to sustain himself/herself financially as an athlete in his/her respective sport. That is, perhaps it is the belief that an athlete has that he/she can develop his/her skills to such a level that he/she will be able to sustain himself/herself as a professional athlete that is of more importance to focus our attention on as researchers. Thus, researchers should examine collegiate student-athletes from a variety of sports (e.g., golf, baseball, swimming) and these athletes' expectation that they will be able to sustain themselves financially as professional athletes once they leave the collegiate level. Based upon the previous literature, it seems particularly important to explore potential differences in strength of the relationship between athletic identity and career maturity as a function of scholarship status and student-athletes' expectations that they will be able to sustain themselves financially as a professional athlete.

Statement of the Problem

Theory on identity and career development indicates that the college age years (i.e., ages 18-22) are a time of fundamental change and growth (Erikson, 1968; Super, 1990). One of the many areas that may add to the development of one's identity is participation in athletics. The majority of past research on athletic identity has focused on career ending injury in sport (Brewer, 1993), athletic retirement (Alfermann et al., 2004), and career-related issues (Chartrand & Lent, 1987; Murphy et al., 1996; Pearson & Petitpas, 1990; Shachar et al., 2004). The present

study examined the relationship between athletic identity and career maturity. Previous research on the relationship between athletic identity and career maturity has yielded mixed results with some researchers finding a negative relationship (Murphy et al.) and others finding no relationship (Brown & Hartley, 1998; Kornspan & Etzel, 2001). It may be that other factors operate in relation to these two variables. Based upon previous research with athletes, career decision-making self-efficacy, scholarship status, and student-athletes' belief that they can sustain themselves financially as a professional athletes may act as variables that moderate the relationship between athletic identity and career maturity. The current study explored the relationship between athletic identity and career maturity as well as how the variables of scholarship status, belief one can sustain himself/herself financially as a professional athlete, and career decision-making self-efficacy affect that relationship.

Significance

Exploring the relationship between athletic identity and career maturity as well as the impact that scholarship status, belief one can sustain himself/herself financially as a professional athlete, and career decision-making self-efficacy have on that relationship can provide new and important information to individuals working with athletes (e.g., sport psychologists, athletic academic counselors, coaches, career counselors). Individuals working with this population have the opportunity to use the results of this study to increase understanding of athletes, increase empathy, and to form stronger working relationships. The information gathered from this study also has the potential to aid in identifying athletes who may be at risk for low career maturity such that those working with athletes can provide more focused efforts to increase career maturity among athletes who may be most likely to struggle with identification beyond the athlete role. Furthermore, by examining both athlete variables (i.e., belief one can sustain

himself/herself financially as a professional athlete and scholarship status) and a psychological variable (i.e., career decision-making self-efficacy) this study provides increased understanding of the underlying factors that combine to contribute to the relationship between athletic identity and career maturity. This in turn allows for a deeper and clearer understanding of collegiate student-athletes and thus an increased ability to facilitate the potential of this population.

Research Hypotheses

1. Athletic identity will significantly predict career maturity, with higher athletic identity predicting lower career maturity.
2. Student-athletes' belief that they can sustain themselves financially as a professional athlete will predict career maturity.
 - 2.a. Belief one can sustain himself/herself financially as a professional athlete will predict career maturity above and beyond that which could be predicted by athletic identity.
 - 2.b. The relationship between athletic identity and career maturity will be more negative for athletes who more strongly believe they can sustain themselves financially as a professional athlete.
3. Scholarship status will predict career maturity.
 - 3.a. Scholarship status will predict career maturity above and beyond that which could be predicted by athletic identity.
 - 3.b. The relationship between athletic identity and career maturity will be more negative for those student-athletes receiving more financial support in the form of athletic scholarship compared to those receiving less financial support for their role as a student-athlete.
4. Career decision-making self-efficacy will predict career maturity.

4.a. Career decision-making self-efficacy will predict career maturity above and beyond that which would be predicted by athletic identity.

4.b. The relationship between athletic identity and career maturity will be more negative for athletes with lower career decision-making self-efficacy compared to those with relatively higher levels of career decision-making self-efficacy.

5. Athletic identity, belief one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy will interact to predict career maturity.

Operational Definitions

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

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

Career Decision-Making Self-Efficacy. Taylor and Betz (1983) defined career decision-making self-efficacy as the belief that one can successfully complete a task or tasks necessary to make career decisions. Career decision-making self-efficacy will be operationally defined as total score on the Career Decision Self-Efficacy Scale Short-Form (Betz, Hammond, & Multon, 2005).

Career Maturity. Career maturity has been defined as one's ability to make reasonable and responsible career decisions with an awareness of what the requirements are to make such decisions (Levinson, et al., 1998). In this investigation, career maturity will be operationally defined as the total score on the Career Decision Scale (CDS; Osipow, Carney, Winer, Yanico, & Koschier, 1976).

Belief one can Sustain Himself/Herself Financially as a Professional Athlete. For this investigation, belief one can sustain himself/herself financially as a professional athlete will be operationally defined as scores on the likert-type item on the demographic form asking “How likely do you believe you are, on a scale of 1-7, to sustain yourself financially as a professional athlete?”

Scholarship Student-Athletes. For this investigation, scholarship student-athletes will be operationally defined as any student-athlete receiving financial support in the form of athletic scholarship from the athletic department (e.g., tuition, books, fees, and living expenses; Kennedy & Dimick, 1987).

Non-Scholarship Student-Athletes. For this investigation, non-scholarship student-athletes will be operationally defined as any student-athlete not receiving any financial aid in the form of athletic scholarship from the athletic department (e.g., no aid for tuition, books, fees, and living expenses), but does not preclude the athlete from receiving aid from other sources such as academic scholarships.

II. Review of Literature

Collegiate student-athletes are a specific population that faces unique challenges and pressures that affect their development as multifaceted and multidimensional individuals (Etzel, Ferrante, & Pinkney, 1991; Figler & Figler, 1984). Student-athletes in college experience an environment in which they not only have the demands of maintaining good academic standing (i.e., a demand faced by non student-athletes), but also encounter several athlete specific pressures. Student-athletes must learn to balance their school and athletic demands, potential athletic injury, competition pressures, and relationship difficulties with teammates and coaches, as well as pressure from fans and the general public to perform at the highest level (Etzel et al., 1991). Student-athletes must maintain a specific number of credit hours and grade point average to remain eligible to play their sport and continue receiving funding (i.e., if they are on a scholarship), while also schedule time for practice, travel, and competition demands (Figler & Figler).

The uniqueness of the student-athlete population is communicated to this group of students even before they arrive on campus. Student-athletes on scholarship are chosen and recruited from high school to participate in sports at their respective institutions (Figler & Figler, 1984). After arriving at college, they receive priority scheduling (i.e., allowed to schedule for classes before the majority of college students) throughout their tenure at the institution, are allowed to miss class time and assignments due to competitions and events, are seen at competition sights and in the media (Etzel et al., 1991; Figler & Figler), and are admired by fellow students, faculty, administrators, and alumni. Although this population is admired in the

media and on campus, student-athletes are also under more scrutiny because of this enhanced attention. Especially at Division I institutions, any type of error, on or off the field (e.g., missed shots, arrests, outburst in class, general misconduct), may affect the student-athletes for weeks and even months afterwards due to media coverage and university chatter (Etzel et al.).

The environment set up by the athlete department also creates and adds to the uniqueness of the student-athlete population. Athletic departments are often seen as separate entities from the rest of the university and may even be viewed as independent business within the university (Etzel et al., 1991). For example, Ohio State University's football team budget during the 2006-2007 academic year was approximately 101.8 million dollars (Wieberg & Whiteside, 2007). The individual student-athletes involved can internalize the independence and uniqueness set up in the system. Athletes also invest in sport as part of their identity (Brewer et al., 1993). In addition to the system of the athletic department functioning to promote the identification with the athlete role, athlete's over identification with the athlete role is facilitated by not having to be employed, having coaches reinforce their self-definition as elite athletes, and having a team as a social network (Stephan & Brewer, 2007). Additionally, student-athletes report involvement in elite sport as creating meaning in their lives (Stephan & Brewer). The pressure, time demands, energy, and exclusivity with which they associate with the athlete role can lead to a decrease in planning for life after college, decreased career planning, and decreased career maturity (Figler & Figler, 1984; Murphy et al., 1996).

Several factors lead to student-athletes actively avoiding working on career planning and increasing their career maturity. These factors include enhanced visibility, time limitations, myths on campus about student-athletes, and personal attributes (Etzel et al., 1991). Due to their popularity and exposure on campus, student-athletes may feel awkward or nervous about

presenting at a college counseling center or career services. They may feel that their role as a “hero” on campus may be jeopardized. Regarding time limitations, student-athletes spend a large amount of time during their day doing required activities related to their sport (e.g., practice, injury rehabilitation, watching game film, team meetings). Also, counseling centers and career service’s hours often fall during practice times. This makes it virtually impossible to access the services needed to directly affect one’s career maturity (Etzel et al., 1991). Myths about student-athletes may also hinder career exploration practices of student-athletes. For example, services on campus may assume that the athletic department provides career services to student-athletes independent of the career services on campus. Faculty and staff may also not provide career services to student-athletes (or the athletic department) because they believe that student-athletes are a “pampered minority with extraordinary personal privileges” (Etzel et al., p. 9). This resentment may hinder the opportunities available to student-athletes to explore career options outside of sport. Finally, student-athletes’ personal attributes may affect their level of career maturity or exploration. Student-athletes may be over-reliant on others to help them (e.g., coaches), they may be reluctant to seek help due to the masculine environment promoted in sport community, and student-athletes may expect a quick solution to their career problems (Etzel et al.).

It is apparent after reviewing the unique factors that may lead to less career planning and career maturity in student-athletes that many of the factors hinge on over-identifying with both being an athlete and the athletic culture in general. If student-athletes are sacrificing other parts of their identity in the name of excellence in sport performance, critical developmental tasks and stages in other parts of life are missed or ignored. These omissions may reduce the possibility of

developing a multidimensional sense of self, and more specifically, a well thought out career path (Datish et al., 1993).

Several developmental theories apply to the decisions that collegiate student-athletes make regarding their college and sports careers (Erikson, 1968; Super, 1990). Erikson's theory of identity development applies to young adults of college age including collegiate student-athletes (i.e., 18-23 years). According to Erikson, college-aged students are confronted with the issue of *identity versus role confusion*. It is at this stage of *identity versus role confusion* that the identity of an individual is either solidified or questioned. The individual's task is to develop his or her own identity and sense of self. Among collegiate student-athletes, the athlete role may be a part of their identity that they solidify, as indicated by an increase in athletic identity during adolescence and early adulthood (Greendorfer & Blinde, 1985; Houle, Brewer, & Kluck, 2010).

Career development theory is another theory that provides a mechanism for understanding the development of college-aged adults. As is true with Erikson's theory, career development theory also relates to collegiate student-athletes and the decisions this population must face. According to Super's (1990) theory, individuals develop through different stages in which career and work become more or less a focal point of their identity. Super delineated five major career stages through which individuals progress during the life span (i.e., *growth, exploration, establishment, maintenance, and disengagement*). The most applicable stage to collegiate student-athletes is the *exploration stage* (i.e., ages 14-24). During this stage individuals mature through adolescence to young adulthood and begin to reflect on occupational interests and develop occupational preferences. This stage of career development parallels Erikson's identity development stage of *identity versus role confusion*. At the same time, within their athletic career, the college student-athletes may be expected to be at the establishment or

maintenance stages, in which they assess how similar the occupation is to their self-concept and whether to stay in the current occupational field or to change jobs.

