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**AN EXAMINATION OF THE CAREER DEVELOPMENT OF  
PREDOMINANTLY AFRICAN-AMERICAN MALE INNER-CITY HIGH  
SCHOOL STUDENT-ATHLETES**

A Thesis in

Counseling Psychology

by

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## ABSTRACT

The Student-Athlete Career Situation Inventory (SACSI; Sandstedt, Cox, Marten, Ward, Webber, and Ivey, 2004) to date, is the only career instrument designed to examine the career development of student-athletes. This measure, however, was originally validated on a college student-athlete population. The following study examined the descriptive nature of the SACSI in a predominantly African-American, male, inner-city, low socioeconomic (SES), high school student-athlete group in three geographic regions of the United States. The predictive nature of the factors found in the instrument above and beyond demographics variables including age and highest number of years played in one sport was also investigated. Participants are members of their schools' respective Play It Smart program. Play It Smart is a high school initiative of the National Football Foundation and College Hall of Fame (NFF) that promotes positive youth development through sport. Social Cognitive Career Theory partially informed the study as constructs including career decision-making self-efficacy, locus of control, barriers, and other contextual factors were explored.

Data for 178 participants were included in an exploratory factor analysis and a sequential regression analysis. The factor analysis yielded a model structure that included two factors: Career Development Challenges and Career Development Strengths. Thus, a new career development instrument for high school student-athletes was created and named the Career-PLanning for Athlete Needs (C-PLAN). Items on the Challenges factor of the C-PLAN overlapped with items on the Career vs. Sport Identity, Locus of Control, and Barriers factors of the original SACSI. Items on the Strengths factor of the C-PLAN overlapped with five of the six items on the Career Development Self-Efficacy subscale of the SACSI. Others factors slightly tapped on the Strengths subscale of the C-PLAN were Career vs. Sport Identity and Sport to Work Relationship.

A sequential regression analysis was conducted to investigate the predictive nature of the two factors on the SACSI over and above demographic variables including age and highest number of years played in one sport. Results indicate that age is a significant predictor of career planning attitudes ( $\beta=.313$ ,  $p<.05$ ). Together, the addition of Challenges and Strengths significantly accounted for 27% of the variance in the full model including age and highest number of years played in one sport entered in the second block (total adjusted  $R^2=.266$ ,  $F=17.016$ ,  $p<.001$ ). Moreover, the addition of Career Development Strengths was also significant ( $\beta=.402$ ,  $p<.05$ ). A discussion of limitations, strengths, implications, and recommendations for future research and practice is also provided.

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## **Chapter 1**

### **Introduction**

In 1997, the National Collegiate Athletic Association (NCA) estimated that one million high school football players and 500,000 basketball players existed in the United States. Of that number, only 150 football players and 50 basketball players proceed to the professional level such as the National Football League (NFL) or the National Basketball Association (NBA). So what are the odds of a high school player making it to the pros? The NCA reported that high school football players face the odds of 6000 to 1 while high school basketball players face the odds of 10,000 to 1 (as cited in Peltier & Laden, 1999). Recent statistics indicate that only 2% of students participating in high school football sports will ever become professional athletes (Retrieved from [www.nflpa.org](http://www.nflpa.org) on January 30, 2006). The National Football League Players' Association carefully informs prospective high school and collegiate student-athletes that out of 100,000 senior high school athletes who played during the current year, only 215 names will ever appear on an NFL roster. These statistics are alarming, alerting student-athletes to the importance of considering alternative career options.

Research has yielded mixed results in the examination of the effect of sport participation in the lives of high school student-athletes. Although no recent statistics are reported concerning high school student-athletes and their career expectations, in 1983 Lee reported that high school student-athletes have lower grades and standardized test scores than their non student-athlete counterparts. Lee's (1983) study demonstrated that factors contributing to these low academic standards include time management, developmental needs, and socialization skills. For example, as in college, high school

student-athletes miss classes due to early dismissal for travel to sport competitions.

Synder and Spreitzer (1992), however, report that research suggests the presence of a positive relationship between high school athletic participation and academics.

Interestingly, the NCM conducted a study in 1993 that examined the effects of high school achievement on college achievement. The study was conducted after the NCM passed Proposition 48 which raised eligibility standards for student-athletes entering college.

Students who wished to attend postsecondary institutions had to possess a GPA of at least 2.5 in 13 academic classes and an SAT score of 700 or an ACT score of 17.

Participants included a cohort of students in 1984-85 and a cohort of students in 1986.

The results of the study indicated a five-year graduation rate of 56.6% for the 1986 cohort compared to 48% for the 1984-85 cohort. Overall, researchers concluded that higher academic standards in high school led to increased college graduation rates. After the passing of Proposition 48, African-American enrollment in Division I schools decreased by 500 students.

When examining the racial composition of collegiate sports, Hood et al. (1992) found that African-American males make up a larger proportion of that population.

Additionally, their research indicated that African-American males who participate in revenue generating sports have lower high school grades and ACT composite scores.

African-American, collegiate football players grades' were significantly lower than their non-athlete peers. Often, African-American student-athletes do not have the academic background to succeed in college (Kirk & Kirk, 1993). As a matter of fact, 65% to 75% of African-American student-athletes who enroll on predominantly white campuses never receive a diploma (Edwards, 1991).

In an attempt to examine the athletic career expectations of student-athletes, Lee (1983) found that 48% of the Black starters on high school teams indicated that they wanted to finish high school and compete in college sports. Thirty-six percent of the Black starters indicated that they would like to finish high school, compete in college athletics, and become a professional athlete. Fourteen percent of White starters indicated the same. Sixty-five percent of the Black non-starters indicated that they would like to finish high school and pursue college athletics while 49% of White non-starters indicated the same. Eleven and eight percent, respectively, wanted to finish high school and college, and become a professional athlete. Perhaps these results remain true within today's low SES communities due to one's misperceptions of his athletic ability and requirements, low levels of academic achievement, and fewer academic resources. This is evidenced by Upthegrove, Roscigno, and Charles (1999) who found that a negative relationship exists between college student-athletes' status as basketball or football players and their grades, especially when racial background is taken into account.

Entry into many professional sports is through college, and admission to college is predicated on academic achievement. Peltier and Laden (1999) found that both football and basketball players were accepted as "special admits" to half of Division I schools because they did not achieve minimal university requirements. That is, they were accepted at a rate 10 times that permitted in the rest of the first-year class. Too often, academic counselors lack a comprehensive understanding of underprepared African American student-athletes and their academic career goals (Etzel, Ferrante, & Pinkney, 1996). If athletes possess low academic skill levels in high school, the attainment of those

academic skills are unlikely in college. With information such as this, further research is warranted to examine the career preparation of high school student-athletes.

The studies in this literature review provide an overview of the extant literature within the overall high school student population. They also demonstrate the need for the present study that includes an examination of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes through the use of standardized assessments. The summary of literature included in this first chapter will highlight research pertaining to the specific domains found on the Student-Athlete Career Situation Inventory (SACSI; Sandstedt et al., 2004). The central question of this dissertation is: Are the five factors of the SACSI descriptive of the career development of predominantly, African-American, male, inner-city, low SES, high school student-athletes? Specifically, the existing literature and research on the five constructs included in the SACSI (i.e., career decision-making self-efficacy, locus of control, education/career barriers, athletic identity vs. career identity, and athletic transferable skills for high school student athletes) are reviewed. In most cases, however, researchers have not examined these various domains with high school student-athletes and, in such cases, research within the general high school student population is presented.

#### *Summary of Relevant Literature*

The career development status of high school student-athletes is an area of research that warrants further investigation in the career development, psychological, and adolescent literature. Many high school student-athletes dream of being future members of college teams, and ultimately gaining a spot on a NFL, NBA, or MLB roster. For students who are members of low SES, inner-city populations, the challenges they

encounter may never afford them the opportunity to gain that spot and allow their dream to come to fruition. The current literature indicates that, like college student-athletes, high school student-athletes experience developmental challenges academically, socially, and emotionally. One of their primary developmental needs is career development.

Sandstedt et al. (2004) developed an instrument to measure the career development of college student-athletes. These researchers conducted a primary factor analysis that yielded five factors in the SACSI: Career Development Self-Efficacy, Career versus Sport Identity, Locus of Control, Barriers to Career Development, and Sport to Work Relationship. Career Development Self-Efficacy is defined as “the degree to which a student-athlete feels confident in his or her ability to engage in career development tasks, e.g., using a campus career center to explore a variety of career interests.” Career versus Sport Identity describes the extent to which a student is focused more on academic and career success as opposed to athletic achievements. Locus of control is the expectancy or belief about the reinforcements that follow a behavior (Rotter, 1966). Locus of control is split into two categories: internal and external. The internal locus of control orientation is defined as the belief that reinforcements are a result of personal effort; an external locus of control orientation is the belief that reinforcements are a result of outside forces that are beyond one's personal control (Rotter, 1966). Barriers to career development are considered as inherent aspects found within the student-athlete role that may hinder progress toward career development. Sport to Work Relationship is described as “the ability to recognize valuable skills that can be taken from their sport experience and used in career settings.”

*Career Development Self-Efficacy.* Scholarly and empirical literature as it pertains to career development self-efficacy, also referred to in this paper as career decision-making self-efficacy (CDMSE) for high school student-athletes, leaves much to be desired from researchers in the field. Fortunately, conclusions regarding career decision-making self-efficacy and high school student-athletes can be drawn from the existing literature on CDMSE, the general high school student population, and college student-athletes. Below is a summary of this extant literature and research within these specific groups.

Career decision-making self-efficacy among high school students has been moderately examined in the literature. Researchers have investigated CDMSE in relation to occupational skills, perceived educational/career barriers, career indecision, and career certainty (Betz & Hackett, 1981; Betz, Harmon, & Borgen, 1996; Betz & Luzzo, 1996; Luzzo, 1993). Others have investigated the effect of CDMSE on factors such as parental separation, familial and non-familial support systems, optimism, pessimism, and overall gender differences. Creed, Muller, and Patton (2003) found that individuals who possessed higher CDMSE levels also had lower distress levels, higher self-esteem levels, and higher school achievement levels. In other studies, factors such as peer and sibling support were significant predictors of vocational/educational confidence levels (O'Brien, 1996).

In terms of college student-athletes, the available research pertaining to CDMSE is scarce. To date, two studies have examined the construct with junior college and 4-year college students. Both studies indicate that student-athletes who possess higher levels of career decision-making self-efficacy also tend to possess higher career locus of

control levels and higher career maturity levels (Brown, Glasstetter-Fender, & Shelton, 2000; Korspan & Etzel, 2001).

Measurement devices to assess the CDMSE levels of high school students in the above studies include the well-known 50-item and shortened 25-item Career Decision Self-Efficacy Scale (Taylor & Betz, 1983; Betz, Klein, & Taylor, 1996), the Career Confidence Scale (Fassinger, 1990), and the Vocational/Educational Self-Efficacy Scale (Ali, McWhirter, & Chronister, 2005). Betz et al. (1996) found that in the shortened version of the scale, the CDMSE-Short Form (SF) was as psychometrically sound as the long version of the measure. Additionally, these researchers found that the CDMSE-SF had higher validity correlations than the original scale.

Career decision-making self-efficacy has been found to be positively related to academic achievement and peer and sibling support with high school students. Additionally, CDMSE has been found to significantly predict vocational outcome expectations with this population. Given that inner-city, at-risk high school student-athletes may experience lower levels of support from family and friends and obtain lower school achievement levels than their privileged counterparts, their CDMSE levels may be low, thus resulting in lower vocational outcome expectations. The absence of empirical research that examines CDMSE with high school student-athletes, including the impact of family support on outcome expectations, is necessary.

*Locus of Control.* Another social cognitive construct that has gained attention in the career literature over the years is locus of control. Rotter's (1966) definition of the construct and the implementation of his Internal/External Locus of Control Scale have led researchers to examine locus of control in various domains including the career



development area. In light of increased interest in examining locus of control in relation to career factors, Trice, Haire, and Elliot (1989) developed the Career Locus of Control Scale (CLCS).

No researchers have examined locus of control as it pertains to the career development field with high school student-athletes. Researchers have, however, used Rotter's I/E Scale and the CLCS to examine the construct with both American and international high school students. In international populations, Denga (1984) administered Rotter's (1966) I/E Scale and found that Nigerian students who possess an internal locus of control are intrinsically influenced to make career decisions.

Career locus of control and career decision-making self-efficacy have been examined in relation to one another. Specifically, these constructs have been examined in relation to one another within the college student-athlete population. As previously mentioned, Korspan and Etzel (2001) and Brown et al. (2000) conducted the only two studies that assess these constructs with student-athletes. Both studies indicate that higher levels of internal career locus of control were positively correlated with higher levels of career decision-making self-efficacy. In Korspan and Etzel's (2001) study, career locus of control was the most significant predictor of career maturity scores. Interestingly, an internal career locus of control within the student-athlete population predicted a greater portion of the variance in career maturity than in the general college student population.

Student-athletes have been shown to have a greater external locus of control (Etzel, 1990). In comparison to their White collegiate student-athlete peers, African-American collegiate student-athletes were found to have a more external orientation (Nation & LeUnes, 1983). That is, these students believe that their behaviors are

influenced by outside factors which may include family members, coaches, and society at large. It is important to investigate locus of control as it pertains to the career domain for high school student-athletes considering that a greater external locus of control has been related to lower levels of career-related factors including career decision-making self-efficacy and career maturity, particularly in student-athlete populations (Brown et al., 2000; Korspan & Etzel, 2001).

*Career versus Sport Identity.* The literature regarding career vs. sport identity with high school student-athletes is limited, yet complex. It is limited in such a way that researchers have conducted minimal empirical research that explores the role of vocational or athletic identity with adolescent athletes. Furthermore, it is complex in such a way that those who have conducted research with sport identity have done so by examining the role of “jock identity” with high school student-athletes. These two terms, that is, athletic identity and jock identity, however, define two separate constructs in the literature. Athletic identity is defined as the degree to which a person identifies with his or her role as an athlete, and the positive and negative attributes that are related to this role. Researchers note that the term jock suggests that mostly negative behaviors will be associated with this label.