Athletic Identity

Athletics is just one of many areas that might facilitate the growth of an individual's identity. More recent literature on the topic of identity has begun to focus on the athletic identity of athletes. Athletic identity can be defined as the degree to which an individual identifies with the athlete role (Brewer et al., 1993).

Developmental Trends of Athletic Identity. Research is mixed with regards to the development of athletic identity. For example, when examining the importance individuals place on sport in their lives (i.e., importance of sport), a construct related to athletic identity, research suggests that the importance of sport for student-athletes increases throughout high school and declines sharply from athlete's freshman to senior year in college (Greendorfer & Blinde, 1985). Similarly, research indicates that the salience of the athlete role may decline over the college career of student-athletes (Brewer et al., 1993; Miller & Kerr, 2003). However, when examining the developmental trend of athletic identity over a period of time exceeding the four years of college (i.e., ages 10-23) research indicates that athletic identity appears to increase from ages 10 to 15, with no change from age 15 to individual's current age in college (Houle et al., 2010). This finding could lead to potential implications for individuals facing the following situations: career-ending sport injury, sport retirement, and career planning/exploration/decision-making.

Athletic Identity and Injury. Researchers have linked athletic identity and depressive responses in athletes who sustained career-ending injuries (Brewer, 1993; Manuel et al., 2002). Also when an athlete became injured, he or she tended to experience a sharp decline in his or her athletic identity (Wooten, 1994). In an investigation examining athlete's adherence to

rehabilitation regiments (i.e., adhering to requirements necessary to optimize rehabilitation from injury) following injury, as athletic identity declined, rehabilitation adherence increased (Roche, 2004).

Athletic Identity and Retirement from Sport. Similar to what happens with injury, a higher level of athletic identity is associated with greater difficulty with retirement (Webb, Nasco, Riley, & Headrick, 1998). Further, the less control athletes feel regarding their retirement (e.g., sudden injury), the more difficulty they experience in the transition from sport (Cecic, Wylleman, & Zupancic, 2004). Moreover, a strong athletic identity is related to severe psychological difficulties as well as difficulty for the athletes in adapting to a post-sport life (Alfermann et al., 2004; Cecic et al., 2004; Lavalley, Gordon, & Grove, 1997). The adjustment difficulties improve when athletic identity decreases. This decrease in athletic identity may be facilitated by “empathy” and “help” during the retirement process (Lavalley et al., 1997, p. 140).

Less pre-retirement planning and increased anxiety is also linked to higher levels of athletic identity (Grove et al., 1997). In addition, freshmen and sophomore student-athlete’s career related plans are not as well developed as non-athlete counterparts (Blann, 1985). Thus, it appears that there is a lack of planning before retirement, and more specifically less planning related to career options for athletes compared to nonathletes in the same situation. Perhaps this lack of planning is related to the over identification with sport (i.e., high athletic identity). When athletes do retire a positive relationship is present between athletic identity and difficulties with post-sport life (Cecic, 2001). Individuals with high athletic identity experience enhanced psychological difficulties compared to individuals with lower athletic identity when approaching retirement. Examples of the psychological difficulties experienced include difficulty with self-concept, lack of self-esteem, lack of self-control, and lack of self-respect (Cecic).

Athletic Identity and Career-Related Issues. The association between career-related issues and athletic identity has also been examined (Chartrand & Lent, 1987; Pearson & Petitpas, 1990; Shachar et al., 2004). Student-athletes may feel as though the process of taking time out of their athletic participation to concentrate on career-related issues may hinder their performance in sport (Petitpas, Danish, McKelvain, & Murphy, 1990). This may be one explanation for why student-athletes are unlikely to pursue career services at college counseling centers (Martens & Lee, 1998). Even when student-athletes are willing to pursue vocational counseling at the college counseling center, they may not have the ability to do so due to practice times, competitions, and/or academic commitments (Martinelli, 2000).

Given the fact that athletes may not have time to access the resources available to aid in vocational exploration (Martinelli, 2000), it is not difficult to understand why student-athletes high in athletic identity may experience anxiety related to career exploration and tend to have lower career maturity (Grove et al., 1997; Murphy et al., 1996). In a study that examined career choices of former athletes, a comparison was made between athletes who became coaches and athletes who did not become coaches (i.e., non-coaches). Non-coaches had a larger reduction in athletic identity and greater life satisfaction after sport, when compared to the athletes who became coaches (Shachar et al., 2004). A possible explanation for the difference between these two groups is that athletes identifying highly with the athlete role may be at risk for minimizing career exploration behaviors (Chartrand & Lent, 1987). Stated differently, athletes with high athletic identity may explore their career options with less vigor than athletes with low athletic identity. Perhaps, due to the lack of exploration, the coaches in the above investigation did not allow themselves an opportunity to find more satisfaction in a career unrelated to sport or coaching. This lack of exploration may also be related to the argument that athletes may be

particularly vulnerable to a lack of age appropriate development of career maturity (Pearson & Petitpas, 1990). Further research is needed to explore the relationship between athletic identity and career maturity in collegiate student-athletes.

Career Decision-Making Self-Efficacy

One possible way to understand the career maturity of student-athletes identifying highly with the athlete role is to examine their career decision-making self-efficacy. Similarly, examining the career decision-making self-efficacy of student-athletes may be one way that we can better understand their lack career maturity.

Prior to understanding the concept of career decision-making self-efficacy, it is important to first understand the broader construct of self-efficacy. Self-efficacy is defined as one's belief in his/her ability to perform a certain behavior (Bandura, 1977). Whereas low self-efficacy can lead to avoidance of a specific behavior, high self-efficacy leads to approaching behavior (Bandura). Thus, self-efficacy can be helpful when trying to understand individual's underlying motivation to partake in certain behaviors. For example, if one were to have high self-efficacy in his or her ability to make a career decision (i.e., a specific behavior) than according to Bandura, he/she would be more likely to approach or make a career decision. However, if one were to have low self-efficacy in his/her ability to make a career decision, than Bandura would predict that he/she would avoid making such a decision. Taylor and Betz (1983) made this connection when they defined career decision-making self-efficacy as the belief that one can successfully complete a task or tasks necessary to make a career decision.

To better define the concept of career decision-making self-efficacy, Taylor and Betz (1983) examined Crites's (1978) model of career maturity (Betz & Luzzo, 1996). Specifically, the authors became interested in Crites's concept of career choice competencies (i.e., one of the

four facets underlying career maturity). Due to the link between self-efficacy and feelings of competency, Taylor and Betz used the five domains of career choice competency delineated by Crites, to measure career-decision making self-efficacy (Betz & Luzzo). The five domains included accurate self-appraisal, gathering occupational information, goal selection, making plans for the future, and problem solving. These subscales did not measure the behaviors themselves (e.g., one's ability to gather occupational information), but one's belief about his/her ability to complete the behavior. This last comment highlights the fundamental difference between the concepts of career maturity and career decision-making self-efficacy. Whereas, career maturity is focused on individuals' attitudes and behaviors related to their career, career decision-making self-efficacy is centered on their belief in their ability to effectively execute the career related behavior.

Career decision-making self-efficacy has been examined in association with demographic variables (e.g., race and ethnicity; Chaney et al., 2007; Chung, 2002; Gloria & Hird, 1999), indecision and decision-making difficulties (Amir & Gati, 2006; Bergeron & Romano, 1994; Betz & Voyten, 1997; Luzzo, 1993b; Osipow & Gati, 1998; Srsic & Walsh, 2001; Taylor & Popma, 1990), and psychological variables (e.g., general self-efficacy and personality characteristics; Amir & Gati; Betz & Klein, 1996; Chaney et al.).

Career Decision-Making Self-Efficacy in Nonathletes. Researchers have failed to find consistent differences in career decision-making self-efficacy between men and women (Bergeron & Romano, 1994; Betz et al., 1996; Luzzo, 1993b; Luzzo, 1996). Regarding cultural background and differences in career decision-making self-efficacy, results are contradictory. While some researchers found that African American students have slightly higher career decision-making self-efficacy compared to Caucasian students (Chaney et al., 2007) and African

American students have higher career decision-making self-efficacy than other ethnic/racial minority groups (e.g., Asian and Hispanic; Chung, 2002), other researchers found that Caucasian students reported higher levels of career decision-making self-efficacy than their minority counterparts (Gloria & Hird, 1999).

In addition to demographic variables, the process of decision-making has been studied in relation to the construct of career decision-making self-efficacy (Amir & Gati, 2006; Bergeron & Romano, 1994; Betz & Vuyten, 1997; Luzzo, 1993b; Osipow & Gati, 1998; Srsic & Walsh, 2001; Taylor & Popma, 1990). Career decision-making self-efficacy is negatively associated with career decision-making difficulties and indecisiveness, but positively associated with degree of decidedness (Amir & Gati; Osipow & Gati). Thus, it appears as though the more confidence an individual has in their ability to complete a task related a career decision the more decided they are and the less difficulty they have in making a career decision. In addition, career decision-making self-efficacy is associated with increased exploratory intentions (i.e., the desire to explore career related paths; Betz & Vuyten). Moreover, career decision-making self-efficacy is associated with less vocational indecision and greater occupational self-efficacy (Taylor & Popma).

Career decision-making self-efficacy is also linked with outcome variables. When investigating college students and their career decision-making self-efficacy related to picking a college major, individuals who were decided on a major in college had higher career decision-making self-efficacy than those individuals who were undecided about their college major (Bergeron & Romano, 1994; Srsic & Walsh, 2001). In addition, career decision-making attitudes (i.e., a factor associated with career maturity), career decision-making skills, grade point average, and age predict career decision-making self-efficacy (Luzzo, 1993b). Moving beyond career

decision-making self-efficacy and decision-making difficulties, researchers have investigated career decision-making self-efficacy and psychological variables such as general self-efficacy (Betz & Klein, 1996), emotional intelligence (Brown et al., 2003), confidence (Paulsen & Betz, 2004), attachment (Wolfe & Betz, 2004), and personality/identity (Ganske & Ashby, 2007; Nauta & Kahn, 2007; Page et al., 2008). Generalized self-efficacy is strongly associated with career decision-making self-efficacy (Betz & Klein) and individuals who are more confident in their ability to successfully complete a task needed to make a career decision have higher levels of emotional intelligence (i.e., elevated levels of empathy, utilization of feelings, and self-control; Brown et al.). In addition, various types of confidence account for a significant amount (49%) of the variance in career decision-making self-efficacy (Paulsen & Betz). For example, leadership confidence correlated most strongly with career decision-making self-efficacy (i.e., .59). The relationship between career decision-making self-efficacy and attachment in both men and women has been studied (Wolfe & Betz). Career decision-making self-efficacy was positively related to maternal and peer attachment. Thus, those who reported being more confident in their ability to complete tasks necessary for a career decision were also more likely to be more firmly attached to their mothers and their friends.

Personality type and identity factors are also associated with the construct of career decision-making self-efficacy (Ganske & Ashby, 2007; Nauta & Kahn, 2007; Page et al., 2008). For example, the five-factor model of personality (i.e., neuroticism, extraversion, openness, agreeableness, perfectionism, conscientiousness) accounted for approximately 27% of the variance in career decision-making self-efficacy (Page et al.). In addition, the factors of neuroticism, extraversion, openness, and conscientiousness all made unique contributions to career decision-making self-efficacy when controlling for the other personality factors. While

neuroticism was negatively correlated with career decision-making self-efficacy, openness, extraversion, and conscientiousness were associated with increased career decision-making self-efficacy. Maladaptive perfectionism (i.e., perception that individuals have unrealistic expectations for one's performance) is also negatively related to career decision-making self-efficacy, and career decision-making self-efficacy is positively associated with adaptive perfectionism (i.e., abiding by standards of one's level of achievement in various domains) and nonperfectionism (Ganske & Ashby; Page et al.).

One aspect of personality is individuals' identity. Marica's (1966) identity statuses of identity achievement (i.e., individuals who have explored options and have committed), moratorium (i.e., individuals who have not made a commitment and have experienced a crisis), identity foreclosure (i.e., individuals who do not experience a crisis, yet commit), and identity diffusion (i.e., avoid making a commitment or having a crisis) are related to career decision-making self-efficacy with lower levels of moratorium and higher levels of achievement linked with greater career decision-making self-efficacy (Nauta & Kahn, 2007). In addition, identity foreclosure is negatively related to career decision-making self-efficacy.

Career Decision-Making Self-Efficacy in Student-Athletes. The research on career decision-making self-efficacy and identity extends to student-athletes, with student-athletes having lower career decision-making self-efficacy compared to nonathletes (Brown, et al., 2000). Within the group of student-athletes, the number of hours training (i.e., per week) is negatively associated with career decision-making self-efficacy. Finally, as in non-athletes, identity foreclosure is negatively associated with career decision-making self-efficacy (Nauta & Kahn, 2007).

To better understand the unique issues that may arise for athletes, researchers have also explored the relationship between athletic identity and career decision-making self-efficacy (Brown et al., 2000). Some research indicates a lack of association (Brown et al.), whereas other research supports the conclusion that there is a relationship between these two constructs (Stankovich et al., 2001). In other words, research examining athletic identity and career decision-making self-efficacy has yielded mixed results. When an association was found, student-athletes exposed to the Positive Transitions Model of Sport Retirement (i.e., a program designed to build student-athletes confidence in transferring their athletic skills beyond sport) experienced a decline in athletic identity and an increase in career decision-making self-efficacy and career maturity (Stankovich et al.). When measuring athletic identity, career locus of control, and career decision-making self-efficacy in predicting career maturity of junior college student-athletes, career locus of control and career decision-making self-efficacy explained 17% of the variance in the career maturity of student-athletes (Kornspan & Etzel, 2001) while athletic identity did not significantly explain career maturity (Kornspan & Etzel). Additional research will help shed light on the mixed results obtained in research examining the association between athletic identity and career decision-making self-efficacy by clarifying the relationship between athletic identity, career decision-making self-efficacy, and career maturity in student-athletes.

Career Maturity

Career maturity is defined as one's ability to make reasonable and responsible career decisions with an awareness of what the requirements are to make such decisions (Levinson et al., 1998). Crites (1974; 1978) developed one of the earliest models of career maturity. His model included four distinct constructs underlying an individual's overall career maturity; consistency of career choices (i.e., the coherence of individual's vocational preferences), realism

of career choices (i.e., level of match between vocational preferences and abilities), career choice competencies, and career choice attitudes (Busacca & Taber, 2002). While the first two constructs focus on the content of career maturity (i.e., a focus on interest and abilities), the second two constructs focus on the process of making a career decision (Busacca & Taber).

When measuring the construct of career maturity, Crites (1978) used the two process-oriented career maturity constructs: career choice attitudes and career choice competencies. Career choice attitudes involve an individual's attitude towards making a career choice. These attitudes are illuminated by examining factors such as involvement in the career choice process, orientation toward work, independence of decision-making, preferences for career choice factors, and the career choice process (Crites, 1981; Hansen, 1974). Career choice competencies represents the cognitive aspect of making a career choice (i.e., being able to accurately appraise oneself, gather occupational information, select goals, make plans for the future, and actively solve problems related to careers). Thus, career maturity does not only involve one's ability/competency related to his or her career, but his or her attitude as well.

Super (1983) also researched career maturity. Career maturity, according to Super, consists of five separate concepts including planfulness (i.e., autonomy, a perspective on time, self-esteem), exploration (i.e., questioning one's self and the roles one has established), information gathering (i.e. acquire information on topics including work, job roles, and life roles), decision-making (i.e., knowledge of rules associated with decision-making, application of these rules, styles of decision-making), and reality testing/orientation (i.e., self-awareness and knowledge, realistically evaluating oneself, solidifying career and life goals). Thus, it appears as though Super and Crites theorized that the construct of career maturity involved both an attitudinal and behavioral component.

Career Maturity in Nonathletes. Many factors are associated with the construct of career maturity, including demographic information, job related issues, and psychological variables (Bloor & Brook, 1993; Healy et al., 1985; Kornspan & Etzel, 2001; Luzzo, 1995b; Murphy et al., 1996; Patton & Lokan, 2001). Career maturity is related to the demographic factors of sex and chronological age (Busacca & Taber, 2002; Healy et al.; Luzzo, 1995a; Naidoo, 1998; Patton & Creed, 2001). For example, older women have higher levels of career maturity than younger men in general (Busacca & Taber; Healy et al.; Luzzo, 1995a; Naidoo; Patton & Creed). When examining career maturity and career/job issues, a positive relationship exists between career maturity and work salience, or an individual's satisfaction with the work role compared to other life roles (Naidoo). In addition, individuals with higher levels of career maturity rate their current jobs as congruent with their future job aspirations (Luzzo, 1995b).

Career maturity is also associated with the psychological variables such as self-esteem and personality variables (e.g., extroversion; Bloor & Brook, 1993; Savickas, Briddick, & Watkins, 2002). Individuals more committed to career goals (i.e., high career maturity) have higher life satisfaction and self-esteem than individuals' undecided about, or avoiding commitment to, a career goal (i.e., low career maturity; Bloor & Brook). Also, extroverted individuals, followers of social norms, and those focused on constructive/appropriate social behavior tend to have higher career maturity (Savickas et al., 2002).

Career Maturity in Student-Athletes. The unique life experience of being an athlete has led researchers to examine career maturity in this population (Brown & Hartley, 1998; Kennedy & Dimick, 1987; Kornspan & Etzel, 2001; Murphy et al., 1996; Smallman & Sowa, 1996). Research examining specific aspects of the college student-athlete's experience has yielded mixed results. At present, it is unclear whether or not there is a difference in career maturity

between athletes in revenue and non-revenue producing sports and athletes with scholarships versus non-scholarship athletes (Kennedy & Dimick; Smallman & Sowa). In research where differences were found, career maturity was lower for athletes in revenue producing sports and scholarship athletes had lower career maturity than nonathletes (Kennedy & Dimick; Murphy et al.).

One explanation for why athletes in revenue producing sports have lower career maturity is that they may hold beliefs that they will continue their athletic careers past the college level (Sandstedt, Cox, Martens, Ward, Webber, & Ivey, 2004). For example, of athletes in revenue producing sports, 48% believe that they will play at the professional level, with basketball players (i.e., 63%) having more confidence than football players (45%; Kennedy & Dimick, 1987). Furthermore, when broken down by race, 66% of African American collegiate student-athletes, versus 39% of Caucasian student-athletes, have expectations of playing professional sports.

The relationship between student-athlete's expectations of playing professional sports and career maturity needs to be explored further. This need is driven by the fact that if only 1-3% of student-athletes move on to the professional level after college (Figler & Figler, 1984; Leonard, 1996), and 48% of revenue producing sport student-athletes believe they will play professionally, then this leaves a large percentage of revenue student-athletes with unrealistic career expectations and perhaps at risk for lower levels of career maturity. Even if athletes do make it to the professional level their tenure at this level is often short. For example, the average professional career for a football player (i.e., the athletes most likely to proceed to the professional level) is only approximately 3 years (Pitts, Popovich, & Bober, 1986 as cited Shahnasarian, 1992). Thus, those athletes with low career maturity that do play professionally

may finish their professional career and maintain the same level of relatively lower career maturity. One way to understand this phenomenon is to conduct research that breaks down the specific expectations student-athletes have for playing at the professional level. One factor that can be examined is student-athlete's belief in his or her ability to sustain himself/herself financially as a professional athlete.

As is true in the general population, certain psychological variables in athletes are related to career maturity (Kornspan & Etzel, 2001; Luzzo, 1993a). Athletic identity is one such variable. Yet, research on the relationship between athletic identity and career maturity has yielded mixed results (Brown & Hartley, 1998; Kornspan & Etzel; Murphy et al., 1996). Some researchers fail to find a relationship between athletic identity and career maturity (Brown & Hartley, Kornspan & Etzel) and others have found a negative relationship between athletic identity and career maturity (Murphy et al.).

Two variables to consider when examining the relationship between athletic identity and career maturity are revenue status and scholarship status. Of the literature in which investigators found a significant negative relationship between athletic identity and career maturity, athletes in revenue-producing sports had significantly lower levels of career maturity than those in non-revenue producing sports (Murphy et al., 1996). In addition, athletes with scholarships had lower career maturity than non-athletes (Blann, 1985; Murphy et al.). However, research needs to be done not only examining the difference between scholarship and non-scholarship athletes when examining the association between athletic identity and career maturity, but also student-athlete's belief in his or her ability to sustain himself/herself financially as a professional athlete. If the literature holds, and scholarship athletes are likely to have low career maturity (Blann; Murphy et al.) and student-athletes are likely to have unrealistic expectations about their ability

to play professional sports (Kennedy & Dimick, 1987) then exploring this relationship between athletic identity and career maturity as it relates to scholarship status and explications of sustaining oneself financially as a professional athlete will allow for identification of a specific population of student-athletes (i.e., scholarship athletes and those that believe they can sustain themselves at the professional level) that may be at risk for experiencing difficulties with career maturity.

Purpose

Literature on athletic identity has focused on career related issues and more specifically career maturity (Chartrand & Lent, 1987; Murphy et al., 1996; Pearson & Petitpas, 1990; Shachar et al., 2004). Research on these two variables is mixed (Brown & Hartley, 1998, Kornspan & Etzel, 2001; Murphy et al.). Some researchers have failed to find a relationship between athletic identity and career maturity (Brown & Hartley; Kornspan & Etzel) whereas others have found a negative relationship (Murphy et al.; Stankovich et al., 2001). In an attempt to better understand how career maturity may differ for athletes, types of sport and scholarship status have been examined. When a negative relationship was found between athletic identity and career maturity, athletes in revenue producing sports had lower career maturity than athletes in non-revenue producing sports (Murphy et al.) with one explanation for this finding being that athletes in revenue producing sports have a stronger belief in their ability to play professionally after college (Sandstedt et al., 2004). Taking this explanation one step further, research needs to be done examining the belief that student-athletes can sustain themselves financially as a professional athlete. Researchers have also investigated scholarship athletes versus non-athletes and athletic identity and career maturity. Scholarship athletes had lower career maturity than individuals who do not play sports (i.e., non-scholarship non-athletes; Blann, 1985).

Career decision-making self-efficacy has also been explored with relation to athletic identity and career maturity (Kornspan & Etzel, 2001; Stankovich et al., 2001). Career locus of control and career decision-making self-efficacy were found to explain 17% of the variance in the career maturity of student-athletes (Kornspan & Etzel) and researchers found a relationship between athletic identity, career decision-making self-efficacy, and career maturity such that as athletic identity decreases, career decision-making self-efficacy and career maturity increases (Stankovich et al.). Taking the above literature into consideration, it is important to further explore the relationship between athletic identity and career maturity, while taking into consideration the possible moderating variables of scholarship and athletes' belief they can sustain themselves financially as a professional athlete, as well as career decision-making self-efficacy.