The career identity literature is scarcer than the sport identity literature as it pertains to high school-student athletes. In fact, no published studies exist in this area either with high school or college student-athletes. The empirical literature that involves the examination of career identity with general high school students is also limited. The three studies highlighted in this paper address the relationship between the construct of career identity, consistency, and differentiation (Leung, Conoley, Scheel, & Sonnenberg,

1992), assisted performance and individuation models of guidance (Lopez, 2001), and family interaction patterns and career planning attitudes (Hargrove, Inman, & Crane, 2005). Researchers used two primary measurement devices to assess career identity: the Vocational Identity Scale (VIS) of the My Vocational Situation (MVS; Holland, Diager, & Power, 1980) and the Objective Measure of Ego Identity Status Survey-2 (EOMEIS-2; Bennion & Adams, 1986). Through the use of both instruments, researchers found that vocational identity was not associated with consistency or differentiation. Consistency refers to the degree of similarity between one's primary and secondary interest areas and differentiation refers to the degree of ambiguity or distinctiveness of one's interest profile (Leung et al., 1992). Lopez (2001) found that Latino high school females who freely expressed their ideas about career exploration through communication with friends, parents, and mentors indicated a higher career identity achievement level. Last, Hargrove et al. (2005) found that family interaction patterns did not predict vocational identity.

The Athletic Identity Measurement Scale (AIMS; Brewer, Raalte, & Linder, 1993) not only assesses the influence of one's role as an athlete, but also the exclusivity of identification with this role. Weichman and Williams (1997) and Ryska (2002) are the only two authors noted who used the AIMS with high school student-athletes. These researchers examined the relationship of athletic identity with other factors including mood disturbance, academic competence, and vocational competence levels. Weichman and Williams (1997) found that males possess higher levels of athletic identity than their female counterparts. Additionally, they found that Mexican-American students possessed greater athletic identity than other persons of color and Caucasian high school student-athletes. Eighty-two percent of African-American student-athletes expected to

play collegiate level sports versus 71% of Mexican-American; 63% of Caucasian students also expected to play a sport in college. Ryska (2002) suggests that White male student-athletes have greater confidence levels in terms of successfully completing high school than all other ethnic group members. Finally, 8.2% of the variance in vocational competence for high school student-athletes in Ryska's (2002) study was accounted for by athletic identity.

It is important to understand the influence of both vocational and athletic identity in the personal development of the sample of student-athletes included in this study for the following reasons: 1) no studies have been published regarding career identity of high school student-athletes, 2) the sample consists of all males, a group which has consistently been found to have a higher level of athletic identity than females, 3) athletic identity has been associated with obtaining higher grades and higher aspirations of postsecondary education planning only in low to middle SES communities where ¼ of the population attends a 4 year college, and 4) many students of color identify with a strong athletic identity and attend low to middle SES schools.

*Barriers to Educational/Career Development.* Increased attention has been given to the barriers construct with high school students and career/educational issues. Again, however, no published empirical studies have been conducted that examine high school student-athletes and career barriers. Scholarly literature has highlighted, however, barriers to career development for both high school student-athletes and college student-athletes. Barriers identified for high school student-athletes are categorized into two groups-internal and external. Internal barriers include low self-esteem, conflict between personal values and athletic goals, lack of previous work experience, and level of career

maturity (Kirk & Kirk, 1993). Examples of external barriers identified are lack of mentors, racism and discrimination, peer pressure to adopt particular norms, and lack of career and vocational guidance. The effect of barriers in the general high school population suggests that lower perceived career barriers were associated with higher career maturity and career decision-making self-efficacy levels, and lower career indecision levels (Patton, Creed, & Watson, 2003). Students who have more kinship and social support also have reported lower perceived barriers to career development (Ali et al., 2005). Researchers used instruments such as the Perceived Barriers Scale (PBS) and the Perceptions of Educational Barriers measure (PEB). Hyatt (2003) conducted a literature review that examined career-related barriers with African-American, college student-athletes. She identified potential barriers unique to this population as lack of commitment and long-term goal setting, integration, and isolation. These factors are further explained in Chapter 2.

Career barriers are important to examine in the present study as the sample population included predominantly African-American, male, inner-city, low SES, high school student-athletes. Researchers note that an examination of career barriers is significant in the career development process of populations who have limited access to resources such as individuals in low SES communities.

*Sport to Work Transferable Skills.* The final, and perhaps most challenging construct to be assessed in this study is Sport to Work Transferable Skills. No published studies examine this factor within any of the cited populations in this report. The researcher will draw conclusions about the assessment of this construct from literature regarding college life skills planning programs especially for student-athletes including

the NCAA's "Challenging Athletes' Minds for Personal Success/Life Skills" (CHAMPS) program and the "Play It Smart" program for high school student-athletes. Both programs allow student-athletes to participate in skills-training activities, and assist in the identification of transferability of skills sets from the sports arena to academic/career fields.

Another body of literature that may lend insight into the transferability of skills for student-athletes is the transition literature. Again, no empirical studies have examined the relationship between career transition and transfer of skills for athletes. Erpic, Wylleman, and Zupancic (2004), however, suggest that athletic identity and current educational status had an impact on the occupational difficulties of elite, European athletes. If an individual obtained a college degree, he or she experienced fewer problems finding and/or obtaining employment. The above finding provides a rationale for the examination of the transferability of skills from one area to another, especially within an underserved high school student-athlete population. Because the majority of students in this group may have less of an opportunity to attend college or obtain some type of postsecondary education that may better prepare them for the workforce, the examination of the transfer of athletic skills from sports to more traditional career paths is warranted.

#### *Purpose of Study*

The purpose of the present study is to examine the career development and preparation of predominantly African-American, male, inner-city, low SES, high school student-athletes. Specifically, the investigator administered, interpreted, and analyzed the results of the SACSI, the Career Planning (CP) subscale of the Career Development

Inventory School form, and the post graduation plans of participants of the Play It Smart Program. The Play It Smart program is a program for high school student-athletes; its mission is to promote positive youth development through sport. Play It Smart programs are primarily located in inner-city schools. As discussed, both the empirical and the scholarly research imply similarities between the career development of high school and college student-athletes. That is, the five factors (career decision-making self-efficacy, locus of control, career versus sport identity, career barriers, and sport to work transition) identified with college student-athletes by the SACSI may also exist in high school students. Specifically, predominantly African-American, male, inner-city, low SES, high school student-athletes may have low CDMSE scores associated with low academic grades. Their athletic identity scores may be high, however, their grades, again, may also be low. Considering the lack of economic stability and other resources, these students may experience career barriers which may be identified as internal or external. Also, considering cultural factors and the commercialized world in which many of our inner-city high school students live, they may have a more external locus of control than an internal locus of control.

#### *Research Questions and Analyses*

Two research questions are included in the present study of high school student-athletes' career development:

1. Are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes? If not, how might the factor structure of the SACSI best be described in this population?

2. Do these factors explain variation in career development attitudes and postsecondary plans above and beyond demographic variables including age and highest number of years played in one sport?



## Chapter 2

### Literature Review

#### An Examination of the Career Development of Predominantly African-American, Male, Inner-City, High School Student-Athletes

In 2004, Sandstedt et al. were the first researchers to create a career development tool especially for student-athletes. The creation of the Student-Athlete Career Situation Inventory (SACSI) led to the development of a five-factor instrument. The SACSI was developed using a collegiate student-athlete population. As the purpose of this dissertation study is to determine if the five factors of the SACSI describe the career development of predominantly African-American, male, inner-city, high school student-athletes who live in low SES communities, this literature review begins with an in-depth description of Sandstedt et al.'s validation study. The empirical research associated with each of the five factors is then reviewed, including a discussion of the fit of the factor for a high school student population.

#### *The SACSI*

Sandstedt et al. (2004) described the initial stages of scale development for the newly created SACSI and provided a comprehensive description of the psychometric properties of this instrument. The purpose of the SACSI is to measure the career development of student-athletes. That is, this instrument measures the career related attitudes, beliefs, and interests of this group (Sandstedt et al., 2004). The authors defined career situation as “the extent of one’s career development and preparation characterized by the sophistication of one’s career attitudes, beliefs, and interests” (Sandstedt et al., p. 90). The following is a description of the development of the SACSI including item

selection, demographics for the sample population, data analysis techniques, and results of the study.

The developers of the SACSI are five counseling psychology graduate students at the University of Missouri-Columbia. Each student generated a list of 10-20 prospective items during the initial stages of scale development. Each student submitted 10-12 items, reviewed them with their research advisor, and agreed upon a 50-item list.

A 40-item, final draft of the SACSI was created based on students' revisions that included a check for responses based on social desirability, length and wording of items, and response validity (Sandstedt et al., 2004). A Likert-type response system was created to use with the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. Example items on the SACSI include, "I do not have enough time to explore potential career opportunities," "I have a strong interest in at least one potential career," "I am an athlete first, student second," "My main reason for being at this university is to participate in my sport," and "I feel that in my sport I am encouraged more to achieve success in academics than in athletics." After changing the scores of all reverse scored items, a high score on the SACSI is indicative of a student-athletes positive [high] developmental level of career attitudes, beliefs, and interests. A reading level for this instrument was not specified.

In order to establish criterion-related validity, Sandstedt et al. (2004) used five career related items from two additional forms administered in the study. The first form is related to athletic experiences. The second form is related to perceived academic gains. Both forms were created by four graduate students and their research advisor (Cox, Sandstedt, Martens, Ward, & Webber, 2002). Cox et al. (2002) note that the five career-

related items from both forms may be indicative of an individual's ability to increase his or her level of career development. Participants responded to validity items from the Student-Athlete Experiences scale using the following anchors: never, almost never, occasionally, often, or very often. The five items include 1) Talked to a student, instructor or coach about academic majors and careers that they lead to, 2) Thought about going to graduate school or professional school after completing my undergraduate degree, 3) Read a magazine or newspaper article that dealt with a possible career option , 4) Visited the career center, talked to a counselor about career opportunities and interests, and/or completed an inventory dealing with career interests, and 5) Completed an inventory dealing with career interests or some other inventory designed to measure career aptitude.

Participants responded to the validity items from the Academic Gains form with the following anchors: not at all, somewhat, greatly, or definitely. The five items are: 1) Gained knowledge and skills applicable to a specific job or type of work, 2) Gained a broad education and learned about different academic disciplines, 3) Learned skills that will help me in my chosen career, 4) Learned things in college that should make it possible for me to finally support myself independent of my athletic scholarship or my parents, and 5) Know what I am going to do when I complete my collegiate athletic career.

Members of 15 sports teams were asked to participate in the study. Sandstedt and colleagues (2004) received permission from coaches to request student-athletes' participation. After students were briefed on the purpose and nature of the study, they were then administered assessments through team meetings or in a one-on-one format. A

total of 204 college student-athletes participated in the study; 138 were male and 66 were female. Participants were members of sport teams at a Division I institution. Student-athletes' ages ranged from 18 to 24 years old ( $M = 19.0$ - $20.0$ ;  $SD = .66$ ); 26% ( $n = 53$ ) of participants were of color (48 African-American, 4 Asian, 1 "other") while 74% ( $n = 151$ ) were European American; 45 were first-year students (22.1%), 59 were sophomores (28.9%), 55 were juniors (27%), 34 were seniors (16.7%), 9 were fifth-year seniors (4.4%), and 2 were graduate students (1%).

Statistical methods including exploratory factor analysis, Cronbach's alpha, and multiple regression were used to evaluate the data. Researchers employed a principal axis common factor method and an oblique rotation to first separate out potential factors, and then determine factor loadings for each item. The exploratory factor analysis resulted in a new 30-item, five factor instrument that accounted for 81.39% of the common variance in the data. Ten of the 40 original items were omitted due to high kurtosis values and inability to meet the factor loading criteria of 0.40. No items were found to cross-load on multiple factors. Five distinct factors were found on the SACSI: Career Development Self-Efficacy, Career versus Sport Identity, Locus of Control, Barriers to Career Development, and Sport to Work Relationship.

Career development self-efficacy contained six items and accounted for 15.28% of the variance in the data. Career Development Self-Efficacy is defined as "the degree to which a student-athlete feels confident in his or her ability to engage in career development tasks, e.g., using a campus career center to explore a variety of career interests" (Sandstedt et al., 2004). The authors describe the Career versus Sport Identity factor as the extent to which a student is focused more on academic and career success as

opposed to athletic achievements. This factor contained nine items and accounted for 36.27% of the variance. Four items were loaded on the Locus of Control factor which accounted for 13.67% of the variance. Locus of control is the extent to which a student-athlete has the power to make career-related decisions (Sandstedt et al., 2004). This subscale contained reverse-scored items. Barriers to Career Development are considered to be the inherent aspects found within the student-athlete role that may hinder progress toward career development. Six items were contained in this factor which accounted for 8.56% of the variance. Last, Sport to Work Relationship is described as “the ability to recognize valuable skills that can be taken from their sport experience and used in career settings” and contained five items (Sanstedt et al., 2004). This factor accounted for 7.61% of the common variance. Coefficient alphas calculated for each factor were .78, .80, .70, .72, and .83, respectively. The coefficient alpha for the total scale was .83.

Career Development Self-Efficacy, Career vs. Sport Identity, and Locus of Control were found to be significantly related to the criterion variable “Student-Athlete Experiences.” The squared multiple correlation for this regression analysis was 0.17 ( $p < .01$ ). Each factor accounted for 3%, 9%, and 7% of the variance, respectively. The two factors labeled Self-Efficacy and Career versus Sport Identity displayed significant regression coefficients for the criterion variable “Gains.” The squared multiple correlation for the regression analysis was .28 ( $p < .01$ ). The two factors above accounted for 15% and 2% of the variance, respectively.

The preliminary evidence indicates that the SACSI is a valid instrument that accurately measures the career development of college student-athletes. Reasonable measurements of Career Development Self-Efficacy, Career versus Sport Identity, Locus

of Control, Barriers to Career Development, and Sport to Work Relationship are made through the use of this inventory. Given that the goal of this study is to determine if the five factors of the SACSI are found in a predominantly African-American, male, inner-city, low SES, high school student-athlete population, the remainder of this chapter addresses the applicability of each of the factors of the instrument for high school student-athletes. To do so, for each of the five topic areas I first describe the research evidenced in a high school student-athlete and general high school population.

Considering the scarcity of information for high school student-athletes as it pertains to the five factors above, a description for the research domains of interest in the college student-athlete population will also be provided. Finally, each section will conclude with an explanation of the extent to which the domain is relevant to a high school population, specifically student-athletes.

#### Career Decision-Making Self-Efficacy

Social cognitive theory has influenced theories of career development in such a way that over the years researchers have interwoven constructs such as self-efficacy beliefs with issues pertaining to career development. For example, self-efficacy has been examined in the career domain in relation to career indecision, educational indecision, perceived career options, occupational group membership, vocational interests, career exploration and decidedness, career commitment, and career decision-making attitudes and skills (Bergeron & Romano, 1994; Betz & Hackett, 1981; Betz et al., 1996; Betz & Luzzo, 1996; Betz & Voyten, 1997; Chung, 2002; Luzzo, 1993). Self-efficacy within the career domain has also been studied in subgroups including college women, African-American women, men and women of both the majority and minority cultures, students

with disabilities, underprepared college students, and nontraditional college women (Hackett & Betz, 1981; Hackett & Byars, 1996; Luzzo, Hitchings, Retish, & Shoemaker, 1999; Peterson & delMas, 1998; Quimby & O'Brien, 2004).

One area that increasingly receives attention by researchers interested in both social cognitive theory and career concerns is career decision-making self-efficacy. The applicability of self-efficacy beliefs, a notion first presented by Bandura in 1977, to career choice has been investigated within various groups from elementary, middle, and high school students to young adult and older adult populations. The pioneering work of Hackett and Betz (1981) regarding self-efficacy and its relation to women's career decisions and achievement created a segue for future research that defined career decision-making self-efficacy and led to the creation of instruments to measure the construct.

#### *Measurement of CDMSE*

Taylor and Betz (1983) originally defined career decision-making self-efficacy (CDMSE) as "an individual's belief that he or she can successfully complete tasks necessary for making career decisions." These researchers were also the first to develop an assessment to measure one's level of CDMSE, the Career Decision-Making Self-Efficacy Scale (CDMSES). Taylor and Betz' (1983) study focused on the development of the CDMSES as well as the study of the relationship between CDMSE and career indecision. Their study included the administration of the CDMSES and the Career Decision Scale to 346 undergraduate students. Taylor and Betz (1983) found general college students' confidence levels regarding career decision making to be moderate. They also found that CDMSE was strongly and negatively related to career indecision in

that students who had higher levels of CDMSE were also found to have low levels of career indecision. Internal consistency reliability for the CDMSES in the above study was 0.97 with correlations between all items ranging between 0.50 and 0.80.

In 1996, Betz and colleagues created a short form of the CDMSES (also known as the CDMSES-SF). This instrument was created in an effort to lessen the number of items included in the original CDMSES. Item reduction resulted in a 25-item measure, one half of the items on the original scale. The number of items from the full blown scale to the short form scale was reduced from 50 to 25. The CDMSES-SF measured the five career choice competencies originally proposed in Crites' model of career maturity which were also included in the Career Maturity Inventory (Crites, 1978). The five career choice competencies include self-appraisal, gathering occupational information, goal selection, planning, and problem solving. A Likert-type response format was used ranging from 1-5 with 1= no confidence at all to 5=complete confidence. Greater levels of career decision-making self-efficacy were indicated by higher scores. The coefficient alphas for the short form of the scale (Self-Appraisal, 0.73; Goal Selection, 0.83; 0.94 for the total 25-item scale) suggests that the 25-item scale is as psychometrically sound as the 50-item scale. The short form of the scale was also found to possess higher concurrent validity correlations than the longer version of the measure.

Betz, Hammond, and Multon (2005) recently changed the names of the CDMSE and the CDMSE-SF. In a study of reliability and validity of the five-level response continua for the CDMSE-SF, these researchers noted that the names of the above assessments have been changed to the Career Decision Self-Efficacy Scale (CDSE) and the Career Decision Self-Efficacy Scale-Short Form (CDSE-SF). This name change



came about as a result of the researchers learning that the term career decision-making was copyrighted by another author.

As previously noted, researchers have used the Career Decision Self-Efficacy Scales to study career decision-making self-efficacy in relation to various other career constructs. For example, both empirical and scholarly research demonstrate the study of this concept in terms of women's and men's career concerns, vocational identity, locus of control, career exploration, career maturity, career skill, career attitudes, and the congruency between college students' employment opportunities and career aspirations (Betz et al., 2005; Brown et al., 2000; Hackett & Betz, 1981; Korspan & Etzel, 2001; Luzzo, 1995; Luzzo, Funk, & Strang, 1996; Luzzo & Ward, 1995; Taylor & Betz, 1983). In studying high school student populations, researchers have used other measures for career decision-making self-efficacy. These scales include the Career Confidence Scale (CCS; Fassinger, 1990) and the Vocational/Educational Self-Efficacy Scale (VESES; Ali et al., 2005). The CCS is a short version of the Career Decision Making Self-Efficacy Scale. In brief, Fassinger (1990) selected five items from each of the five areas of the CDMSES, adhering to a five-point, Likert-type format. A high total score on the CCS indicates a high level of career decision making self-efficacy. A correlation coefficient of .79 was found between the CSS and the CDESES. The VESES was created by Ali et al. (2005) as a means to assess students' confidence in completing tasks related to attending college, vocational technical training, and obtaining a job after high school. After careful scrutiny from counseling psychology doctoral students, counseling psychology staff, and high school teachers, a 21-item, 10-point Likert-type scale was designed with anchors ranging from 0 (no confidence at all) to 9 (complete confidence).

As the above citations indicate, researchers have thoroughly examined career decision-making self-efficacy within the college student population. A subpopulation of this larger group that has also gained attention is student-athletes. The following outlines the current research that examines career decision-making self-efficacy within a collegiate student-athlete population.

#### *CDMSE and College Student-Athletes*

As is the case for research on CDMSE and high school student-athletes, limited research is available regarding career decision-making self-efficacy and collegiate student-athletes. Two studies are noted below that discuss the relationship between CDMSE and other career-related variables with college student-athletes. The results of these two studies indicate that higher levels of career decision-making self efficacy were negatively related to hours of sport activity, positively related to an internal career locus of control, and negatively related to low levels of career exploration activities (Brown et al., 2000; Korspan & Etzel, 2001).

Brown et al. (2000) examined the relationship between career locus of control, career decision-making self-efficacy, identity foreclosure, and athletic identity in a student-athlete population. Student-athletes' time in sport and expectations of sport participation, and the above psychological constructs were considered. Participants in the study included 189 student-athletes who attended Division 1 schools at three midwestern universities. Students' racial demographics were: 74% Caucasian, 15% African-American, 2% Latino, 1% Native American, 5% Asian. Two percent did not report their racial ethnicity. Represented sports included football, volleyball, soccer, baseball, and

swimming. Football represented the highest participant pool with a representation rate of 31% while volleyball was the lowest sport represented at 6%.

Four measures were administered to the students in this study: Objective Measure of Ego-Identity Status (OM-EIS), the Athletic Identity Measurement Scale (AIMS), the Career Locus of Control Scale, and the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSE-SF), and a one page demographic sheet. The OM-EIS is a measure used to assess the relative dominance of each of the four ego identity statuses (i.e., diffusion, moratorium, foreclosure, and identity achievement). The OM-EIS was used to assess the extent to which a participant was committed to a particular identity status. Using a 6-point Likert-type scale, participants indicated their level of agreement with the statements on this scale with 1 representing “strongly disagree” to 6 representing “strongly agree.” The AIMS served as a means of evaluating self-identification, athletic identification, and the fusion of the two roles. Similar to the OM-EIS, the AIMS is a 10-item measure that is scored on a 7-point Likert-type scale in which students rate their level of agreement from “strongly disagree” to “strongly agree.”

The result of Brown et al.’s (2000) study indicated that the more hours student-athletes participate in sport activity, the lower their career decision-making self-efficacy ( $r = .316, p < .001$ ). Additionally, the results showed that student-athletes who possessed a greater internal career locus of control appeared to have higher career decision-making self-efficacy scores ( $r = .209, p < .01$ ). Low career decision making self-efficacy scores were also reported for students who did not participate in career exploration activities.

Korspan and Etzel (2001) conducted a similar study regarding the effects of psychological constructs including locus of control and self-efficacy on career maturity

levels of male and female, junior college students. Specifically, they investigated the relationship between psychological variables, demographics, and career maturity.

Korspan and Etzel (2001) administered many of the same instruments used in Brown et al.'s (2000) study including a demographic questionnaire, the CMI, the AIMS, the CDMSES, and the CDLCS. Two hundred and fifty-nine student-athletes completed the assessments; the sample population was 145 first-year and 114 sophomore students.

Consistent with the literature in this area reviewed thus far, the majority of the participants were Caucasian ( $n = 185$ ) with the exception of 74 who were African-American. Korspan and Etzel (2001) concluded that career decision-making self-efficacy is related to career maturity ( $r = 0.26$ ,  $p = 0.05$ ) for this sample of junior college athletes. In both Brown et al. (2000) and Korspan and Etzel's (2001) findings, career decision self-efficacy was deemed beneficial to students' overall career development. Student-athletes who tended to have higher career decision-making self efficacy scores also tended to have higher levels of career locus of control.

Research examining CDMSE lends insight to the predictive nature of the construct and its relationship to variables including parental attachment and support, peer and sibling support, career maturity, vocational outcome expectancies, and perceived work-related barriers (Ali et al., 2005; Creed, Muller, & Patton, 2003; O'Brien, 1996; Patton, Creed, & Watson, 2003). Students who have a higher sense of emotional attachment to their mothers and higher dependence levels also have higher CDMSE scores. Additionally, students who have increased confidence levels in their ability to make career choices also have decreased stress levels and increased levels of self-esteem. Collegiate student-athletes with higher career decision-making self-efficacy levels have

also been found to have a more internal locus of control, spend less time in their sport activity, and have higher career maturity levels. Gender differences demonstrated in the data suggest that CDMSE significantly predicts career development attitudes and the degree to which students are able to make a career decision (Creed, Patton, & Bartrum, 2004).

Given the limited amount of research on career decision-making self-efficacy and high school student-athletes, further research is warranted within this population. There simply are no studies that examine CDMSE with high school student-athletes. In particular, research examining the construct with non-Caucasian, underserved, male student-athletes may lend insight into their school achievement levels and vocational outcome expectations.

#### *CDMSE and High School Students*

Career decision making self-efficacy has been found to be an important construct of investigation within the high school population. A number of studies have examined this construct in relation to other psychosocial and career-related variables including parental attachment, psychological separation, vocational skills, outcome expectations, perceived educational/vocational barriers, and career exploration programs (Ali et al., 2005; Creed et al., 2003; Creed et al., 2004; McWhirter, Crothers, & Rasheed, 2000; O'Brien, 1996; O'Brien, Bikos, Epstein, Flores, Dukstein, & Kamatuka, 2000). In some cases, career decision-making self-efficacy has been examined with traditional standard measures such as the CDMSES-SF, while others have examined the construct with other measures including the Career Confidence Scale (CCS) and the Vocational/Educational Self-Efficacy Scale (VESES). Given that no published studies exist regarding CDMSE

and high school student-athletes, a summary of the extant empirical research about CDMSE and the general high school population is described.

O'Brien (1996) examined career decision-making self-efficacy with a group of female adolescents. In an assessment of parental attachment, psychological separation, and career development, this researcher surveyed 282 senior high school students. The demographic composition of the group was 81% Caucasian, 10.6% African-American, 1.4% Asian-American, 4.6 % Latina, 1.1% Native American, and 0.4% "other." The demographics questionnaire indicated that 99.7% of the sample population decided to attend college.

The CCS was used to assess the confidence levels of students' career decision-making. The canonical correlation analysis in O'Brien's (1996) study indicated that students who had high levels of dependability and emotional attachment to their mothers also had strong career decision-making self-efficacy levels. Additionally, when controlling for separation variables, the attachment variables did not correlate with any of the career constructs including career decision-making self-efficacy. Both movement toward and lack of independence from one's mother were moderately and significantly related to one's CDMSE scores.

The new millennium brought about advances in the study of career decision-making self-efficacy and high school students. In 2000, McWhirter and colleagues examined the effects of a 9-week career related course in a high school, sophomore population. These researchers studied the impact of this course on several career-based variables including career decision making self-efficacy, vocational skills, perceived educational barriers, outcome expectancies, educational planning, and career exploration.

Participants in the study included 97 female and 69 male students for a total of 166 students. The majority of the population, though described as “urban” was identified as Caucasian (77%). The remaining participants’ demographics were as follows: 6% African-American, 5% Latino, 6% Asian-American, and 4% identified as “other.” Students were separated into two categories: career-health or health-career. Students obtained these labels by the order in which they took their courses. For example, group one was labeled the career-health group because they were enrolled in a career course during the first quarter and a health course during the second quarter. Likewise, health-career students were enrolled in the health course during the first quarter and the career class during the second quarter. Both the career and the health courses are mandatory courses for sophomores at this midwestern high school. The career course met 50 minutes daily covering topics of discussion including postsecondary educational opportunities, vocational information research activities, and assessment for personality and career interest.

The short form of the Career Decision-Making Self-Efficacy Scale was used to evaluate decision making confidence levels as they pertained to the career domain. The CDMSES-SF was administered at three intervals. The first testing (T1) occurred at the beginning of the first quarter while the second testing (T2) occurred at the end of the first quarter. The third testing (T3) was administered at the end of the second quarter of the school year. A non-randomized, within-subjects, cross-over design was used in the study. Main effects and interactions were found through the use of MANCOVA techniques. A main effect for time was found  $F = 21.53, p < .001$ , and an interaction between treatment and time was found,  $F = 9.89, p < 0.001$ . Regression analyses indicated

a rise in CDMSE for the career-health students ( $t = -6.72, p < .001$ ). Career decision-making self-efficacy decreased, however, for the career-health group during the second quarter ( $t = 2.6, p = 0.008$ ), and was higher at T3 than T1 ( $t = -2.75, p = 0.007$ ). Health-career students gained significant CDMSE levels between T2 and T3 ( $t = 3.63, p = 0.001$ ). Ultimately, nine weeks following the termination of classes, only the career-health students' CDMSE levels remained significantly higher than at pretest.