Hypotheses

With the literature on career expectations of student-athletes, scholarship status, career maturity, career decision-making self-efficacy, and athletic identity in mind, several hypotheses were developed.

1. Athletic Identity will significantly predict career maturity, with higher athletic identity predicting lower levels of career maturity.

Past research indicates that when differences are found within the student-athlete population, those with higher athletic identity have lower career maturity (Murphy et al., 1996). In addition, exposure to a program designed to build confidence in transferring athletic skills beyond sport led to a decline in athletic identity and an increase in career maturity among athletes who completed the program (Stankovich et al. 2001).

2. *Student-athletes' belief that they can sustain themselves financially as a professional athlete will predict career maturity.*

2.a. *Belief one can sustain himself/herself financially as a professional athlete will predict career maturity above and beyond that which could be predicted by athletic identity.*

2.b. *The relationship between athletic identity and career maturity will be more negative for athletes who more strongly believe they can sustain themselves financially as a professional athlete.*

Athlete's experience of pressure, time demands, energy, and general investment placed on sport can lead to decreased career maturity (Figler & Figler, 1984; Murphy et al., 1996). One explanation for why certain athletes may experience a significantly lower level of career maturity is that they may hold unrealistic beliefs that they will continue their athletic careers past the college level (e.g., 48% of revenue producing sport athletes believe they will play professionally compared to only 1-3% who succeed in making it to this level; Kennedy & Dimick, 1987; Leonard, 1996; NCAA, 1998 as cited in Stankovich et al., 2001; Sandstedt et al., 2004). It may be that when the negative relationship between athletic identity and career maturity is examined further, the athletes' belief that they can sustain themselves financially as a professional athlete is a factor that acts to strengthen this negative relationship. If this is the case, it may help identify those who may be at risk for low career maturity.

3. *Scholarship status will predict career maturity.*

3.a. *Scholarship status will predict career maturity above and beyond that which could be predicted by athletic identity.*

3.b. *The relationship between athletic identity and career maturity will be more negative for those student-athletes receiving more financial support in the form of athletic scholarship compared to those receiving less financial support for their role as a student-athlete.*

Past researchers have investigated the role of scholarship status in career maturity among student athletes. Although little research directly compares the relationship between athletic identity and career maturity in scholarship versus non-scholarship athletes, athletes with scholarships have lower career maturity than non-athletes (Blann, 1985; Murphy et al., 1996). The effect of scholarship status on career maturity has the potential to operate through the relationship between athletic identity and career maturity such that athletes with high athletic identity experience a decrease in career maturity when receiving a scholarship at the intercollegiate level. If this is the case it may help to explain the relationship between scholarship status and athletic identity with regards to lower career maturity.

4. *Career decision-making self-efficacy will predict career maturity.*

4.a. *Career decision-making self-efficacy will predict career maturity above and beyond that which would be predicted by athletic identity.*

4.b. *The relationship between athletic identity and career maturity will be more negative for athletes with lower career decision-making self-efficacy compared to those with relatively higher levels of career decision-making self-efficacy.*

The above hypotheses are supported by literature indicating that career decision-making self-efficacy, when combined with career locus of control, predicted 17% of the variance of junior college student athlete's career maturity (Kornspan & Etzel, 2001), such that higher internal locus of control (i.e., regarding career) and career decision-making self-efficacy predicted higher career maturity. Thus, locus of control interacted with career decision-making

self-efficacy to predict career maturity. Also, when exploring the relationship between athletic identity, career decision-making self-efficacy, and career maturity, researchers discovered that these three variables were related, such that as athletic identity decreased, both career decision-making self-efficacy and career maturity increased (Stankovich et al., 2001). In this case it would help to further explore this relationship by specifically looking at the interaction of athletic identity and career decision-making self-efficacy in predicting lower career maturity.

5. Athletic identity, belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy will interact to predict career maturity.

Although the effects of athletic identity, scholarship status, expectations of being a professional athlete, and career decision-making self-efficacy on career maturity have been examined in isolation, it is likely that these variables may combine in unique ways to place some individuals at risk for low career maturity. Expansion of the knowledge base within the career maturity literature for athletes requires us to look at more complex explanatory models.

III. Methodology

The current study was designed to investigate the relationship between athletic identity and career maturity of collegiate student-athletes. This investigation examined the potential moderating effects of student-athletes' belief that they can sustain themselves financially as a professional, scholarship status, and career decision-making self-efficacy on the relationship between athletic identity, as measured by the Athletic Identity Measurement Scale (AIMS; Appendix 1), and career maturity, as measured by the Career Decision Scale (CDS).

Participants

For the present study, 250 male and female student-athletes from a large, southeastern, Division I university were invited to participate. A minimum number of 220 participants were needed to establish a medium effect size between .06 and .08 (Cohen, 1988). Three participants did not meet the age requirement necessary to be included in the sample of adult student-athletes (i.e., the student-athletes were 18, with 19 being the legal age of an adult in the state in which the investigation was completed), 16 did not return the survey packet, 5 packets were returned with one or more of the measures not completed, and 5 packets were returned with no questionnaires filled out. A total of 221 student-athletes were included in the study. Of this 221, there were 62 (28.1%) first year, 59 (26.7%) second year, 55 (24.9%) third year, 33 (14.9%) fourth year, and 12 (5.4%) fifth year student-athletes. The sample was made up of 106 male (i.e., 48.0%) and 115 female (i.e., 52 %) student-athletes with a mean age of 20 (i.e., ranging from 19 to 23; $SD = 1.20$). Regarding racial and ethnic background, 148 (67%) student-athletes identified as White or Caucasian, 62 (28.1%) as Black or African American, 3 (1.4%) as American Indian/Alaskan

Native, 3 (1.4%) as Native Hawaiian or other Pacific Islander, and 5 (2.3%) as “other” (e.g. German, Brazilian). All sports from the institution used in the current study were represented in the sample including, football ($n = 33$; 14.9%), men’s basketball ($n = 11$; 5%), women’s basketball ($n = 6$; 2.7%), baseball ($n = 10$; 4.5%), women’s soccer ($n = 11$; 5%), gymnastics ($n = 12$; 5.4%), softball ($n = 8$; 3.6%), equestrian ($n = 21$; 9.5%), men’s tennis ($n = 13$; 5.9%), women’s tennis ($n = 6$; 2.7%), men’s golf ($n = 8$; 3.6%), women’s golf ($n = 1$; 0.5%), volleyball ($n = 14$; 6.3%), men’s track and field ($n = 10$; 4.5%), women’s track and field ($n = 21$; 9.5%), men’s swimming and diving ($n = 17$; 7.7%), and women’s swimming and diving ($n = 19$; 8.6%).

Measures

Demographic Information Sheet. The demographic information sheet (Appendix 2) was used to gather basic information about the participants including: age, race/ethnicity, gender, year in school, and sport. In addition, the demographic information sheet was used to collect information regarding each participant’s scholarship status and beliefs about being a professional athlete. More specifically, participants indicated if they had an athletic scholarship, partial athletic scholarship, or did not have an athletic scholarship, and their level of belief in their ability to sustain themselves financially as a professional athlete.

Athletic Identity Measurement Scale. The AIMS (Appendix 1, Brewer & Cornelius, 2001) is a 7-item measure that assesses athletic identity. More specifically, the AIMS determines the strength and exclusivity of the identification of an athlete with the athlete role (Brewer et al., 1993). Participants responded to items using a 7-point Likert scale ranging from 1 (i.e., strongly disagree) to 7 (i.e., strongly agree). AIMS scores can range from 7 to 49. Higher scores on the AIMS are indicative of a greater degree of identification with the athlete role. The AIMS was shown to be internally consistent ($\alpha = .81$) as well as highly correlated with a previous 10-

item version of the AIMS (Brewer et al.). Convergent validity was established by comparing the AIMS to the *Perceived Importance Profile* (PIP; Fox, 1987), a scale designed to measure the amount of importance individuals place on sport (Brewer et al.). Significant correlations were found between the AIMS and the Importance of Sport Competence subscale of the PIP ($r = .83$) and the PIP-Sport subscale ($r = .42$).

Career Decision-Making Self-Efficacy. The Career Decision Self-Efficacy Scale (i.e., CDSE; Taylor & Betz, 1983) was designed to measure the amount of confidence individuals have in their ability to successfully complete tasks necessary to make a career decision (Taylor & Betz). The CDSE has been used to assess career decision-making self-efficacy for a variety of cultures including, but not limited to Vietnamese (Patel, Salahuddin, O'Brien, 2008), Australian (Patton & Creed, 2007), Japanese (Matsui & Onglatco, 1992), Chinese (Creed & Yin, 2006), and Korean (Tak, 2006). The newest version of the Career Decision Self-Efficacy Scale, the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF; Betz et al., 2005), was used for the current study. This measure contains 25 items, compared to the 50 items in the original measure. The scale consists of five smaller subscales identified as self-appraisal, gathering occupational information, goal selections, making plans for the future, and problem solving. Participants indicated their perceived ability to complete tasks associated with career decision-making using a 5-point likert type scale ranging from 1 (i.e., no confidence) to 5 (i.e., complete confidence). Total summed scores were generated with higher scores associated with a stronger positive belief in one's ability to complete career decision-making tasks. Coefficient alphas for the 5 level confidence ratings (i.e., as opposed to the previous 10 level confidence continuum used on the original Career Decision Self-Efficacy Scale) are high with scores ranging from .78-.87 (Betz et al.). With regards to gender and ethnicity, there is no evidence of significant differences in total

scale summed scores (Betz et al.). Concurrent validity was established by correlations between total scores on the CDSE-SF and scores on the Career Decision Scale (Osipow, 1987), a measure used to assess career maturity among high school and college students and scores on the Vocational Identity Scale (Holland, Johnston, & Asama, 1993), used to assess individual's goals, skills, and interests related to careers. CDSE-SF total scores also correlated with individual subscales of the Career Decision Profile (Jones, 1998), a scale designed to measure level of career decidedness. For example the total scores on the CDSE-SF correlated with the CDP subscales of comfort (.44), decidedness (.38), self-clarity (.43), occupational/educational knowledge (.33; Betz et al.), choice importance (.38), and decisiveness (.43; Betz et al.).

The construct validity for the CDSE-SF is adequate (Betz et al., 2005). The CDSE-SF correlates with two scales that theoretically overlap with the construct of career decision-making self efficacy. The first scale is the Hope Scale. The Hope Scale was designed by Snyder et al. (1991) to measure individual's sense of positive expectations for achieving a goal and a positive belief in an individual's ability to plan to meet set goals. The second scale is the Positive and Negative Affect Schedule scale or PANAS, designed by Watson, Clark, & Tellegen (1988). This scale measures the general emotional disposition of an individual and has been shown to have implications for career counseling. The goal selection (.42), the self-appraisal (.49), planning (.46), and problem-solving (.51) subscales of the CDSE-SF moderately correlated with the agency subscale (i.e., positive belief about one's ability to achieve a set goal) of the Hope Scale. Modest relationships were established between the CDSE-SF and the PANAS, with the highest correlation being .41 between positive affect and self-appraisal and -.29 between self-appraisal and negative effect. Overall, with regards to the newer version of the CDSE "the shorter format is at least as effective as the original 10-level response format" (Betz et al., p. 145).