Similar to O'Brien's (1996) study of relational attachment and career constructs for high school students, Ali et al. (2005) investigated the relationships between socioeconomic status, vocational outcome expectations, kinship support, non-family related support, career decision-making self-efficacy, and educational/careers barriers with a group of 114 ninth grade, low SES students. Results of this study, as it pertains to CDMSE, indicate that peer and sibling support were significant predictors of VESE, accounting for 36% of the variance (Ali et al., 2005). Vocational/educational self-efficacy scores also significantly predicted vocational outcome expectations, accounting for 21% of the variance.

Researchers abroad have also examined CDMSE with secondary school students. Highlighted below are a few of these studies that provide valuable information about international populations including Australian and South African secondary student groups. Peter A. Creed is a prominent researcher in the following studies.

In 2003, Creed et al. examined career-decision making self-efficacy within an Australian, high school population. Specifically, they examined CDMSE and overall well-being of students and the impact of these variables on the students' transition processes before and after leaving high school. To do so, Creed et al. (2003) assessed



variables including CDMSE, self-esteem, student achievement, psychological distress, and latent benefits on measures of Career Focus and Career Indecision. Latent benefits are described as those benefits that are associated with psychological well-being. Some examples of latent benefits include time structure, social contact, and common goals (Jahoda, 1981). Participants were students from three suburban, Australian schools and members of the low, middle, and high socioeconomic statuses. Two schools were state-funded while one school was considered a private school. All SES backgrounds were present at the private school, although all students paid tuition to attend.

There were two test intervals for this pre/post test analysis, referred to as T1 and T2. The first administration (T1) took place during the students' last year at the school. Three hundred and nine students participated during this interval; 58% of the population were female and 42% were male. At T2, 168 students returned surveys approximately nine months after leaving the school. Twenty-one percent ( $n = 36$ ) of the respondents were full time students, 35% ( $n = 58$ ) were full time students who were also employed full time, 22% ( $n = 38$ ) were employed full time, and 21% ( $n = 36$ ) were employed, but not working full-time. Females accounted for 65.4% of the total sample while 34.6% of the population was accounted for by males. The CDMSES-SF was administered at both T1 and T2.

Multivariate analysis at T1 indicated a correlation ( $r > .32$ ) between CDMSE and psychological distress ( $-.36$ ), self-esteem ( $-.45$ ), and school achievement ( $.38$ ). That is, an individual who possessed a higher CDSME level also had a lower distress level, higher self-esteem level, and higher school achievement level. Career decision making confidence that was achieved before graduating had a significant positive affect on pre

and post graduation psychological states and academic efforts. Career decision making self-efficacy at T1 was also correlated with CDMSE, self-esteem, and latent benefits at T2. That is, if one possessed a higher CDMSE level at T1, he or she also had a higher level of CDMSE, self-esteem, and higher level of flexibility and access to psychological, work-related benefits. Students with increased confidence levels in their ability to make sound career choices also had more stable psychological well-being states, and the ability to take advantage of the factors that contribute to psychological stability during employment.

Patton et al. (2003) conducted a comparative study that investigated the differences and similarities between work-related and non-related barriers to the career development of Australian and South African students. These two populations were chosen for investigation because both were identified as having middle SES status and were situated in suburban, mid-sized cities. The majority of both populations were Caucasian with 638 students from Australia and 425 students from South Africa. Again, the short-form of the CDMSE was used to examine the career decision-making self-efficacy levels of both populations.

In the above study, results from multivariate and correlational analyses indicated that work-related barriers were related to both career indecision and career certainty (Patton et al., 2003). Perceived work related barriers related less to career decision-making self-efficacy, though, in the South African student population. It is important to note that the difference in the effect of work related barriers on the career development process of both populations may be related to their environment. For example, the existence of a negative relationship between South African students' perceived work

related barriers and their confidence in making sound career choices may be associated with a difficult job market and a decline in economic status in the country.

In 2004, Creed and Patton collaborated with Bartrum in examining career-related variables including internal and external barriers, cognitive style, career focus, and career indecision. These researchers used the short form of the CDSSES to assess confidence levels as they pertain to career decision-making. The following research questions were posed in this study: Does cognitive style predict both internal and external career-related barriers? Do internal barriers interact with external barriers? How does this interaction impact CDMSE?

One hundred and thirty Australian, senior, high school students were surveyed in this study. Of the 130 participants, 79 were females and 49 were males; two students did not indicate their gender. The Career Decision Making Self-Efficacy Scale was used to assess the confidence levels of students in terms of completing career development tasks. The results of the study suggest that optimism, pessimism, self-esteem, and external barriers accounted for 18% of the variance in CDMSE. The single most significant predictor of CDMSE was self-esteem. In terms of Career Focus, CDMSE was among other variables (self-esteem, external barriers, optimism, and pessimism) that predicted 23% of the variance in this construct. Career decision-making self-efficacy ( $R = .30$ ) and external barriers ( $R = .30$ ) were the two most significant individual predictors of Career Focus. Career decision-making self-efficacy was among those variables that significantly predicted 17% of the variance in Career Indecision.

Creed et al.'s (2004) study yielded interesting gender differences in terms of CDMSE. When examining men only, optimism, pessimism, perceived barriers, and self-

esteem accounted for 61% of the variance in CDMSE. The single significant predictor of Career Focus for males was CDMSE. The independent variables CDMSE, self esteem, perceived barriers, and optimism/pessimism accounted for 44% of the variance in Career Indecision, with CDMSE ( $R = .71$ ) noted as the sole significant predictor of the variable. For females, all independent variables only accounted for an insignificant 3% of the variance in CDMSE. The higher a male's CDMSE, the higher his ability to concentrate on those career activities that will be most beneficial to him.

The overall results of Creed et al.'s (2004) study suggest that different independent variables emerge for different career development factors. Moreover, the results indicate that results may differ for males and females. For example, as indicated, the more self-esteem men possess, the higher their level of CDMSE and for females, no predictor variables predicted CDMSE.

The above studies suggest that CDMSE is related to other career variables and has implications for college student-athletes and high school students, which may be helpful in identifying the importance of its investigation in a high school student-athlete population. Researchers have found that CDMSE is related to career maturity, career indecision, career focus, and career locus of control. In fact, locus of control is closely associated and often examined with CDMSE. The next section of this literature review will introduce the locus of control construct, its measurement devices, and research with high school and college student populations.

#### Locus of Control

Locus of control has been conceptualized, reconceptualized, and reconstructed by many researchers over the years. This construct emanates from social learning theory

and was initially defined as generalized expectancies as a result of skill or chance (Lefcourt, 1981). The first measure to examine locus of control was born out of two dissertations written and presented by Phares (1955) and James (1957) at Ohio State University. As a result of their efforts, subsequent scale construction continued by other researchers such as Hannah Levenson (1973) and the most prominent locus of control researcher, Julian Rotter (1966). Their work, accompanied by the evaluations of others, contributed greatly to the development of a better understanding of locus of control as a construct. Before reviewing the research pertaining to locus of control relative to the career literature, a brief overview of locus of control, its relationship to social learning theory, and an assessment of the construct's scale development is provided.

As previously stated, locus of control is a concept that evolved from social learning theory. That is, the theoretical underpinnings of social learning theory serve as the foundation for the nature and effects of reinforcement (Rotter, 1966). The theory suggests that "a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future (Rotter, 1966, p. 2)." The expectancy may or may not be contingent upon one's own behavior (Rotter, 1966).

Locus of control is the expectancy or belief about the reinforcements that follow a behavior (Rotter, 1966). The definition of the construct has been stable over time, and there is little disagreement about the definition among researchers who studied the construct. Two distinctions in the types of controllability were developed-internal and external control. The internal locus of control orientation is defined as the belief that reinforcements are a result of personal effort; an external locus of control orientation is

the belief that reinforcements are a result of outside forces that are beyond one's personal control (Rotter, 1966).

While the definition of locus of control has been stable over time, researchers have attempted to reconceptualize the construct. For example, some authors have questioned whether locus of control is a unidimensional or multidimensional construct (Lefcourt, 1981; Levenson, 1973). Other conceptualizations included personal control versus ideological beliefs, and dual control beliefs (shared responsibility of internal and external locus of control; Marks, 1998). Some of these conceptualizations were motivated by researchers who perceived Rotter as construing internal locus of control as better than external locus of control. Although his cautionary statements were disregarded, Rotter (1975) informed researchers and practitioners that having an internal locus of control did not make a person better than someone who has an external locus of control. This notion, along with varying conceptualizations of the construct, led to the increased study and subsequent scale development of the construct.

#### *Measurement of Locus of Control-Rotter's LOC Scale and the Career Locus of Control Scale*

The first locus of control scales were intended to examine one's control expectancies in goal-specific situations such as social recognition and achievement (Lefcourt, 1981). Phares (1955) and James (1957) were the first researchers to test this notion. Phares' Likert-type scale included 26 items; 13 items attempted to identify external attitudes and 13 items attempted to identify internal attitudes. In 1957, James refined Phares' brief scale; the reconstructed measure contained 60 items in a Likert-like form, with 30 items operating as filler items. This scale was referred to as the James-

Phares Locus of Control Scale. In his correlational study, James found that people who exhibited a greater external locus of control on the continuum were stable across situations (Rotter, 1966). That is, their scores did not decrease or increase significantly per circumstance. James also found that externals had more “unusual shifts” (Rotter, 1966). Rotter (1966) explained these shifts as having a positive attitude after failure and a negative attitude after success.

Subsequent to Phares and James’ work, locus of control scale development moved from being goal-specific to a more generalized measure. Rotter’s preliminary work in developing his well-known scale was assisted by other researchers such as Liverant, Seeman, and Crowne (Lefcourt, 1981). As a result of his study, Rotter (1966) defined external and internal control as the following: “When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him... we have labeled this a belief in external control. When a person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control” (p. 1).

The Rotter Internal-External Scale (Rotter, 1966) is a 23-item, forced-choice, Likert-type scale that contains statements that exemplify an internal attitude through items such as “People’s misfortunes result from the mistakes they make;” “The idea that teachers are unfair to students is nonsense;” and “Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.” External statements on the I-E scale include: “Many of the unhappy things in people’s lives are partly due to bad

luck; most people don't realize the extent to which their lives are controlled by accidental happenings;" and "Sometimes I feel that I don't have enough control over the direction my life is taking." High scale scores indicate a more external locus of control.

Although widely used, researchers have argued that Rotter's first examination of locus of control was unidimensional in nature (Levenson, 1973; Lefcourt, 1981; Marks, 1998). That is, Rotter's scale is a forced-choice instrument that defined a person's attitude along a continuum. One end of that continuum is labeled internal control and the other end is labeled external control. Consequently, Rotter (1966) suggested that people either believe that they are the source of their successes and failures or they believe that luck, chance, or powerful others are the source of their successes and failures.

Levenson (1973) reconceptualized Rotter's I-E scale, developing three subscales that suggest that locus of control is not a unidimensional concept, but rather, multidimensional in nature. That is, Levenson theorized that Rotter's external orientation contained two distinct factors, one being powerful others and the other being chance. She believed that the thoughts and behaviors of people who believe in powerful others would differ from the thoughts and behaviors of people who believe that the world is "unordered and unpredictable" (Levenson, 1981). The three subscales she formed included Internal (I Scale), Powerful Others (P Scale), and Chance (C Scale). Her multidimensional approach indicated that the I Scale measures the extent to which people feel they have control over their own lives; the P Scale demonstrates the extent to which people feel that other people control their lives; the C Scale is concerned with the extent to which people feel that their behavior is caused by chance or luck. Levenson's I, P, C Scales included three 8-item subscales with a 7-point Likert format ranging from 0-6. The three



subscales created an overall total of 24 items. The measure is scored in such a way that an individual's responses are added up for each item. Respondents' answers range from strongly disagree to strongly agree, with numerical values from -3 to +3, respectively (including a mid point of 0). A constant of 24 is added to the total to eliminate negative values. The range on each scale is 0-48. High scores on each subscale indicate a high control belief in the designated source (internal, powerful other, or chance). On the other hand, low scores indicate expectations of not believing in that source. Internal consistency scores for a student population using Kuder-Richardson reliability coefficients are as follows: I Scale (.64), P Scale (.77), and C Scale (.78). Although internal consistency scores were found to be only moderately high, this was expected due to the sampling of items from various situations. Test-retest scores over a one-week period ranged from .60-.79. In a college student sample, a positive correlation between Rotter's I-E scale and Levenson's P and C scales (.25, .56) was found. A negative correlation between the I-E scale and the I scale was also found (Levenson, 1973).

As it presently stands, however, Rotter's (1966) locus of control scale is the most widely used measurement of the construct. Test-retest reliability estimates range from .49-.83 (Rotter, 1966). Internal consistency estimates range from .65-.79. Early research on locus of control was mostly conducted with adolescent populations and used locus of control measures developed previous to Rotter's (1966) I-E scale (Lefcourt, 1981).

As locus of control continues to be examined in various domains, the career domain is an area that warrants further study of the construct. Fortunately, researchers have developed a measure that assesses locus of control as it pertains to career

development (Trice et al., 1989). A brief description of the Career Locus of Control Scale is provided in the following section.

Trice et al. (1989) created the Career Locus of Control Scale in an effort to examine locus of control as it relates to college students' career development. The scale began with 40- items obtained from students in an advanced measurement course. It was then shortened to its current 18-item form through a two sample study.

Fifty sophomore and junior female students attending a private women's college were included in Trice et al's first sample. The second sample included 50 community college, male, participants who were classified as second-year students. Participants in the first sample completed Rotter's (1966) I-E Scale in addition to the CLCS.

Participants in the second sample completed the Crowne and Marlowe Social Desirability scale. Analysis of the respondents' answers led to the elimination of 22 items on the CLCS. Items were deleted if fewer than 10% of the respondents chose the least popular True or False option. Items were also deleted if the discrimination statistic was less than .10 (Trice et al., 1989).

The correlation between the 18-item CLCS scale and Rotter's I-E scale in the women's sample was .52 ( $p < .05$ ), indicating a significant correlation with the standard locus of control assessment. Kuder-Richardson's reliability estimates for the women's sample was .89 and it was .84 for the men's sample. A test-retest reliability coefficient of .93 was found for the male group after a three-week time frame. The above findings suggest that the Career Locus of Control scale is a measure that reliably and validly examines locus of control within a career domain.

Similar to the CDMSE empirical literature with high school students, empirical research that examines locus of control in the career domain with adolescents is scant. The following summarizes a couple of studies that investigate the utility of locus of control in the career domain with high school students (Denga, 1984; Stuart, 2003). No published studies exist regarding high school student-athletes and career locus of control, however, researchers have studied this construct within a college student-athlete population. This short body of literature is also provided.

#### *LOC and High School Students*

Career locus of control has been examined in populations including participants from the U.S. and abroad. Below are the summaries for one study conducted in the U.S. and one study conducted outside of the country (Denga, 1984; Stuart, 2003).

Denga (1984) sought to measure both students' locus of control orientation and the extent to which this orientation influenced one's ability to choose a career. The two measures employed in this study were Rotter's I/E Locus of Control Scale and the Motivation for Occupational Preference Scale (MOPS). A detailed description of Rotter's I/E LOC scale was previously provided in this literature review. The MOPS, an instrument normed on Nigerian secondary school children, is an instrument that assesses the degree to which internal and/or external stimuli affect one's career choice behavior. There are four subgroups included in the MOPS: A, B, C, and D. External career influences such as parents, teachers, friends, and media are included in section A. Section B includes external influences related to financial and material rewards. Abilities, interests, aptitudes, and attitudes are described as internal variables in section C. Finally, section D assesses intrinsic values such as altruism. A merger of the sections

of the MOPS (A& B and C&D) was conducted for specific use in this study. This merger resulted in seven items for inner- and seven items for outer-directed influences. The MOPS has a test-retest reliability coefficient ranging from .60 to .73. Denga (1984) administered both instruments to 200 Nigerian, male students. All participants were 16 years old or older and attended all boys' schools. The researcher notes that this specific population was chosen because older students have a stronger understanding of the internal and external forces that affect their ability to make career choices.

After analyses were conducted, students were categorized into two groups, internals and externals. Eighty-eight students possessed an internal locus of control while 110 students possessed an external locus of control. A significant, positive relationship exists, however, between students' locus of control scores and their MOPS scores on the internal influences including interest in occupation, ability and aptitude, future security, opportunity for creativity, permits self-expression, and a chance to exercise leadership. A statistically significant correlation was also found between external influences and externality on the following factors: influence of parents, teachers'/counselors' influence, influence of friends, influence of media, chance factor, and financial inducement. Overall, Denga's (1984) study indicates that students with an internal locus of control are intrinsically influenced to make career decisions. On the other hand, students with an external locus of control are influenced by external factors to make career choices.

Within the United States, one researcher conducted a qualitative study of career locus of control and behavioral disorders within an all girls, secondary school population (Stuart, 2003). The sample population only included 15 participants who were identified as members of a low SES community. Results suggest that the girls in the study

possessed an external locus of control. Students made statements such as: “I don’t feel I have any control over things; I’m just trying to get through the day,” and “I never had control over my life.” Other statements included, “If I could control half of the things that happened to me, I’d have an OK life.”

Limited research has been conducted that examines locus of control in a high school population. As cited above in the lone study, Stuart (2003) found that an external locus of control existed within a low SES, all female, U.S. high school student population. Denga (1984), on the other hand, found that students who possess a more internal locus of control are inherently influenced to make career decisions while individuals who possess a more external locus of control are influenced by outside forces to do the same.

Now, a synopsis of the literature as it pertains to career locus of control and college student-athletes is provided. These studies have been previously cited in other sections of this paper, and therefore, results are only reported concerning career locus of control.

#### *Career Locus of Control and College Student-Athletes*

The study of locus of control within the college student-athlete population further warrants exploration and analysis. College student-athletes have been found to possess a greater external locus of control orientation than their non-athlete peers (Frederick, 2000; Korspan & Etzel, 2001; LeUnes & Nation, 1982). As seen in the aforementioned research regarding the general high school student population, persons who demonstrated a greater external locus of control tended to have low career decision-making skills and have low career maturity levels. The research surrounding locus of control and college

student-athletes is limited in nature. In fact, the same two studies that examined CDMSE with this population also included an assessment of locus of control. To avoid redundancy in reporting the results of these studies, summarized below are the results as they pertain to locus of control.

Higher levels of an internal locus of control were positively related to career decision making self efficacy scores in Brown et al.'s (2000) study ( $r = .209, p < .01$ ). Thirteen percent of the variance in career attitudes and career skills was accounted for by career locus of control in Korspan and Etzel's (2001) examination of the constructs ( $R^2 = .257, p < .01$ ). The results of a multiple hierarchical regression analysis in Korspan and Etzel's study indicated that career locus of control was significantly related to participants' career maturity level ( $R = -.43, p < .01$ ). Of the seven psychological variables examined in the study, career locus of control was the most significant predictor of career maturity scores,  $F = 57.25, p < .01$ .

The universal value of having an internal locus of control versus an external locus of control was, again, confirmed in Brown et al. (2000) and Korspan and Etzel's (2001) findings. Student-athletes who tended to have a greater internal locus of control also tended to have higher career decision-making self-efficacy scores. Student-athletes who possessed a greater internal locus of control also possessed higher levels of career maturity. It is interesting that career locus of control within the student-athlete population predicted significantly greater variance in career maturity than in the general college student population. This finding is in contrast to the Luzzo (1995) study and suggests that career locus of control may be a more important variable than career decision-making self-efficacy for college student-athletes when attempting to understand

career maturity. College student-athletes' who have higher levels of career locus of control have also been found to have higher of CDMSE levels and higher levels of career maturity (Brown et al., 2000; Korspan & Etzel, 2001).

The importance of studying locus of control in a low SES, all male, predominantly African-American population is tri-fold. First, research suggests that people of color have a more external locus of control. Second, student-athletes have been found to have a more external locus of control than their non student-athlete peers. Third, an external locus of control has been associated with lower levels of CDMSE and career maturity, thus, putting this group at a disadvantage in their career development process.

The third factor found in the SACSI is Career versus Sport Identity. This factor holds great importance as it accounted for the majority of the variance in the data (36.27%) in Sandstedt et al.'s (2004) validation study. The study of vocational identity and athletic identity with high school students is examined in the following section.

#### Career vs. Athletic Identity

One's personal development includes the identification and characterization of his or her life roles. Examples of life roles include mother, father, sibling, student, and athlete. For some students, the role of athlete is as salient, if not more salient, than their student status. That is, one may devote more time and energy to his or her athletic status more than his or her academic duties such as studying, attending class, completing homework assignments, and participating in career development activities. Career identity is defined as the "developing structure of self concepts in their relation to the (future) career role perceived by the individual himself (Law, Meijers, & Wijers, 2002)."

Athletic identity is referred to as the degree to which a person identifies with his or her role as an athlete (Brewer et al., 1993). The factor Athletic Identity versus Career Identity in the SACSI describes the extent to which an individual identifies himself or herself as a student seeking academic or career achievement versus sport achievement.

This section includes an individual examination of vocational identity and athletic identity. A description of the literature pertaining to athletic identity also includes a review of empirical studies and associated measures and terms including jock identity. Some researchers argue that athletic identity and jock identity are synonymous while others suggest that the constructs are separate entities. When researching the data regarding high school student-athletes and athletic identity, however, most results yielded titles of studies that included “jock identity.” For this reason, the jock identity literature will be described in the athletic identity section. On the other hand, consistent with the athletic identity factor found in the SACSI and its psychometrically sound measurement device, the present study examined the athletic identity construct.

An overview of career identity, also known as vocational identity, provides insight into the extant literature that includes an investigation of the construct with general high school student groups. Because most researchers use the term vocational identity while examining the construct with high school students, research examining this term is mostly cited in this review. Unfortunately, no empirical studies exist that examine vocational identity within a high school student-athlete population.

#### *Measurement of Career Identity*

Researchers have used both conventional and unconventional methods of assessment to examine the career identity construct. Conventional methods include the



use of the Vocational Identity scale of the My Vocational Situation Inventory (MVS; Holland, Daiger, Power, 1980) and the Extended Objective Measure of Ego Identity Status Survey-2 (EOMEIS-2; Bennion & Adams, 1986). Both measures are examined in depth, followed by a review of the literature that includes the employment of such instruments.

The Vocational Identity Scale is a subscale of the My Vocational Situation inventory (MVS). The MVS is a measure that contains three factors: vocational identity, occupational information, and barriers. The VI scale is an 18-item, true/false measure that specifically examines one's career identity. Validation studies of the MVS were originally conducted with high school, college students, and employees. The reliability coefficients for these three sample populations ranged from .86 to .89 for the VI scale. Scores on the VI scale range from 0-18, with higher scores indicating a greater degree of vocational identity. Sample items include "I am uncertain about the occupations I could perform well", and "I am not sure of myself in many areas of life."

The Extended Objective Measure of Ego Identity Status Survey-2 (EOMEIS-2) is a 64-item, six-choice, Likert format scale that measures crisis and commitment in relation to ideological identity and interpersonal identity. Ideological identity includes areas such as occupation, religion, politics and philosophical life style. Interpersonal identity includes areas such as friendship, dating, sex roles, and recreation. Example items on the subscale are: "It took me a while to figure it out, but now I really know what I want for a career" which is indicative of identity achievement. Moratorium is assessed by the following statement, "I'm still trying to decide how capable I am as a person and what jobs will be right for me." "I might have thought about a lot of different jobs, but there's

never really been any question since my parents said what they wanted” is a statement of foreclosure. And finally, identity diffusion is noted through the statement, I haven’t chosen an occupation I really want to go into. Right now, I’m just working at what is available until something better comes along.”

Both the VI scale and the EOMEIS-2 appear to be valid instruments of measurement to assess career identity. Three studies are discussed below that detail the use of these scales.

#### *Career Identity and High School Students*

Many student-athletes concentrate on their role as an athlete, perhaps giving less attention to their role as a student. Not attending to this student role may have a negative affect on one’s career identity. Career identity is a long standing phenomenon in the career development literature. Parsons (1909) first discussed career identity in his tripartite model as he challenged individuals to have a clear understanding of themselves in relation to a career field. In more modern literature, scholars identified seven challenges to career identity: 1) to draw upon personal feelings, 2) to differentiate self from others, 3) to develop a personal narrative, 4) to represent experience in one’s own terms, 5) to focus a point-of-view, 6) to build an inner life, and 7) to relate all to one’s own purposes (Law et al., 2002). These challenges may be especially difficult for today’s adolescents.

At first glance, it may appear that the studies cited below have little relevance to the population of interest. The author notes that, while it is challenging to make a connection between the two, a description of the limited, extant literature allows one to

understand the need for the present study. Additionally, the review also provides examples of the use of the Vocational Identity scale with high school student groups.

Lopez (2001) examined two models of guidance for Latino high school students. This researcher tested an assisted performance model and an individuation model of guidance in relation to math achievement and career identity development. Participants in the study included 115 9<sup>th</sup> through 12<sup>th</sup> grade students who ranged in age from 14 years old to 19 years old. The sample population included both male (58) and female students (57) from a public urban high school in Northern California. Students' birthplaces included the United States, Mexico, El Salvador, Nicaragua, and Peru.

The researchers administered four measures: a demographic questionnaire, a 14-item subscale from the Family Perspectives Survey that examines students' connectedness and individuality, three items of assisted performance related to students' math and career development, and the career identity status subscale of the EOMEIS-2. Results of the study, as they relate to career identity status, suggest that Latino high school students possess a high level of identity diffusion. Six percent of the sample was at career identity achievement, 28% was in moratorium, 6% was in foreclosure, and 57% was indicated in career identity diffusion. These results indicate that Latino, female adolescents' experience what appears to be age-appropriate identity development as it pertains to the career domain. That is, Latino females who experience career identity diffusion have not identified a career of choice, and continue to work until their interests are piqued in a particular area. In the above study, the Cronbach alphas for each level of identity development are: 0.69 for items that assess identity achievement, 0.51 for moratorium, 0.58 for foreclosure, and 0.67 for diffusion items. Career identity status was

calculated as identity achievement + moratorium + foreclosure + diffusion and resulted in a Cronbach alpha of .61.

Leung et al. (1992) sought to explore the relationship between vocational identity, consistency, and differentiation. These researchers found that vocational identity was not associated with either consistency or differentiation. Again, consistency refers to the similarities between one's first and second areas of interest. On the other hand, differentiation is unclear interest areas.

Last, Hargrove et al. (2005) examined the degree to which environmental factors associated with family patterns (i.e. family relationships, family goal planning) predicted vocational identity. Using the VI subscale to measure career identity, Hargrove and colleagues (2005) found that family patterns did not predict vocational identity with high school students.

Limitations of the extant career identity research with high school students indicate that there has been no evidence of studies that examine career identity with male high school students, only female students. Additionally, researchers need to identify sound instruments to assess the construct. Students' career identity development may be hindered due to their level of exposure and knowledge of career information and perceptions of career barriers. Career barriers, covered in the next section of this literature review, have gained moderate attention in the career development literature. Below, studies that examine this construct with high school students are summarized.

As previously mentioned, some authors have used the terms jock and athlete identity synonymously while others caution that the constructs are indeed different. Arguments include statements such as the athlete role has been well defined and

measured while jock identity has not been properly operationalized and sufficiently measured. Additionally, researchers suggest that the term jock has a negative connotation and is associated with negative behavior versus the athlete term (Miller, Hoffman, Barnes, Farrell, Sabo, & Melnick, 2003). The paragraphs below provide a description of the measurement of athletic identity, a brief review of the athletic identity research, followed by an overview of the jock identity research.

### *Measurement of Athletic Identity*

Several measures of athletic identity have been employed in research with high school students. Researchers have used standardized instruments including the Athletic Identity Scale (Brewer et al., 1993) and unstandardized measures such as open-ended questions, forced-choice questions (Miller, Farrell, Barnes, Melnick, & Sabo, 2005; Miller et al., 2003; Miller, Melnick, Farrell, Sabo, & Barnes, 2006) and subscales included in previously developed scales (Guest & Schneider, 2003). Because of its sound psychometric properties and utility in extant research, Brewer et al.'s (1993) AIMS is the most widely used measure of athletic identity and is thoroughly described in this literature review.

The Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993) is the only athletic identity instrument that assesses both the strength of one's athlete role and the exclusivity of identification with the athlete role. In a validation study of the AIMS, three studies were conducted to test the psychometric properties of the instrument. All of the studies included college students, with one study specifically focusing on student-athletes. Reliability coefficients indicate that the AIMS is a psychometrically sound measure.