Career Decision Scale. The Career Decision Scale (Osipow et al., 1976) is linked to Crites's (1974) theory of career maturity. Specifically, the CDS addresses the career decision portion of the Crites's theory. The CDS is a 19-item measure used to assess career maturity among high school and college students. It includes 18 items requiring participants to indicate how well the statement fits for them using a 4-point Likert-type scale ranging 4 (i.e., exactly like me) to 1 (i.e., not at all like me). A final open-ended question allows individuals to elaborate on previous answers. Higher scores are associated with lower career maturity. The CDS includes two subscales: the certainty scale (i.e., the amount of certainty one feels regarding a decisions they have made about their major; items 1 and 2) and the career indecision scale (i.e., the amount of indecision one feels towards their career; items 3-18). The sum of both subscales provides a measure of career maturity (Levinson et al., 1998) and was used for the present study to indicate the level of career maturity among participants. Certainty scale scores at or below the 15th percentile are considered to be clinically significant scores as individuals scoring in this range are typically uncertain about their future career or major (i.e., indicative of lower career maturity). Scores at or above the 85th percentile on the indecision scale are also clinically significant, indicating a high degree of career-related indecisiveness, with a high degree of indecisiveness indicating lower career maturity. For this study, items were reverse scored after data entry was completed to allow for ease of understanding the analyses. In other words, reverse scoring resulted in higher scores being associated with higher levels of career maturity.

The psychometric properties of the CDS are sufficient for use with college students. The test-retest reliability of the CDS ranges from .70-.90 (Osipow et al., as cited in Osipow 1987; Salaney et al. as cited in Osipow). The CDS has sufficient specificity and sensitivity to distinguish individuals who are career undecided from those who are career decided (Levinson et

al., 1998; Slaney, Palko-Nonemaker, & Alexander, 1981). In addition, the validity of the CDS is supported by research establishing positive correlations between the CDS and the Career Maturity Inventory (Westbrook, Simonson, & Aricia, 1976; as cited in Osipow) and a negative correlation between the CDS and career maturity attitudes (Westbrook, 1980).

Procedures

Prior to getting Institutional Review Board approval, permission to sample student-athletes was obtained from the associate athletic director in charge of student-athlete support services and the university team physician. Following Institutional Review Board approval, student-athletes from all varsity sports on a large southeastern university campus were asked to participate in this study. Participants were sampled from the lobby of the Student-Athlete Development Center (i.e., SADC). The SADC is an academic building designed for exclusive use by student-athletes. Resources housed in this building include student-athlete's academic athletic counselors, study hall, tutoring, and a computer lab just for use of athletes. When sampling took place, the researcher stated: "Hello, I am doing a research study on student-athletes. I have received approval from Auburn University for this research. You do not have to participate in this study. However, your participation would be appreciated." A packet of materials, including the information letter (Appendix 3), the demographic information sheet, instructions for filling out the questionnaires (Appendix 4), the AIMS, the CDSE-SF, and the CDS was handed out to the student-athletes in individual envelopes. The order of the forms (i.e., AIMS, CDSE-SF, and CDS) was partially counterbalanced to control for order effects. Those not willing to participate did not receive packets. Individuals who did complete the packet turned in their questionnaire when finished and were thanked for their participation. Participation in this study was voluntary and anonymous.

Statistical Analysis

A series of hierarchical regression analyses were used to test all hypotheses in the investigation. The first (i.e., higher levels of athletic identity is associated with lower levels of career maturity) and second (i.e., student-athletes' belief that they can sustain themselves financially as professional athletes predicts career maturity) hypotheses were tested with the same hierarchical regression. Under the second hypothesis, the hierarchical regression was used to test two more specific sub-hypotheses (i.e., belief one can sustain himself/herself financially as a professional athlete predicts career maturity above and beyond that predicted by athletic identity and that the relationship between athletic identity and career maturity is more negative for athletes who more strongly believe they can sustain themselves financially as a professional athlete). Beta weights were examined for the belief that one can sustain himself/herself financially as a professional athlete and the interaction term for the belief that one can sustain himself/herself financially as a professional athlete and athletic identity when added to the prediction model already containing athletic identity. First, athletic identity was entered into the hierarchical regression equation in step 1 with the belief that one can sustain himself/herself financially as a professional athlete entered in step 2. In the third step, the interaction term between these two variables (i.e., athletic identity and the belief that one can sustain himself/herself financially as a professional athlete) was entered into the regression model.

A second hierarchical regression analysis was used to assess the third hypothesis (i.e., scholarship status will predict career maturity) and its corresponding sub-hypotheses (i.e., scholarship status will predict career maturity above and beyond that which could be predicted by athletic identity, the relationship between athletic identity and career maturity is more negative for those student-athletes receiving more financial support in the form of athletic

scholarship compared to those receiving less financial support for their role as a student-athlete). In the first step, athletic identity and scholarship status were placed into the hierarchical regression simultaneously such that the semipartial for scholarship status indicated the amount of unique variance in career maturity accounted for by scholarship status after controlling for athletic identity. In the second step, the interaction term for athletic identity and scholarship status was entered to test whether the relationship between athletic identity and career maturity differs depending upon whether an athlete receives an athletic scholarship. As was true with the second hypothesis, the sub-hypotheses were tested using the beta weights for the variables in the regression model.

The fourth hypothesis was that career decision-making self-efficacy predicts career maturity. This hypothesis and the corresponding sub-hypotheses (i.e., career decision-making self-efficacy predicts career maturity above and beyond that which is predicted by athletic identity, the relationship between athletic identity and career maturity is more negative for athletes with lower career decision-making self-efficacy compared to those with relatively higher levels of career decision-making self-efficacy) were tested with a third hierarchical regression. In the first step, the variable of athletic identity was entered. In the second step, career decision-making self-efficacy was entered into the hierarchical regression and the semipartial was used to examine unique variance accounted for by career decision-making self-efficacy after controlling for athletic identity. In the third step, the interaction term for athletic identity and career decision-making self-efficacy was entered, allowing for an examination of the potential for career decision-making self-efficacy to moderate the relationship between athletic identity and career maturity. Examination of the beta weights provided for statistical testing of the sub-hypotheses tested with this hierarchical regression analysis.

The fifth hypothesis (i.e., athletic identity, belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy interact to predict career maturity) was tested by adding two steps to the hierarchical regression analysis used to test the fourth hypothesis. In the third step (the first of the two additional steps), all remaining main effects and simple interactions were entered into the regression model as is required to test higher level interactions in regression. In the fourth step (the second additional step), the four-way interaction was entered to determine whether there is a difference in the relationship between athletic identity and career maturity when we look at the combination of the belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy.

Summary

This investigation was designed to examine variables that contribute to the relationship between the athletic identity and career maturity (i.e., the belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy). Athletic identity was measured using the AIMS, the CDSE-SF was used to measure career decision-making self-efficacy, and career maturity was assessed with the CDS. Hierarchical regressions was used to assess the relationship between athletic identity and career maturity and the relationship between career maturity and predictor variables of athletic identity, the belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy.

IV. Results

Overview

The following chapter reports the results of the analyses run to test each of the five hypotheses presented. A series of hierarchical regression analyses were used to test all hypotheses in the investigation. Although hierarchical regression is a robust analysis to moderate violations of the assumptions of regression (Ross & Shannon, 2008), each of the underlying assumptions of multiple regression analysis (i.e., independence of the predictor variables, linearity, normality, and homogeneity of variance) were examined in order to evaluate if these assumptions were violated. Additionally, due to the fact that interactions between predictor variables were tested in this investigation, each of the predictor variables were centered to avoid the increased multicollinearity that occurs amongst the variables when interaction terms are created. Each of the assumptions of multiple regression were met for the four hierarchical regressions used in this investigation.

Descriptive Statistics

The predictor variables for the current investigation were athletic identity, belief in one's ability to become a professional athlete, scholarship status, and career decision-making self-efficacy. The criterion variable for the present study was career maturity. Table 1 contains a correlation matrix listing correlations between each variable. Table 2 contains a comparison of the internal consistency of the scales used in this study compared to their previously established internal consistency. Table 3 contains means and standard deviations for each variable as a

function of gender and race. Frequencies are also reported for belief in one's ability to become a professional athlete and scholarship status.

Simple Correlations between Variables. Correlations were computed between each variable involved in this study (see Table 1). Positive correlations were found between athletic identity and both belief in one's ability to sustain himself/herself financially as a professional athlete ($r = .173, p < .01$) and scholarship status ($r = .148, p < .05$), such that having a higher athletic identity was related to having more belief in your ability to become a professional athlete and level of athletic scholarship. Positive relationships were also found between career decision-making self-efficacy and career maturity ($r = .272, p < .01$), and belief in one's ability to become a professional athlete and scholarship status ($r = .228, p < .01$). Finally, negative relationships were found between career maturity and the variables of scholarship status ($r = -.177, p < .01$) and athletic identity ($r = -.141, p < .05$).

After reviewing Table 2 it is apparent that the internal consistency reliability for each scale used in the current investigation is adequate and consistent with previous literature. Although the manual for the CDS does not specifically report a Cronbachs alpha for the total CDS score, correlations were reported between .34 and .82 for items on both subscales of the CDS (i.e., certainty and career indecision; Osipow et al., 1976 as cited in Osipow 1987). The Cronbachs alphas in the current study for the certainty scale and the career indecision scale were higher than what has been reported in past literature (Osipow), with Cronbachs alphas of .80 and .92 respectively. Regarding student-athletes' belief that they will be able to sustain themselves financially as a professionally athlete ($M = 3.52; SD = 1.95$), 22.6% reported they *will not* be able to ($n = 51$), 14.2% reported that it is *highly unlikely* ($n = 32$), 11.1% reported that it is *fairly unlikely* ($n = 25$). Additionally, 19.5% of student-athletes reported that they are *uncertain*, (*I may*

or may not ($n = 44$), 14.4% indicated that it is *fairly likely* ($n = 33$), 9.7% indicated that it is *highly likely* ($n = 22$), and 8.4% of the population sampled indicated “I know that I will be able to support myself as a professional athlete” ($n = 19$). Thus, approximately 33% (i.e., $n = 74$) of the student-athletes sampled indicated that they believed, to some degree, that they would be able to support themselves financially as a professional athlete. A total of 110 (48.7%) student-athletes indicated having a full scholarship, while 81 (35.8%) indicated receiving a partial athletic scholarship, and 35 (15.5%) indicated that they did not receive any scholarship. Thus, approximately 85% of the student-athletes indicated that they received some amount of athletic scholarship.

Gender and Ethnicity Differences for Each Variable. Gender and ethnicity difference on each variable were computed (see Table 3). Close examination of the demographic of gender reveals that, the only significant gender difference was found in the criterion variable of career maturity, with women having significantly higher career maturity than men ($t(220) = -3.36, p = .05$). This finding is consistent with past literature (Luzzo, 1995a; Murphy et al., 1996). For statistical purposes the demographic variable of ethnicity was grouped in to three larger categories that included Caucasian, African American, and other (i.e., American Indian/Alaskan Native, Asian, Native Hawaiian/Pacific Islander, and other). Significant differences existed with regards to ethnicity for belief in one’s ability to sustain himself/herself financially as a professional athlete ($F(2,223) = 16.50, p > .001$) and career maturity ($F(2,219) = 4.71, p = .01$). Caucasian student-athletes believed significantly less than both African American ($p < .001$) and the collective “other” group of student-athletes that they would be able to financial support themselves as a professional athlete ($p < .05$). This finding is consistent with past literature (Kennedy & Dimick, 1987). No significant difference existed between the African American

and the “other” student athlete group with regards to this belief. Also, when examining career maturity, Caucasian student-athletes had significantly higher career maturity than their African American counterparts ($p = .01$). This is inconsistent with past literature indicating no difference in career maturity with regards to ethnicity (Powell & Luzzo, 1998).