The first validation study of the AIMS included 243 college students enrolled in an introductory psychology course or a sport psychology course at a college in the western region of the United States. Students completed a battery of instruments including the AIMS, the Perceived Importance Profile (PIP), and the short form of the Marlowe-Crowne Social Desirability Scale (M-C SDS). Scores on the M-C SDS indicated that students did not respond in a socially desirable manner. The PIP was administered as a means to compare construct similarity with the AIMS. The PIP is an 8-item scale that examines the significance of sport competence, physical conditioning, an attractive body, and physical strength. Previous studies of the PIP yielded test-retest reliability coefficients from 0.79 to 0.81 (over a 16-day period). Internal consistency coefficients range from 0.56 to 0.79 (Fox, 1987). A principal component factor analysis resulted in the finding of a single athletic identity factor (eigenvalue = 6.03). The internal consistency of the AIMS was 0.93, and the test-retest reliability coefficient was 0.89 over a 14-day period. The construct validity of the AIMS was high as the measure was significantly correlated with the PIP ( $r = 0.83$ ;  $p < .0005$ ) with a significant main effect for level of athletic involvement ( $F = 91.89$ ,  $p < .005$ ; Brewer et al., 1993). Gender differences included males scoring higher on the AIMS than females. Brewer et al. (1993) suggest that this finding may have been a result of U.S. views on the significance of sports in males' lives versus females' lives.

The second and third validation studies of the AIMS were conducted to test the necessity of such an instrument and examine the extent to which the construct assessed more than the perceived importance of sport. The second study also examined students enrolled in an introductory psychology course. Participants completed the AIMS, the Self-

Role Scale, the Sports Orientation Questionnaire, and the Rosenberg Self-Esteem Scale. The results of the second study indicate that the AIMS and the Self-Role Scale shared only 38% of the variance, thus, suggesting that the scales do not measure the same principal construct. The third validation study examined a group of student-athletes also attending a university in the western region of the U.S. Ninety members of a football team were administered the AIMS, PIP, and the Physical Self-Perception Profile (PSPP). Reliability and validity values were lower in this study than in the first two. For example, the internal consistency of the AIMS in this study was  $r = 0.81$ . The correlation between the AIMS and the PIP was 0.42 as compared with  $r = 0.83$  in the first study. Evidence of discriminant validity was indicated by the presence of nonsignificant relationships between the AIMS and other variables including physical self-esteem, perceived importance of fitness, perceived importance of body attractiveness, perceived impact of strength, and coach-rated football skill (Brewer et al., 1993).

The AIMS appears to be the most psychometrically sound and widely used instrument to assess athletic identity. The assessment has been used in research including adult and adolescent populations. The two studies below provide insight into the use of the instrument with high school students.

#### *Athletic Identity and High School Students*

Two of the five studies described in this section demonstrate the utility of the Athletic Identity Scale with high school student-athletes. These studies examine the construct in relationship to motivational goals; academic, social, vocational, and behavior conduct competencies; injury; and mood disturbance (Ryska, 2002; Wiechman & Williams, 1997). The remaining three studies examine jock identity in relation to

additional variables including alcohol consumption, violence, and risky behaviors (Miller et al.; 2003, 2004, 2005; 2006).

Weichman and Williams' (1997) examined the relationship between athletic identity and factors including age, gender, years in sport activity, ethnicity, and college/professional athletic career expectations. Three hundred and eighty-nine student-athletes (168 males, 218 females, 3 unidentified) were surveyed, representing basketball, soccer, and wrestling teams. Results of this study yielded several cultural differences in the data regarding athletic identity. That is, similar to Brewer et al.'s 1993 validation study of the AIMS, these researchers found that males possessed a greater athletic identity than females ( $t = 2.31, p < 0.05$ ). In addition, Mexican-Americans' athletic identity levels surpassed that of both African-Americans and Caucasians. Moreover, Caucasian student-athletes had stronger athletic identity levels than African-Americans. Students who expected to play a sport on the professional level had stronger athletic identities than those who did not expect to pursue collegiate athletics. Strikingly, 82% of African-American student-athletes expected to participate in college sports as compared to expectation levels of Mexican-Americans (71%) and White (63%) student-athletes.

In an investigation of career-related and non-career related competencies and athletic identity, Ryska (2002) surveyed 258 Caucasian, African-American, Asian-American, Mexican-American, and self-reported "other" interscholastic, high school student-athletes. The sample population included both male and female participants and represented sports teams including soccer, basketball, tennis, baseball, and volleyball. Ryska's (2002) study indicated that gender and ethnicity accounted for 9% of the variance in scholastic competence. In relationship to the four competency subgroups



(Scholastic, Social, Job, and Behavioral Conduct), White males reported greater confidence in the ability to succeed in high school than all other ethnic group members. Students who reported higher levels of athletic identity also reported higher levels of social competence. Athletic identity accounted for 8.2% of the variance in vocational competence, and also significantly predicted behavioral conduct, accounting for over 9% of the variance.

A consistent research result across the athletic identity literature is that males possess a higher level of athletic identity than females. This finding was established both in Weichman and Williams (2002) and in Ryska's (1997) studies. Surprisingly, Mexican-Americans had a greater sense of athletic identity than both African-Americans and Caucasians. Ryska (1997) found that high school student-athletes who have a greater level of athletic identity also have higher expectations of participating in sports on a collegiate/professional level, and have higher confidence levels in social, academic, and career areas. Insufficient research and the practical limitations of the above findings warrant further investigation of athletic identity with high school students. In exploring the SACSI, questions may be answered such as does the instrument include high school or jock identity? If so, to what extent are these constructs examined? Does sport identity differ between high school students and college students? Jock identity, a related construct, is reviewed below as an additional piece of information about athletic identity and high school students.

Researchers have conducted a series of studies that examine the relationship of jock identity with alcohol consumption, risky behaviors, and violence (Miller, Farrell, Barnes, Melnick, & Sabo, 2005; Miller, Hoffman, Barnes, Farrell, Sabo, & Melnick,

2003; Miller, Melnick, Farrell, Sabo, & Barnes, 2006). The following three studies highlight Miller et al.'s (2003, 2005, 2006) research which all include data from the Family and Adolescent Study conducted in 1992. The Family and Adolescent Study is a six-wave investigation of which only three waves of data were used in the present study. Participants included approximately 600 high school adolescents from Western New York, sampled from 699 households. Household criteria included at least one child between the age of 13-16 and at least one parent/guardian. Data was collected in three waves. At wave one, respondents ranged in age from 12-17 years old. Independent measures were given at wave three which included participants who ranged in age from 14 to 19 years old. Data was collected via in-person interviews and self-administered questionnaires. Demographics of the sample include White and Black families only because the number of other racial minorities groups (Latino, Asian-American, Native American) was too small to be analyzed. Two hundred and eleven Black families were sampled, which the authors note as an "oversampling" to account for analyses of racial differences.

To assess jock identity, researchers examined respondents' answers to the following question: "Teenagers sometimes characterize one another on the basis of their attitudes toward school, clothes, music, partying, and so forth. Some people give names to these types, such as jocks, preps, air heads, burnouts and so forth. How well does each type fit you?"

Study participants were able to respond to this question in the following ways: a little, not at all, somewhat, very well, never heard of this group. Only participants who marked that

jock identity fit them “very well” and “somewhat” were classified as having a jock identity.

After running descriptive statistics, results of the study indicated the presence of a positive relationship between jock identity and alcohol consumption. Jocks scored significantly higher than non-jocks on the drinker classification scale for males and females. Male student-athletes reported a significantly higher frequency of alcohol-related social problems in the past year when compared to male non-jocks. Racial differences in the data include a significantly lower claim of jock identity for Black girls than for White girls.

Overall, jock identity was a significant predictor of problem drinking including drinker classification (i.e., heavy drinkers, light drinkers, infrequent drinkers), frequency of binge drinking, and social problems related to drinking alcohol. A significant three-way interaction was found for gender, race, and jock identity for adolescent binge drinking only. There was a higher binge-drinking rate for Black girls than White girls, although only a small number of Black female jocks were included in the study (n=8 out of 101 Black participants).

In 2005, Miller et al. examined another variable, adolescent violence, in the analysis of the Family and Adolescent Study. Researchers formulated three hypotheses: 1) jock identity would be associated with more frequent violence, 2) would differ by type of violence (family vs. nonfamily), and 3) would differ by gender in that jock identity would be associated with more frequent adolescent violence for boys but not girls.

Descriptive statistics and multiple regression analyses resulted in outcomes that suggest that White males are more likely to report a jock identity and report a higher

family socioeconomic status. Additionally, both male and female jocks experience less family violence than their non-jock counterparts ( $M = 2.62$ ). Hierarchical regression analysis resulted in jock identity as a significant predictor of non-family violence defined as beating up someone or fighting in a gang. This result was found among males more than females. School athletic participation was found to be associated with less frequent violence for jocks only. That is, jocks who were more involved in school related sports were less violent than jocks who were less involved in school athletic participation.

In their most recent attempt to examine the relationship of jock identity to other variables, Miller and colleagues (2006) added two relevant variables for teenagers today. Those variables are dating and sexual risk taking. Hypotheses included in the study were: 1) male jocks would date more often than male non-jocks while no difference in dating would be detected for female jocks and non-jocks, 2) male jocks will engage in more sexual risk taking than non-jocks while female jocks engage in less sexual risk taking than female non-jocks, and 3) Black jocks would engage in more sexual risk taking than Black male non-jocks while White jocks will engage in less sexual risk taking than White non-jocks.

As indicated in Miller et al.'s (2005) previous study, jock identity was found to be a male dominated characteristic with 50% of the boys in the study identifying with the term. Jock identity was also more closely related to White students than Black students with 37% of the White population identifying with the term versus 22% of the Black population who identified with the term. Although these statistics demonstrated a correlation between jock identity and athletic activity (0.31), when weighted means were examined, jock identity had a greater impact on the gender differences in dating and

sexual behavior of the youth in this study. Male jocks demonstrated higher frequency levels in dating, past-year and lifetime sexual activity, and total number of sexual partners as well as premature sexual behavior than male non-jocks. Racial differences in the data include a strong association of athletic participation and dating for White jocks, and a strong association with higher levels of sexual risk on all four measures of sexual activity for Black jocks. Significant main effects were found for both hours of athletic activity ( $F = 8.56, p < 0.001$ ) and jock identity ( $F = 5.83, p < 0.05$ ), noting a significant relationship between the variables. Jock identity was found to predict dating frequency for males only ( $F = 13.03, p < 0.001$ ). Finally, a significant interaction of race and jock identity was found for age of onset of intercourse, frequency of sex in the past year, frequency of sex over a lifetime, and number of lifetime sex partners,  $\beta = 0.37, p < 0.05, \beta = 1.16, p < 0.05, \beta = 1.02, p < 0.05,$  and  $\beta = 0.56, p < 0.05,$  respectively.

In a study of context and participation in extracurricular activities among middle and high school students, Guest and Schneider (2003) examined athletic identity, among other variables including achievement and ambition, in relation to contextual variables that measured immediate school environment and a broader community environment. Researchers named the first contextual variable “on-to-college” and the second variable socioeconomic class of a school’s community (SCC). In this study, Guest and Schneider (2003) sought to answer the following questions: “Is there reason to believe that associations among participation in different types of extracurricular activities, achievement, and ambition vary in predictable ways at the school level?” “...if these associations do vary in predictable ways at the school level, what is the effect on individual students’ ambition and achievement when differences among school

communities are considered?” “...does identity, when considered in addition to traditional demographic variables, differentially influence the associations among extracurricular activities?” (p. 93)

Data for this study was retrieved from a 5-year longitudinal study called the Alfred P. Sloan Study of Youth and Social Development. Participants were both middle and high school students. Two data sets were used in this study. The first data set includes responses from the total sample of 6,453 participants while the second data set includes responses from 2,925 10<sup>th</sup> and 12<sup>th</sup> grade students only. Public schools were the main focus, with 13 high schools included in the 12 sites.

The primary instrument of assessment used in this study is the Teenage Life Questionnaire. Designed to identify one’s investment in sports, the sport-level variable was assessed by participants response to their level of participation in competitive sports: no involvement, involved in at least one sport, or highly involved in at least one competitive sport. The athletic identity variable was named “seen as athletic.” This variable was also used in the study to assess how students’ perceived others’ views of their athletic identity. “Seen as athletic” significantly correlated with the sports-level variable with a Pearson coefficient of 0.579.

Correlational analyses indicated that athletes were seen as good students in schools with lower academic expectations. Similarly, students who were seen as athletes were more likely to be viewed as good in low-SCC where not many students continue their educational pursuits at an institution of higher education. That is, a trend in the data suggests that underprivileged societies, where less than half the students do not attend four year colleges, praise student-athletes more than privileged societies and other

schools where almost everyone attends a four year college. In an examination of the relationship between ambitions and athletic identity, researchers found that 8% of the students in middle and low SCC expected to pursue a sports-related career while 3% of the students in high SCC expected to pursue sports-related careers.

Hierarchical linear regression analyses indicated that differences exist between athletic identity, GPA, achievement, ambition, and type of school environment. For example, achieving higher grades is not predicted by a student's sport participation level unless his or her level of athletic identity is considered. Only in a middle class society was athletic identity strongly associated with positive outcomes. In contrast, athletic identity is negatively associated with being seen as a good student because this may be associated with a lack of seriousness (Guest & Schneider, 2003).

In summary, athletic identity has been found to contribute significantly to additional variables in the literature including alcohol consumption, global competence, sexual risk-taking behavior, and violence within high school student-athletes and the general high school student population. Out of all the previously described studies of athletic identity, only one (i.e., Ryska, 1997) assessed the construct's relationship to career development. Results of Guest and Schneider's (2003) study further indicate that students who identify as athletes, attend schools in low SES communities, and attend schools that have lower academic expectations are seen as good students. Additionally, identifying as an athlete is associated with earning higher grades and pursuing postsecondary educational opportunities only in low to middle SES schools where less than half of the population attend 4-year colleges. Considering the population of interest and types of schools included in this study, the relationship between athletic identity and

career development issues, particularly career identity in a high school student-athlete group, has the potential to contribute to the existing literature. A synopsis of the research concerning career identity and high school students is provided in the next section.

### Career Barriers

Social cognitive career theory maintains that contextual factors such as barriers may affect the career development of both adolescents and adults (Lent, Brown, & Hackett, 1994; Lent, Hackett, & Brown, 2000; Lindley, 2005). Over the years, researchers have developed several instruments to assess the career barriers construct in middle school, high school, and college populations (McWhirter, 1997; Howell, Frese, & Sollie, 1984; Holland et al., 1980, Swanson and Tokar, 1991). Some of these instruments include the Perceived Barriers Scale (PBS; Howell et al., 1984), the Perceptions of Educational Barriers Scale (PEB; McWhirter, Rasheed, & Crother, 2000), My Vocational Situation (MVS; Holland et al., 1980), and the Career Barriers Inventory (CBI; Swanson & Tokar, 1991). For the purpose of the current study, only the PEB and the PBS will be reviewed. The MVS is omitted due to its low reliability estimate ( $r = 0.45$ ) and test-retest reliability coefficients ( $r = 0.36$ ; (Holland et al., 1980). The CBI was omitted for review due to its length. The CBI is a 112-item measure and would, perhaps, take high school students longer time to complete than the college student population on which it was validated. Other researchers have collected data related to career barriers by conducting interviews and asking open-ended questions that were then categorized accordingly (Luzzo, 1993). Both of these methods have not been properly conceptualized or empirically validated.



The PBS and the PEB appear to be the instruments of choice when conducting research on career barriers with high school students. The following review highlights the utility of both instruments within high school and college populations. None of the studies reviewed include a student-athlete sample. First, a description of the development of both instruments is provided, followed by a synopsis of past and current research.

### *Measurement of Career Barriers*

Howell et al. (1984) created an instrument that directly examines career barriers. These researchers note that previous barriers scales failed to do so. Howell et al. (1984) used data from the Southern Youth Study. Participants were interviewed and data was collected in three waves, beginning in 1966 when students were sophomores, again in 1968 when the same set of students were seniors, and four years later in 1972 when these students were four years out of high school. A total of 630 high school students participated in the study. All students were from southern states including Alabama, Georgia, and Texas. The racial demographics of the group were 221 White males, 142 White females, 146 Black males, and 121 Black females.

The initial development of the Perceived Barriers Scale resulted in an instrument known at that time as the Perceived Occupational Goal Blockage Scale (PGB; Howell et al., 1984). Participants answered the following question in a Likert-type format pertaining to 10 items relative to this initial question: “How much do you think each of the following things will have in keeping you from getting the job you desire?” The ten items included in the scale are: 1) not enough money to go to technical school or college, 2) the schools I have gone to, 3) lack of parents’ interest, 4) my race, 5) don’t want to move, 6) jobs of this type are getting scarce in the United States, 7) lack of good job

opportunities in or near my community, 8) no technical school or college nearby, 9) don't know enough about the opportunities that exist, and 10) not smart enough.

Results of the study did not surprise researchers given the time period and the geographic location of the data collection. Again, data was collected in the 1960's during the Civil Rights movement in the United States. Moreover, participants were all natives of southern states, the home of the Civil Rights Movement. Researchers used principal factor analysis to examine the total sample and the subgroups of race and gender. Structural equation modeling was used to determine the external validity of the measure. The main result of the study at time one (1966) indicated that Blacks perceived more barriers than Whites. The reliability for the instrument at that time was 0.81 and the validity was 0.90. Two factors were found during the initial analysis of the data. The first factor, perceived opportunity for entry into a desired occupation, accounted for 86% of the common variance. In 1968, the reliability of the instrument was .78 and the validity was .87. The principal factor (i.e., perceived opportunity) accounted for 68% of the common variance. Interestingly, race had a low moderate loading during this wave. Lastly, the reliability and validity of the 1972 collection of data were 0.73 and 0.85, respectively. The principal factor accounted for two-thirds of the variance in the common variance.

Researchers note that the wave trends during all three phases of collection were similar. That is, with the progression of time, items on the measure became less salient for the participants. For example, as the participants grew older, items such as parental interest and intellectual ability decreased in their contribution to obtaining an occupation.

For Blacks, however, race maintained its salience over time. It too, however, decreased in its influence on Blacks' obtaining a job.

Over the years, researchers created instruments that assess related concepts of career barriers such as education barriers. The Perceptions of Educational Barriers Scale (McWhirter, 1997) is an instrument that assesses the affect of barriers on educational and career development of high school students. To date, the PEB is the only published measure that assesses one's various areas of difficulty in pursuing postsecondary education (McWhirter et al., 2000). This scale is a psychometrically sound instrument that was originally used to study the comparative effects of barriers on career development between Mexican-American/Chicano and Caucasian students. The PEB used in this study included 24-items that were answered with one of five anchors: 1) Strongly Agree, 2) Agree, 3) Unsure, 4) Disagree, and 5) Strongly Disagree. The PEB underwent numerous revisions through its developmental stages. The initial measure included 22 items. This scale was then revised to include 24 items, and again revised to include a total of 84 items assessed across three dimensions: the likelihood of encountering barriers, difficulty of overcoming barriers, and the perceived magnitude of barriers. McWhirter (1997) would have ideally normed the measure on a high school population, but instead, a sample of 69 college freshmen was employed. Participants were prompted to respond to all questions "as you would have 6 months ago."

The most recent version of the scale includes 84-items that assess the likelihood of encountering, difficulty of overcoming, and perceived magnitude of career barriers. The items in each section are prompted by the following questions: How likely is it that this will be a barrier for you? How big of a barrier would this be for you? If you, in fact,

encounter this barrier, how difficult will it be for you to overcome it? Items included on the measure are “not talented enough,” “lack of motivation,” “school is too stressful,” “parents don’t support my plans, and “racial/ethnic discrimination.” Lower scores on the measure indicate the lower likelihood of encountering barriers, lower perceived magnitude of barriers, and less difficulty overcoming perceived career barriers. A Cronbach’s alpha of 0.96 was found for the complete measure. The likelihood, magnitude, and difficulty subscales approached Cronbach’s alphas of .89, .88, and .92, respectively.

#### *Career Barriers and Student-Athletes*

Empirical research is nonexistent regarding career barriers and student-athletes within both high school and college populations. Scholarly research, however, has clearly identified various barriers to career development for both populations, and methods to address this issue. First, barriers to career development for high school student-athletes will be addressed. Next, a brief review of the literature regarding college student-athletes and barriers is provided, followed by a summary of literature concerning the general high school student population.

Barriers that may hinder the career development process can be categorized into two groups, internal and external. Internal barriers are thought to include low self-esteem, conflict between personal values and athletic goals, lack of previous work experience, life-stage conflicts relating to role of athlete, and level of career maturity (Coleman & Barker in Kirk & Kirk, 1993). Examples of external barriers include few role models, lack of mentors, racism and discrimination, lack of career and vocational

guidance, and peer pressure to adopt a particular norm. These barriers may impact both high school and college student-athletes' vocational development.

Hyatt (2003) conducted a literature review dedicated to the examination of non-cognitive variables that inhibit the academic persistence of African-American student-athletes. In her review, Hyatt (2003) specifically attended to barriers encountered by Black collegiate athletes. She described some of these barriers as personal and social beliefs, and motivations and attitudes of the individual student or members of the campus community. Lack of commitment and long-term goal setting were also identified as potential barriers. Tinto (1993) identified four distinct barriers to student-athletes persistence in college. These four variables are commitment, integration, discrimination, and isolation. Commitment is grouped into four classes: goal commitment, degree commitment, athletic commitment, and institutional commitment. Integration is described as the ability for student-athletes to interact with campus peers, staff, and faculty. Two barriers to achieving integration were identified as incongruence and isolation. Unfortunately, Black student-athletes face discrimination for three primary reasons including 1) they are Black, 2) they are student-athletes, and 3) their academic ability (Hyatt, 2003). Student athletes' isolation can hinder their career development. Many student-athletes socialize with other student-athletes which may result in separation from the "outside world." Additionally, family members, coaches, faculty, and staff isolate student-athletes. Isolation can occur by encouraging interactions only with other athletes which may appear as team building exercises and guarding teams during their times of distress.

In order to address the concerns above, researchers have designed career courses, freshmen seminars, and student-athlete career development models for use with this population. Coleman and Barker (1991) created a model of career development named STRATEGIES. This model was derived from Super's developmental career theory that includes the self-concept. The emphases of the STRATEGIES model are self-concept development, self-assessment, and self-esteem. Similarly, Wooten and Hinkle (1994) proposed a career life planning course for student-athletes. The goals of this course include assisting students to become actively engaged in their career development process through assessment, information gathering, acquisition of decision-making skills, and the development of skills for academic, career, and life planning.

The scholarly literature pertaining to career barriers and student-athletes is helpful in determining the effect of this variable on a high school student population. In the case of the sample population included in the present study, an exploration of career barriers is essential as research indicates that students among low SES groups have less support than those in higher SES groups.

#### *Career Barriers and High School Students*

Although research is limited regarding high school student-athletes and career barriers, a considerable amount of literature exists regarding the general high school population and career barriers (Ali et al., 2005; Constantine, Wallace, & Kindaichi, 2005; Creed et al., 2004; Kenny, Blustein, Chaves, Grossman, and Gallagher, 2003; McWhirter, 1997; McWhirter et al., 2000; Patton et al., 2003). Below, a total of seven studies are summarized. Two of the seven studies will be explained first, in depth, while the

remaining five are briefly described in terms of their relation to career barriers. These five studies have been summarized in previous sections of this literature review.

In their review of career barriers within a predominantly African-American, urban high school population, Constantine et al. (2005) examined the relationship between the dependent variables of career certainty and career indecision with the independent variables of perceived occupational barriers and perceived parental support. One hundred and fifty-one juniors and seniors were administered a demographic questionnaire, McWhirter's 1997 version of the 24-item Perceptions of Occupational Barriers Scale, the Career Support Scale, and the Career Decision Scale. Of the 24-items included in the POB, only eight items were used for the present study. Constantine et al. (2005) duplicated the use of the modified 8-item scale as researchers have done the same in previous studies, and indicated an internal consistency coefficient of .91. A Cronbach's alpha of .81 was found for the present study.

Multivariate analysis was used to initially analyze the data. This analysis indicated that perceived occupational barriers and perceived parental support were found to significantly predict career indecision and career certainty ( $F=8.76, p<.001$ ).

Univariate analyses indicated that perceived career barriers significantly and positively predicted career indecision ( $F=12.68, p<.001$ ).

Kenny et al. (2003) conducted a similar investigation and included perceived barriers, relational support, and career attitudes with an urban, high school population. These researchers conducted two studies which examined the impact of perceived barriers and family/social support on school engagement and career aspirations. The first study included 174 ninth grade male and female students. The racial composition of the

group included 34% Black or Caribbean, 27% African-American, 21% Latino, 12% White, and 6% Asian, Native American, or Pacific Islander. Thirty-six percent of the sample population noted that they live with both parents; 35% indicated that they live with their moms only, 14% live with their mom and step- fathers, and 15% live with their father or other relatives. Participants were given four instruments to complete: the POB, the Kinship Support Scale, a brief assessment of school engagement created by Dombusch and Steinberg, and the Career Aspirations Scale. The results of the first study indicated that perceived barriers and kinship support significantly predicted both career aspirations and school engagement.

The second study in Kenny et al. was conducted as a means to expand the breadth and depth of the first study. As such, 181 ninth graders were administered eight measures, twice the amount given in the first study. The scales included the same four given in the first study, in addition to the Social Provisions Scale, the Identification with School Questionnaire, the Work Resilience Scale, and the Outcome Expectations Scale. Results of the second study suggest that students' who perceive high levels of support from both family and non-family members have a significantly more positive outlook on school and consider work to be significantly more important in their lives. These students' also have a significantly more positive view of their future career aspirations.

In the previous studies examined in this literature review, researchers have studied career barriers in relation to other career related variables including career decision-making self-efficacy, vocational outcome expectancies, and career indecision. Patton et al. (2003) examined the effects of barriers on career maturity, career decision-making, and career decision between Australian and South African secondary school students in



grades 8-12. These researchers found that the higher one's career maturity level, career decision-making self-efficacy, and lower career indecision, the lower the perceived career barriers. In this same study, females were found to have more barriers to career development. Ali et al. (2005) found that students' who have more kinship and social support also reported lower perceived barriers. In a brief review of the Creed et al. (2004) study of perceived barriers in an Australian secondary school population, these researchers used a revised, 8-item PBS. Creed et al. (2005) made a distinction between internal barriers (self-esteem) and external barriers (measured by the PBS). The results of their analyses indicated that the higher one's career planning and career exploration activity, the lower one's reported perceived career barriers. Gender differences found in this study suggest that females' optimism and pessimism predicted 9% of the variance in external barriers. Pessimism, however, was the single significant predictor for self-esteem and external barriers. On the contrary, optimism predicted internal barriers for males, indicating that higher levels of optimism are related to higher levels of self-esteem.

Investigations of perceived barriers for high school students identified such difficulties to career development as lower levels of kinship and peer support systems, low levels of self-esteem, and pessimism (Patton et al., 2003). College student-athletes, specifically African-American students, encounter barriers including lack of mentorship, racial prejudice, and lack of career and vocational guidance. With lack of career and vocational guidance comes lack of ability to identify career related skills developed through one's role as an athlete. Sport-to-Work (Transferable Skills) is the final factor of the SACSI.

## Sport to Work Transferable Skills

Sandstedt et al. (2004) define the Sport to Work factor in the SACSI as a student-athletes' ability to utilize their transferable skills from one context to another. Specifically, for student-athletes, using skills they learned on the field, court, or gymnasium has the potential to be beneficial for use in the workplace. Some of these skills include leadership, public speaking, communication, and analytical skills. In conducting a thorough review of the literature as it pertains to student-athletes and the use of transferable skills, no published studies were found to either support or reject any claims that high school or collegiate student-athletes use such skills in both their academic lives and career lives. There appears to be a need for more scientific research that examines the ability of student-athletes to demonstrate the skills they have learned while participating in sport in their occupational careers.

In light of the limited research in the areas of transferable skills for student-athletes, two related bodies of literature may be helpful for review. The first body of literature pertains to life skills planning and development. The second body of literature relates to the transition process. Both sets of literature may have implications for sport to work transferable skills of high school student-athletes. For high school and college student-athletes, there seems to be a focus on life skills planning which encompasses the development of various skills over one's life span, and exercising those skills sets in various domains.