Athletic Identity Predicting Career Maturity

Athletic Identity was hypothesized to significantly predict career maturity with higher athletic identity hypothesized to relate to lower levels of career maturity. Table 4 displays the standardized regression coefficient (β), total R^2 (i.e., amount of variance in the criterion variable accounted for by the predictor variable or variables), and the semipartial correlations (SR) for each model and predictor variable in the regression. As was hypothesized, athletic identity significantly predicted career maturity, with athletic identity accounting for 2 % of the variance in career maturity, $R^2 = .020$; $F(1, 219) = 4.417$, $p < .05$. Furthermore, a significant negative relationship was found between athletic identity and career maturity, such that student-athletes with higher athletic identity had lower levels of career maturity ($\beta = -.141$, $p = .037$).

Beliefs About Financial Viability as a Professional Athlete Predicting Career Maturity

In the second hypothesis, student-athletes’ belief that they can sustain themselves financially as professional athletes was hypothesized to predict career maturity. More specifically, the belief that one can sustain himself/herself financially as a professional athlete was hypothesized to predict career maturity above and beyond that which is predicted by athletic identity (i.e., hypothesis 2a). Also, the relationship between athletic identity and career maturity was hypothesized to be more negative for athletes who more strongly believe they can sustain themselves financially as a professional athlete (i.e., hypothesis 2b). These sub-hypotheses were tested by using additional steps in the same hierarchical regression used to test hypothesis 1.

Since athletic identity was entered into the hierarchical regression equation in step 1, the belief that one can sustain himself/herself financially as a professional athlete was entered in step 2 to test whether belief about viability as a professional athlete predicted career maturity after controlling for athletic identity. In the third step, the interaction between these two variables (i.e., athletic identity and the belief that one can sustain himself/herself financially as a professional athlete) was entered into the regression model. Table 4 displays the standardized regression coefficient (β), total R^2 , and the semipartial correlations (SR) for each step and predictor variable in the regression model.

Student-athletes' belief that they can sustain themselves financially as professional athletes did not significantly predict career maturity after controlling for athletic identity ($\beta = -.074, p = .281, ns$). The addition of the interaction between belief regarding viability as a professional athlete and athletic identity did not add significantly to the model, $\Delta R^2 < .001, F(1, 217) = .032, p > .05, ns$. Since the interaction term was not significant, $\beta = -.012, p = .859, ns$, the relationship between athletic identity and career maturity did not statistically differ as a function of one's belief that he or she could sustain him or herself financially as a professional athlete.

Scholarship Status Predicting Career Maturity

In the third hypothesis scholarship status was hypothesized to predict career maturity. Two more specific hypotheses were also tested. First, scholarship status was hypothesized to predict career maturity above and beyond that which is predicted by athletic identity (i.e., hypothesis 3a). Second, the relationship between athletic identity and career maturity was predicted to be more negative for those student-athletes receiving more financial support in the form of athletic scholarship compared to those receiving less financial support for their role as a student-athlete (i.e., hypothesis 3b). A second hierarchical regression was used to test the above

hypotheses. In the first step, athletic identity and scholarship status were placed into the hierarchical regression simultaneously. In the second step, the interaction term for athletic identity and scholarship status was entered to test whether the relationship between athletic identity and career maturity differs depending upon whether an athlete receives an athletic scholarship. Table 5 displays the standardized regression coefficient (β), total R^2 , and the semipartial correlations (SR) for each model and predictor variable in the regression.

Hypothesis 3 and 3a were not supported. Scholarship status alone did not significantly predict career maturity and scholarship status did predict career maturity above and beyond that which was predicted by athletic identity ($\beta = -.091, p = .179, ns$). Hypothesis 3b was not supported. The relationship between athletic identity and career maturity was not more negative for student-athletes receiving more financial support in the form of athletic scholarship compared to those receiving less financial support for their role as a student-athlete. Stated differently, scholarship status and athletic identity did not significantly interact to predict career maturity, $\Delta R^2 = .002, F(1, 217) = .403, p > .05, ns$.

Career Decision-Making Self-Efficacy Predicting Career Maturity

Career decision-making self-efficacy was also hypothesized to predict career maturity. Specifically, career decision-making self-efficacy was hypothesized to predict career maturity above and beyond that which is predicted by athletic identity (i.e., hypothesis 4a) and the relationship between athletic identity and career maturity was hypothesized to be more negative for athletes with lower career decision-making self-efficacy compared to those with relatively higher levels of career decision-making self-efficacy (i.e., hypothesis 4b). A third hierarchical regression was used to test these hypotheses regarding career decision-making self-efficacy and

career maturity. Table 6 displays the standardized regression coefficient (β), total R^2 , and the semipartial correlations (SR) for each step and predictor variable in the regression model.

Career decision-making self-efficacy significantly predicted career maturity above and beyond that which was accounted for by athletic identity with career decision-making self-efficacy accounting for an additional 8.8% of the variance in career maturity, $F(1, 218) = 21.517, p < .001, \beta = .322, p < .001$, after controlling for athletic identity. The positive beta weight indicates that as career decision-making self-efficacy increased, career maturity also increased. However, the size of the beta weight was larger than the size of the direct correlation between career decision-making self-efficacy and career maturity. In addition, when career decision-making self-efficacy was added to the prediction model, the beta weight for athletic identity also increased and was larger than the size of the direct correlation coefficient. This pattern of increased size of beta weights suggests the possibility of suppression. The addition of the interaction term between athletic identity and career decision-making self-efficacy did not significantly increase the amount of variance in career maturity accounted for by the prediction model, $\Delta R^2 = .004, F(1, 217) = .880, p > .05, ns$. Stated differently, the relationship between athletic identity and career maturity did not differ depending on the level of career decision-making self-efficacy of athletes.

Athlete and Personality Variables Predicting Career Maturity

The hypothesis that athletic identity, belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy would interact to predict career maturity was tested by adding two steps to the fourth hierarchical regression analysis. When all remaining main effects and simple interactions were entered into the regression model, there was no significant increase in the amount of variance in career

maturity accounted for by the prediction model, $\Delta R^2 = .075$, $F(11, 206) = 1.726$, $p > .05$, *ns*. In addition, when the four-way interaction was entered in the fourth step of the regression model, there was no significant improvement in the prediction of career maturity, $\Delta R^2 = .001$, $F(1, 205) = .268$, $p > .05$, *ns* (see Table 7). As such, athletic identity, belief that one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy did not significantly interact to predict career maturity.

Tables

Table 1

Correlation Matrix for the Intercorrelations between Athletic and Career Variables for Student-Athletes

Predictor	<i>M</i>	<i>SD</i>	<i>AI</i>	<i>Belief</i>	<i>SCH</i>	<i>CDSE</i>	<i>CM</i>
AI	37.61	6.77	-	.173**	.148*	.117	-.141*
Belief	3.52	1.95	.173**	-	.228**	.056	-.097
SCH	1.67	.73	.148*	.228**	-	-.08	-.177**
CDSE	96.5	15.22	.117	.056	-0.08	-	.272**
CM	38.36	10.27	-.141*	-.097	-.177**	.272**	-

Note. AI = Athletic Identity. Belief = Belief that one can Sustain Himself/Herself Financially as a Professional Athlete. SCH= Scholarship Status. CDSE = Career Decision-Making Self-Efficacy, CM = Career Maturity. AI, Belief, SCH, and CDSE were centered at their means.

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

Table 2

Reliability for Each Scale Used in the Current Investigation Compared to Established Reliability

Comparison of Cronbachs alpha

	<i>Current Sample</i>	<i>Established Reliability</i>
AIMS	.78	.81 ¹
CDSE	.93	.78-.87 ²
CDS	.89	NR ³
Certainty subscale	.80	
Career Indecision subscale	.92	

Note. AI = Athletic Identity. CDSE = Career Decision-Making Self-Efficacy, CM = Career Maturity. AI and CDSE were centered at their means. NR = Not Reported; ¹Brewer et al., 1993; ²Betz et al., 2005; ³Osipow; 1987)

Table 3

Means and Standard Deviations for Gender and Ethnicity Scores across Athletic and Career Variables

<u>Other</u>	<i>Gender</i>				<i>Ethnicity</i>					
	<u>Men</u>		<u>Women</u>		<u>Caucasian</u>		<u>African American</u>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
AIMS	38.06	6.11	37.12	7.44	37.43	6.99	37.80	6.77	38.17	5.52
Belief	3.97	1.91	3.11	1.90	3.03 ^{bc}	1.77	4.53 ^b	1.89	4.33 ^c	2.19
CDSE	96.13	14.14	96.83	16.20	97.17	15.58	95.98	14.51	90.83	14.20
CDS	49.24 ^a	11.15	53.79 ^a	8.99	53.07 ^d	9.29	48.63 ^d	11.86	48.64	10.71

Note. AI = Athletic Identity. Belief = Belief that one can Sustain Himself/Herself Financially as a Professional Athlete. CDSE = Career Decision-Making Self-Efficacy, CM = Career Maturity. AI, Belief, SCH, and CDSE were centered at their means. Superscript pairs indicate mean differences between groups significant at $p < .05$.

Table 4

Hierarchical Regression Analysis for Athletic Identity and Belief that one can Sustain Himself/Herself Financially as a Professional Athlete in Predicting Career Maturity (n = 221)

Predictor	ΔR^2	β	SR
Step 1	.020*		
AI		-.141*	-.141
Step 2	.005		
AI		-.128	-.126
Belief		-.073	-.072
Step 3	.000		
AI X Belief		-.012	-.012
Total R^2	-.025		

Note. AI = Athletic Identity. Belief = Belief that one can Sustain Oneself Financially as a Professional Athlete. AI and Belief were centered.

* $p < .05$.

Table 5

Hierarchical Regression Analysis for Athletic Identity and Scholarship Status in Predicting Career Maturity (n = 221)

Predictor	ΔR^2	β	SR
Step 1	.028*		
AI		-.131	-.130
SCH		-.091	-.091
Step 2	.002		
AI		-.137*	-.135
SCH	.005	-.097	-.096
AI X SCH		-.043	-.042
Total R^2	.030		

Note. AI = Athletic Identity. SCH= Scholarship Status. AI and SCH were centered.

* $p < .05$.

Table 6

Hierarchical Regression Analysis for Athletic Identity and Career Decision-Making Self-Efficacy in Predicting Career Maturity (n = 221)

Predictor	ΔR^2	β	SR
Step 1	.020*		
AI		-.141*	-.141
Step 2	.088**		
AI		-.181*	-.180
CDSE		.300**	.297
Step 3	.004		
AI		-.171*	-.167
CDSE		.322**	.299
AI XCDSE		.065	.060
Total R^2	.111		

Note. AI = Athletic Identity. CDSE = Career Decision-Making Self-Efficacy. AI and CDSE were centered.

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

Table 7

Hierarchical Regression Analysis for All Main Effects, Simple Interactions, and the Four Way Interaction in Predicting Career Maturity (n = 221)

Predictor	ΔR^2	β	SR
Step 1	.108**		
AI		-.181*	-.180
CDSE		.300**	.297
Step 2	.004		
AI		-.171*	-.167
CDSE		.322**	.299
AI X CDSE		.065	.060
Step 3	.075		
AI		-.118	-.109
CDSE		.362**	.326
AI X CDSE		-.078	-.045
SCH		-.033	-.030
Belief		-.058	-.055
AI X SCH		-.077	-.060
AI X Belief		-.023	-.020
Belief X SCH		.025	.021
Belief X CDSE		-.114	-.099
SCH X CDSE		-.149	-.100
AI X Belief X SCH		-.027	-.018
Belief X SCH X CDSE		-.123	-.082
SCH X CDSE X AI		-.291	-.100
CDSE X AI X Belief		-.038	-.016

Table 7 Continued

Hierarchical Regression Analysis for All Main Effects, Simple Interactions, and the Four Way Interaction in Predicting Career Maturity

Predictor	ΔR^2	β	SR
Step 4	.001		
AI		-.119	-.110
CDSE		.370**	.325
AI X CDSE		-.051	-.027
SCH		-.027	-.024
Belief		-.061	-.058
AI X SCH		-.072	-.056
AI X Belief		-.017	-.015
Belief X SCH		.032	.027
Belief X CDSE		-.106	-.090
SCH X CDSE		-.161	-.105
AI X Belief X SCH		-.028	-.018
Belief X SCH X CDSE		-.151	-.087
SCH X CDSE X AI		-.414	-.087
CDSE X AIX Belief		-.035	-.015
AI X Belief X SCH X CDSE		-.164	-.033
Total R^2	.187		

Note. AI = Athletic Identity. Belief = Belief that one can Sustain Himself/Herself Financially as a Professional Athlete. SCH= Scholarship Status. CDSE = Career Decision-Making Self-Efficacy. AI, Belief, SCH, and CDSE were centered.

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

V. Discussion

Meaning and Interpretation of Findings

This investigation was initiated to examine the relationship between the constructs of athletic identity and career maturity. Furthermore, variables that might affect the relationship between athletic identity and career maturity were investigated including the belief one can sustain himself/herself financially as a professional athlete, scholarship status, and career decision-making self-efficacy. The sample for the present study was comprised of student-athletes from various sports on a Division I Southeastern university campus. As such, the participants in the present study competed at the highest level of competition for collegiate athletics. Related to this fact, something to consider when examining the finding that higher athletic identity predicted lower career maturity might be the pressure for athletes at the NCAA Division I level to excel in their performance in sport. That is, perhaps the pressure associated with being an athlete is related to focusing more on being an athlete as opposed to preparing for making career decisions.

As would be expected based upon the career development literature (e.g., Osipow, 1987), career decision-making self-efficacy also predicted career maturity with greater self-efficacy for completion of career decision-related tasks predicting greater career maturity. The relationship between career decision-making self-efficacy and career maturity did not depend upon the individual's identity as an athlete. In other words, a stronger identity with the athletic role and lower levels of career decision-making self-efficacy were associated with lower levels of career maturity among collegiate student-athletes.

The relationship between athletic identity and career maturity among student-athletes was relatively small, with 2% of the variance in career maturity being accounted for by athletic identity. This finding is consistent with past literature (Murphy et al., 1996). For example, Murphy and colleagues previously found that athletic identity was negatively correlated with career maturity. The present study replicates and extends the findings by Murphy et al. among a sample of college student athletes with a wider range of type of sport represented. Although some past literature supports the current results, not all previous examinations of the constructs of athletic identity and career maturity have shown a significant relationship (Brown & Hartley, 1998; Kornspan & Etzel, 2001). The present study differs from previous studies regarding the composition of the participant sample. Specifically, Brown and Hartley (1998) restricted their sample to athletes in football and basketball, two sports that enjoy exceptional recognition for Division I sports (Kennedy & Dimick, 1987). The use of athletes from two sports may have led to a restriction of range in the degree of athletic identity, accounting for lack of significant findings. In contrast, Kornspan and Etzel (2001) studied athletes at a small junior college, where levels of athletic identity may again be more restricted given participation in different levels of athletics (e.g., Division 1 state institution versus junior college) may affect the athlete's level of identity as an athlete (Smallman & Sowa, 1996).

Although the degree to which one identified as an athlete was associated with level of career maturity, two variables that are presumably related to the tendency to more strongly identify with the athlete role, scholarship status, and belief that one can financially support himself/herself as an athlete, did not significantly predict career maturity in the present study.

Past researchers have examined whether psychological variables are better predictors of career maturity than demographic variables (Luzzo, 1993a). The psychological variables of locus

of control and vocational congruence (i.e., match between personality characteristics and work environment) predicted career maturity more significantly than the demographic variables of age and gender (Luzzo, 1993a). The findings of the present study are consistent with the literature, in that the psychological variable of feeling of control over one's career path (i.e., career decision-making self-efficacy) was a more central construct for understanding career maturity than scholarship status and individuals' belief regarding their ability to sustain themselves financially as an athlete, two variables which appeared to be explaining much of the same variance in career maturity that is explained by the degree to which an individual identifies with the athlete role.

The concept that in order to better understand career maturity, one must closely examine variables that are psychological in nature is supported by the current investigation. Career decision-making self-efficacy (i.e., a psychological variable) positively predicted career maturity, such that student-athletes with higher beliefs in their ability to make a career decision had higher career maturity. Career decision-making self-efficacy also predicted career maturity above and beyond that which was predicted by athletic identity, with a significant, although not large, amount of the variance in career maturity accounted for by career decision-making self-efficacy after controlling for athletic identity. This finding is consistent with literature that combines the constructs of career decision-making self-efficacy and career maturity in non-athletes and athletes (Osipow, 1987; Kornspan & Etzel, 2001).

In the current investigation, the predictive ability of career decision-making self-efficacy, scholarship status, and belief in one's ability to sustain himself/herself as a professional athlete for the criterion of career maturity were examined after controlling for level of athletic identity. This was not the case in other investigations in which scholarship status and belief in becoming a professional athlete were directly correlated with career maturity (Blann, 1985; Kennedy &

Dimick, 1987). Perhaps if in these past investigations, researchers had controlled for the seemingly correlated variable of athletic identity, no significant relationship would have been found. Furthermore, when examining scholarship status and belief in becoming a professional athlete in the current investigation it is evident that both belief in one's ability to become a professional athlete and scholarship status were significantly correlated with the predictor variable of athletic identity. Perhaps one explanation for why these two variables did not significantly predict career maturity is that there was significant overlap between these two variables and athletic identity, and when athletic identity was controlled for in the current investigation, no significant variance in career maturity was left related to each independent variable (i.e., scholarship status and belief in becoming a professional athlete). The present study suggests that asking about belief in being able to sustain oneself as a professional athlete and scholarship status does not account for any additional variance in career maturity after controlling for athletic identity. Thus, the findings raise the possibility that in order to better understand the construct of career maturity, clinicians and researchers may not have to focus on the belief of becoming a professional athlete and whether or not athletes are on a scholarship. This may allow for more time to be spent investigating other variables that may account for career maturity in a more effective manner.

When more specifically looking at the two portions of the student-athlete's identity that were found to predict career maturity (i.e., athletic identity, career identity), it is apparent that career decision-making self-efficacy accounted for the largest amount of variance. However, a large amount of variance was still left unexplained in this investigation. Other variables not examined in the current study, but examined in the career maturity literature using non-athletes (e.g., work salience, work role satisfaction, congruence between current job and future job

aspirations, Luzzo; 1995b; Naidoo, 1998) may also influence career maturity among athletes. Those non-examined variables may combine in complex ways to predict career maturity. For example, career decision-making self-efficacy and career locus of control were found to interact to predict career maturity among non-athletes, such that those with an external locus of control and low career decision-making self-efficacy tended to have lower levels of career maturity (Kornspan & Etzel, 2001). The combination of career locus of control and career decision-making self-efficacy in one sample accounted for 17% of the variance in career maturity. Given the much larger explanatory power of this combination of predictors, it seems that career decision-making self-efficacy and athletic variables are likely to be only a small part of the set of factors that influence the development of career maturity in athletes.

In the present study, the athletic and psychological variables did not significantly interact in predicting career maturity. This is not the first time in which studies examining the potential of factors that predict career maturity to interact failed to produce a significant interaction effect (Murphy et al., 1996). For example, when investigating identity foreclosure and athletic identity in predicting career maturity, identity foreclosure and athletic identity were found to individually predict career maturity, but no interaction was found (Murphy et al.). Considering the past research and current results, the process of identifying with being an athlete, and the process of increasing efficacy in career decision-making may be fundamentally different.

One way to understand this notion of separate processes affecting career maturity may be that the findings indicate a lack of integrated identity for the student-athletes sampled. That is to say that perhaps the athletic portion of student-athlete's identity and the career portion of his/her identity are thought to be separate for the student-athletes sampled. For example, a student-athlete may focus on the athletic portion of their identity when at practice and focus on the career

portion of their identity when in a career oriented setting (e.g., job fair). Thus, the two aspects of identity may function independently of one another.

Overall, further support has been established for the predictive ability of both athletic identity and career decision-making self-efficacy for the construct of career maturity. In addition, the demographic variables related to athletes (i.e., belief in being able to sustain yourself as a professional athlete and scholarship status) may be better accounted for by athlete identity. Findings also suggest that there are other variables that may also account for career maturity beyond the variables examined in this study. Perhaps clinicians and researchers should examine variables previously found to be significantly related to career maturity for non student-athletes within the student-athlete population (e.g., career indecision, career decision-making difficulty). Thus, although the student-athlete population is unique in many ways (e.g., level of athletic identity), student-athletes may be similar to non student-athletes with regards to many factors that affect career maturity. This similarity can be explored in future research.

Limitations

Although the current investigation has the potential to inform researchers and practitioners about career issues among athletes, several limitations exist. The first limitation concerns the sample used for the investigation. The sample was taken from one large southeastern Division I institution. The restriction of the sample to a single institution limits the external validity of the findings. The external validity of the findings are further limited by the recruitment procedures for the present study in which all participants were recruited from one location, the SADC, an academic building designed solely for student-athletes that houses the student-athlete's academic athletic counselors, study hall, tutoring sessions, and the athlete only computer lab. Thus, if student-athletes did not have to, or did not prefer to use the SADC, they

were not recruited for this study. This may have limited the sampling population by excluding student-athletes that did not have to meet with their advisors or did not have to attend study hall (e.g., student-athletes in excellent academic standing). As such, it is hard to know how well study findings relate to athletes excelling in their college studies.

Several methodological limitations also exist. This study is limited by the correlation-based design employed to evaluate the hypotheses. Due to the correlational design, no causality can be inferred with regards to the relationship between variables. Stated differently, due to the correlational nature of the study, athletic identity cannot be said to have caused lower career maturity. Similarly, low career maturity cannot be said to have caused high athletic identity. Because this study was correlational, it is also possible that another variable, unaccounted for, may be related to the relationship between athletic identity and career maturity. The results of the investigation are further limited by the use of self-report, which is subjective and lends itself to biased responding. Finally, the use of measures which lack evidence of psychometric soundness for assessing scholarship status (i.e., full scholarship, partial scholarship, no scholarship) and belief that one can financially support himself/herself as an athlete (i.e., 1 being “I know that I will not be able to support myself financially as a professional athlete”, to 7 being “I will be able to support myself as a professional athlete”) limit the confidence researchers can have in the findings of the present study. Specifically, null findings were obtained for hypotheses related to these two constructs. The null findings may reflect the use of measures that lack reliability and, possibly, validity as research shows that use of measures with low reliability increases the likelihood of obtaining null findings (Maxwell & Delaney, 2004).

Implications

The fact that athletic identity predicts career maturity in such a way that student-athletes with higher athletic identity have lower career maturity is important to keep in mind for those working closely with student-athletes. (e.g., sport psychologists, athletic academic counselors, coaches, career counselors). Individuals working closely with student-athletes need to be mindful of how strongly the athlete sees him/herself as an athlete. Considering the findings, recognizing student-athletes with an exclusive identity as an athlete may allow for those involved in teaching and mentoring student-athletes to encourage these student-athletes to adequately prepare themselves to make informed and thought-out career decisions. For example, academic athletic counselors are encouraged to have discussions with upperclassman (i.e., junior, senior, and fifth year student-athletes) that appear to be exclusively associating with being an athlete, about their career path after they are finished with sport. If these student-athletes appear to lack an appropriate level of career maturity, academic athletic counselors may be able to refer the student-athletes to career services on their college or university campus. At the same time, the modest explanatory power of athletic identity in predicting career maturity means that those individuals working with athletes would be remiss to think that athletes who do not as strongly and exclusively identify with that role are at a substantially lower risk of experiencing difficulties with career maturity. Until factors that can more comprehensively and accurately predict which athletes are likely to have the greatest problems, the best practice for helping athletes is to ensure that all athletes are exposed to interventions designed to help athletes increase their career maturity.

One intervention that appears appropriate considering the finding that strong athletic identity predicted lower levels of career maturity is the Positive Transitions Model of Sport

Retirement (i.e., a program designed to build student-athletes confidence in transferring their athletic skills beyond sport; Stankovich et al., 2001). Student-athletes might be able to build on their efficacy in using what they have learned in sport in other arenas such as the business world. Thus, the results from the current investigation may lead to implementation of special programming for student-athletes who may be at risk for low career maturity.

Implications also exist for career decision-making self-efficacy significantly predicting career maturity, such that student-athletes with higher career decision-making self-efficacy have higher career maturity. For individuals specifically working with student-athletes, it is important to be aware that how strongly they believe in their ability to make a career decision is a better predictor of the student-athletes' career maturity than how strongly and exclusively they associate with the athlete role. In other words, when athletes struggle to articulate how they go about making decisions regarding their career, perhaps being reliant upon others to tell them how to make decisions or showing little interest in tasks related to making career decisions, they should be referred for services to evaluate them for difficulties with career decision-making and career maturity. This finding underscores the importance of availability of career counselors on college campuses for student athletes. In particular, those who have low self-efficacy for career decision-making may particularly benefit from some direction to help them develop skills in career decision-making. Athletic departments that employ career counselors who provide services student-athletes may be better able to help those athletes who struggle with career decision-making. As is true with regard to athletic identity, the explanatory power of career maturity was modest and those athletes who appear more able to make decisions about their careers should not be excluded from interventions designed to improve career maturity.

Based upon the findings, those who work as career counselors for athletes should include evaluation of athletic identity and career decision-making self-efficacy in their services to athletes. When athletes strongly identify with the athlete role or experience low self-efficacy for completing tasks related to career decision-making, counseling services that focus upon changing the athlete's standing on these psychological variables may prove helpful in addressing career maturity. Career counselors working with student-athletes may be able to explore the student-athletes' confidence in their ability to make a career decision and challenge any misguided assumptions made by the student-athlete (e.g., taking time out of their athletic participation to focus on career-related issues may hinder their performance in sport; Petitpas et al., 1990). By encouraging the student-athletes to begin career exploration on their own, career counselors have the ability to help the student-athletes recognize that they have the skills necessary to independently explore career topics. Employing career counselors in the athletic department (as well as allowing athletes to access career counselors independent of the athletic department) may help underscore how much the entire university (including the athletic department that supports student athletes during their college careers) cares about the student's future beyond his or her time as a competitor at that university and could be used to encourage students to use such support services.

Future Research

Future research is needed to better understand the relationship between athletic identity and career maturity. Although the present study and some past research (e.g., Murphy et al., 1996) suggest a negative relationship between athletic identity and career maturity, some investigations have produced null results (Brown & Hartley, 1998; Kornspan & Etzel, 2001). Possible future research employing longitudinal designs and examining potential moderating

variables (e.g., identifying with other roles such as student) may help elucidate the nature of the relationship. Specifically, longitudinal designs could help evaluate whether changes in athletic identity are followed by later changes in career maturity. The use of interventions to increase identity with other roles, such as using classes that encourage the athletes to be role models in other ways (model students, philanthropists), may lead to changes in career-related behaviors if the relationship between athletic identity and career maturity is a causal one. Since research suggests that attitude change can lead to behavior change (Rokeach, 1967), studies that focus on attitude change may have particular potential to evaluate whether athletic identity is a causal factor for career maturity in athletes.

Research is needed on variables that affect this relationship between athletic identity and career maturity. It is interesting to note that the two variables that significantly predicted career maturity were psychological in nature, as opposed to demographic (i.e., scholarship status). Perhaps additional psychological variables could be considered in moderating the relationship between athletic identity and career maturity (e.g., career identity; Luzzo, 1993a). One psychological variable that may be investigated in future research examining moderators of the relationship between athletic identity and career maturity is the variable of “Career versus Sport Identity” as discussed by Sandstedt et al. (2004). The authors describe this factor as “A student-athlete’s propensity to see himself or herself more as a student seeking academic and career achievement as opposed to athletic achievement” (Sandstedt et al., p. 90). Future researchers might investigate if this identity variable moderates the relationship between athletic identity and career maturity. That is, the relationship between athletic identity and career maturity may be weaker for student-athletes who emphasize the *student* part of their identity compared to student-athletes that focus on the fact that they are student-*athletes*. Individuals who focus solely on

being an athlete may in turn place less effort on academic and career achievements compared to athletic ventures (i.e., winning a national championship).

In addition to examining moderating affects of the relationship between athletic identity and career maturity, researchers need to go further and investigate causal models. If at all possible, researchers need to move towards more experimental methods to explain the complex relationship between these two variables. In one of the few investigations to use experimental methods to examine career maturity, Stankovich and his colleges (2001) explored whether the Positive Transitions Model (i.e., a program designed to build student-athletes confidence in transferring their athletic skills beyond sport) affected athletic identity, career decision-making self-efficacy, and career maturity in student-athletes. After student-athletes matriculated through the Positive Transitions program and transferable skills were learned, athletic identity decreased, while both career decision-making self-efficacy and career maturity increased. Perhaps it is the increasing in additional roles and identities that student-athletes have that mediates the relationship between athletic identity and career maturity. Or it may be that interest in other roles simultaneously causes the changes in athletic identity and career variables such that both variables are caused by another unmeasured variable. In order to pursue these ideas further, additional research is needed to explore other plausible explanations for why and how athletic identity and career maturity appear to be related.

Finally, future research should examine more closely the suppression phenomenon found in the current investigation. The fact that suppression was present in this study was unexpected and it is not possible to determine the cause. However, future researchers need to be aware of this issue and may be able to explore the suppression finding in more depth when investigating

the relationship between athletic identity, career decision-making self-efficacy, and career maturity.

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Appendices

Appendix 1

ATHLETIC IDENTITY MEASUREMENT SCALE (AIMS)

Please fill out the Athletic Identity Measurement Scale. Circle the number that best reflects the extent to which you agree or disagree with each statement regarding your sport participation.

1. I consider myself an athlete.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

2. I have many goals related to sport.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

3. Most of my friends are athletes.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

4. Sport is the most important part of my life.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

5. I spend more time thinking about sport than anything else.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

6. I feel bad about myself when I do poorly in sport.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

7. I would be very depressed if I were injured and could not compete in sport.
Strongly disagree 1 2 3 4 5 6 7 Strongly agree

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

Appendix 3

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www.auburn.edu/coun

INFORMATION LETTER for a Research Study entitled

“An Examination of the Relationship Between Athletic Identity and Career Maturity in Student-Athletes”

You are invited to participate in a research study to investigate the relationship between athletic identity and career maturity and how the variables of scholarship and the belief that one can sustain oneself financially as a professional athlete, and career decision-making self-efficacy impact that relationship. The study is being conducted by James L. W. Houle M.S., under the direction of Dr. Annette Kluck PhD in the Auburn University Department of Special Education, Rehabilitation, Counseling/School Psychology. You were selected as a possible participant because you are a collegiate athlete and are age 19 or older.

What will be involved if you participate? If you decide to participate in this research study, you will be asked to fill out the Demographic Information Sheet, the Athletic Identity Measurement Scale (AIMS), the Career Decision Scale (CDS), and the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF). If you choose not to participate we ask that you please fill out the crossword puzzle provided. Your total time commitment will be approximately 30 minutes.

Are there any risks or discomforts? The risks associated with participating in this study is breach of confidentiality. To minimize these risks, we will have you fill out the Demographic Information Sheet, the AIMS, CDS, and the CDSE-SF anonymously and the results will be kept in a secured locked location. You are responsible for any costs associated with medical treatment.

Are there any benefits to yourself or others? If you participate in this study you will not receive compensation.

Will you receive compensation for participating? You will not receive any form of compensation.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Special Education, Rehabilitation, Counseling/School Psychology, or James L. W. Houle M.S.

Your privacy will be protected. Any information obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by having the data stored in a locked file drawer. Information obtained through your participation may be published in a professional journal and presented at a professional conference.

If you have questions about this study, *please ask them now or* contact James L. W. Houle at houlejl@auburn.edu or Dr. Annette Kluck PhD at annette.kluck@auburn.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, THE DATA YOU PROVIDE WILL SERVE AS YOUR AGREEMENT TO DO SO. THIS LETTER IS YOURS TO KEEP.

Investigator's signature Date

Co-Investigator signature Date

Print Name

Print Name

Appendix 4

INSTRUCTIONS FOR COMPLETING THE INVESTIGATION PACKET

If you chose to not participate in the study please leave all sheets included in the packet blank, fill out the crossword puzzle to the best of your ability, and return the packet to me at the end of the administration. If you chose to participate in the study please read the following instructions carefully.

Welcome and thank you for participating. Each of you has received a packet containing a Demographic Information Sheet, an Information Letter, and three separate questionnaires. It is important that you do not begin filling out questionnaires until you have read all of the following instructions.

Remove the Information Letter. Read the Information Letter. Once you have read the Information Letter it is yours to keep.

Next, take out the Demographic Information Sheet and fill it out. Be sure to complete all the items. Once you are finished, set the sheet aside. Do not put your name on the Demographic Sheet or on any of the questionnaires marked "Athletic Identity Measurement Scale", "Career Decision Scale", or "Career Decision Self-Efficacy Scale-Short Form".

Now remove the three questionnaires from your packet. Please read the instructions carefully. Please fill out the Athletic Identity Measurement Scale, Career Decision Scale, and Career Decision Self-Efficacy Scale-Short Form. The questions on these questionnaires address various aspects of your behaviors, experiences, and beliefs. These issues are personal and sensitive and are not meant to be offensive. Rather questions of this type are common in vocational and sport psychology research. However, should you find the questions to be offensive or you feel that you do not want to continue the study; you are free to not fill out the questionnaires. If you do wish to continue please complete each questionnaire. Be sure to answer every item on each one. Once you have completed all the questionnaires, place them back in your packet and hand them to me. Your participation is then complete.