### *High School and College Life Skills Programming*

On a high school level, coaches, guidance counselors, and school psychologists are some of the key figures who assist student-athletes in the identification and

implementation practicality of life skills planning and development. In more recent years, the National Football Foundation and College Hall of Fame's Play It Smart Program has created positions called Academic Coaches to assist high school student-athletes with the identification of athletic skills, career skills, and the intertwining of the two. Play It Smart is a life skills development program specifically designed to assist in the lives of urban youth (Petitpas, Raalte, Cornelius, Presbrey, 2004). Various components of the program include study hall, team building, life skills training, community service, individual and group counseling, and parental support and involvement. Play It Smart participants comprise the sample population in the present study. In 1988, Petitpas and Schwartz facilitated groups with student-athletes to examine their effective use of transferable skills (Martinelli, 2000). To do so, they used the *Athlete's Guide to Understanding and Identifying Transferable Skills*. The facilitators asked three questions to guide the group discussion: 1) What kinds of personal characteristics and skills have you developed through sports that might be equally valuable in a work setting? 2) What skills have you developed through sports participation that will help you succeed in your job search and career? and 3) What are the costs and benefits of your personal style and how do they relate to various work environments? Unfortunately, no empirical research has been published evaluating the effectiveness of these groups.

On a collegiate level, the NCAA created a life skills component called the Challenging Athletes' Minds for Personal Success/Life Skills (CHAMPS) program (Etzel et al., 1996). The CHAMPS/Life Skills program was set in place to help college athletes develop athletically, personally, academically, and career wise, thus, taking a holistic

approach to development. This program operates on most campuses where NCAA athletes are housed. Certainly, more research is warranted on the effects of programs such as the CHAMPS/Life Skills and the Play It Smart programs. The results of these programs may prove beneficial to future work with student-athletes.

High schools have begun implementing some of the very same life skills training services for their student-athletes that are available on college campuses. These programs, such as Play It Smart, address academic and career skills, assisting students in the identification and practical use of athletic transferable skills. The present study examined the extent to which students recognize skills they have learned through their participation in athletics, and the utilization of these skills in their academic/career lives.

#### *Transition Literature*

Athletes' career transition processes have received increased attention in the psychology field. Sports-related and non-sports related factors have been examined to assess the quality of one's transition process. Researchers have also noted the importance of antecedent and mediating factors such as education status and non-athletic transitions on the sports termination process (Erpic et al., 2004). For example, Erpic et al. (2004) examined the transition process of 85 former Slovene elite athletes. Participants ranged in ages between 21-44 years old. These athletes competed in sports including basketball, track and field, swimming, and ice hockey. Researchers administered the Sports Career Termination Questionnaire and the Non-Athletic Transitions Questionnaire. Results of the study indicated that athletic identity had a significant impact on the difficulties experienced by athletes in the occupational domain. Some of the difficulties identified were adjustment to requirements of the occupation, problems with finding a job, and lack

of professional knowledge. Also, one's current educational status had an impact on the occurrence of occupational difficulties faced by the former athletes. That is, if an individual obtained a college degree, he or she experienced fewer problems in finding and/or obtaining a job. Surprisingly, there were no significant effects for active planning of life after sports or unanticipated retirement from sport on occupational difficulties.

The career life planning programming and transition literature as it pertains to athletes is limited in terms of examining these factors with high school and college student-athlete populations. Researchers have put forth efforts to investigate the use of transferable skills with college student-athletes; however, no published results are reported. Transferable skills are an essential construct to measure, especially with inner-city, underprivileged high school student-athletes. It is likely that most student-athletes in this group have low rates of postsecondary education plans and higher rates of school-to-work plans. In light of this, it is critical for these students to identify the skills they have acquired through sport and how they can use these skills in their respective workplace environments. The present study examines the extent to which high school students identify transferable skills, those skills that athletes have learned in their sport lives and intend to or currently use in their work lives.

#### Limitations of Current Research

This literature review highlighted several limitations of the extant literature as it pertains to career development and African-American high school student-athletes. First, few studies exist that examine any of the five factors of the SACSI for high school student-athletes, including CDMSE, locus of control, athletic vs. career identity, career barriers, and sport to work transferable skills. Second, fewer studies exist that examine

these constructs with African-American, inner-city high school students. The present study addressed and resolved these limitations as it assessed the career development of predominantly, African-American, male, inner-city, high school student-athletes through the administration of the SACSI revised for a high school population and the Career Planning (CP) subscale of the Career Development Inventory School (CDI (S)) form.

### Conclusion

The career development of high school student-athletes has been explored in only a limited way and would benefit from thorough investigations of career-related constructs such as CDMSE, locus of control, athletic identity, career identity, career/educational barriers, and athletic transferable skills. Sandstedt et al. (2004) created an instrument that examines the above five constructs with college student-athletes. This study examined whether the five factors of the SACSI are descriptive of predominantly African-American, male, inner-city, low SES, high school student-athletes. Specifically, is the SACSI a reliable measure of high school student-athletes career constructs? Are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes? If not, how might the factor structure of the SACSI best be described in this population?

The study also employed an outcome measure to assist in the investigation of career readiness levels of high school student-athletes.

## Chapter 3

### Methods

This chapter provides an overview of the methods of investigation for the present study. Participant recruitment methods, data collection procedures, instruments, and analysis of data are explained in the following paragraphs.

#### *Participants*

One hundred and eighty-eight students responded to the surveys included in the present study. Problems with missing data resulted in the elimination of 10 participants; 178 participants were used for data analyses. Tables 1 and 2 include demographic characteristics for the final sample of 178 participants. Participants' age ranged from 14 years old to 19 years old; the mean age for the sample was 16. Students completed grades 8-11, with the majority of participants indicating that they completed the 10<sup>th</sup> grade. The ethnic racial diversity of the group was as follows: 112 African-American (62.9%), 46 European-American (25.8%), seven Latino-American (3.9%), and 11 Bi-racial/Multiracial (6.2%). Of those students who indicated a bi-racial/multiracial background, six identified as African-American/European-American, four identified as African-American/Latino-American, and one indicated that their ethnicity was African-American/Latino-American/Native-American. Two students did not note their racial ethnicity.

Students reported participation in various sports including football, basketball, soccer, and track. The number of years played in each sport was also noted, however, participants' highest number of years played in one sport was used for analysis versus total number of years played in all sports. Highest number of years played in one sport

was calculated by students' highest overall year played in any given sport. For instance, if a student played football for ten years and basketball for eight years, the ten years played in football was used. With that, the maximum year noted was 14 years and the minimum year noted was 1. There were several cases where students indicated their participation in a particular sport; however, they did not indicate the number of years played. Football had the highest frequency of sport played, which is not surprising considering that students were participants in their school's Play It Smart program. Although Play It Smart now encompasses both male and female student-athletes who play various sports, it was originally created to assist members of inner-city, high school football teams (Petitpas et al., 2004). Table 2 includes the frequencies of sports played for the sample populations. Eleven sports were evaluated with 168 (94.4%) respondents indicating participation in football, 67 (37.6%) basketball, 39 (21.9%) baseball, 10 (5.6) wrestling, 6 (3.4%) swimming, 3 (1.7%) volleyball, 1 (.6%) lacrosse, 2 (1.1%) tennis, 49 (27.5) track, 11(6.2%) soccer, and 7 (3.9%) other which included parkour and archery.

Last, participants indicated their plans for postsecondary training. The majority of the group, 109 (61.2%) respondents, indicated that they planned to attend college and earn a college degree. The remainder of the sample noted the following: 5 (2.8%) planned to obtain full time employment only, 11 (6.2%) planned to obtain full time employment and attend college or technical school, 1 (.6%) planned to obtain part time employment only, 48 (27%) planned to obtain part time employment and attend college/technical school, and 1 (.6%) did not plan to obtain a job or college/technical training.



*Procedure*

*Recruitment.* Participants in the Play It Smart program were recruited for the present study. There were several steps that took place, though, before students were contacted. First, the researcher obtained approval from the Institutional Review Board at Penn State University to conduct the study. Next, the researcher contacted Play It Smart staff members including the head of the research department of the Center for Youth Development at Springfield College in Springfield, CT and regional coordinators. Specifically, Dr. Allen Cornelius, Dr. Taunya Tinsley, and Ms. LaLisa Anthony, respectively, were contacted. Support for the study was obtained from the aforementioned parties. Dr. Tinsley and Ms. Anthony agreed to be identified as Research Assistants to the project, and thus, were required to complete the necessary paperwork to do so through Penn State's IRB office. Once their participation was approved, each regional director sent out an email notification to all Academic Coaches (ACs) in their regions explaining the study; the email was crafted by the principal researcher. This email contained information regarding the purpose of the study and a request for participation. Initially, a total of 15 ACs responded positively to the project. That is, each stated that she or he agreed to administer surveys to their PIS participants. After a final attempt to confirm the participation of the ACs who initially expressed interest, five of the 15 ACs either no longer responded to emails or expressed their regrets in taking part in the study. As a result, ten ACs were willing to assist with the study.

The next step in the process was to gain access to students. The researcher consulted with Dr. Tinsley and Ms. Anthony to identify each school's respective administrator; Penn State's IRB office defines an administrator as a staff member with a

higher status than a school teacher (i.e. principals, assistant principals, or athletic directors). As a part of the IRB approval process, each school's administrator was required to sign a letter of Permission to Access Students (see Appendix A) before Penn State's IRB would approve the study. The researcher contacted each school's administrator to inform him or her about the study and to request access to students. Of the ten remaining schools where ACs agreed to participate, four administrators signed letters of permission to access students. In order to increase the number of participants in the study to adequately conduct data analyses, a fifth school was included in the study after data collection began.

Once the Application for Use of Human Participants was received by the Office for Research Protection at Penn State, and IRB was approved, letters of permission to access were distributed in addition to research materials to each school's respective AC. Academic Coaches were responsible for administration of surveys only; Regional Coordinators who were identified as Research Assistants were responsible for collecting all research materials and returning them to the principal researcher. Three hundred and ninety students were surveyed; 188 surveys were returned. Due to administrative changes within the Play It Smart program and at the schools themselves, data collection was ended abruptly and early. Regarding Play It Smart, administrative restructuring within the program led to the elimination of Regional and Program Coordinator positions. Both Dr. Tinsley and Ms. Anthony held Regional Coordinators positions. Regarding the schools themselves, one school was in jeopardy of closing, and on the day of planned data collection, students protested against the threat of closing the school. Needless to say, data collection did not take place.

*Inclusion Criteria.* Participant criteria for this study have defined parameters. Only male students who were members of their respective high school's Play It Smart program were recruited. Students were required to be between the ages of 14 and 19 years old, and held the status of freshman, sophomore, junior, or senior. Students under the age of 18 years were required to obtain parental consent in order to participate.

*Data Collection Procedure.* Once IRB approval was granted, AC (Academic Coaches) instructional sheets, recruitment notices, parental consent forms, participant assent forms, and instruments (see Appendices B-H) were sent to ACs via U.S. Postal Service. Recruitment scripts informed both students and parents that all participants were eligible to win one of 4 \$50 gift certificates to Wal-Mart, Best Buy, Footlocker, and Foot Action. Again, students under the age of 18 years old were asked to obtain parental consent prior to participating in the study. Parents were given a recruitment script and a written parental consent form. Parents were originally given an active consent form which required parents to sign the form if they did not want their child to participate. As the number of schools decreased from 15 to 4, with an additional school added during data collection, parental consent was modified from active to passive in an effort to obtain as many participants as possible for the required analyses. That is, parents were then asked to sign the parental consent form only if they *did not want* their child to participate in the study. Academic Coaches administered surveys during designated meeting times including study hall periods and team meetings. Students were informed that their participation was completely voluntary, and they would not be penalized in any way if they decided not to participate. Once students completed a survey packet, they were instructed to put their surveys in a marked envelope. A designated participant

placed the envelope in a secured file cabinet in the Head Football Coaches' office until they were picked up by their respective Research Assistant. Each Research Assistant mailed the surveys to the principal researcher in a pre-addressed stamped envelope.

*Security of responses and protection of participants.* Participation in this study was voluntary and anonymous. Participant identity was secured through a number-coded system. They were not asked to self-identify by name, however, they were given a number assigned by the researcher that was included in the lower right-hand corner of their child/adult assent form. Additionally, each school was letter coded, so each participant was identified by a combination letter-number code (i.e. A1, A2, A3...).

#### *Instruments*

*Demographic Questionnaire.* The demographic questionnaire is a brief survey of students' racial ethnicity, age, highest graded completed, sport(s) played, number of years played in sport(s), and postsecondary education plans. Postsecondary education plans were assessed by participants' responses to choosing a particular education/career path after high school: a) get a full-time job only, b) get a full-time job and go to a college or technical school, c) get a part-time job only, d) get a part-time job and go to a college or technical school, e) get technical training only, f) go to college and get a college degree, g) not going to college or getting a job. Ali et al. (2005) used similar choices in their study including a) obtaining full-time employment with no additional training or education, b) obtaining vocational technical training, and c) attending college for the purpose of obtaining a college degree.

Two additional measures used to assess the career development of high school student-athletes were the SACSI which was slightly revised for a high school student population, and the CP subscale of the CDI for high school students.

*Student-Athlete Career Situation Inventory (SACSI)*. The SACSI is a 30-item scale created to measure the career attitudes, beliefs, and interests of the college student-athlete population. A Likert-type response system is used with the scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. Sample items from the original SACSI include, "I do not have enough time to explore potential career opportunities," "I have a strong interest in at least one potential career," "I am an athlete first, student second," "My main reason for being at this university is to participate in my sport," and "I feel that in my sport I am encouraged more to achieve success in academics than in athletics." A high score on the SACSI indicates a high or positive degree of career development. A total of 13 items are reverse scored on the Career v. Sport Identity, Locus of Control, and Barriers scales.

An exploratory factor analysis conducted by Sandstedt et al. (2004) indicated that the five factors found on the instrument accounted for 81.39% of the common variance in the data. The five factors are Career Development Self-Efficacy which contained six items, Career versus Sport Identity which contained nine items, Locus of Control which contained four items, Barriers to Career Development which contained six items, and Sport to Work Relationship which contained five items, accounting for 15.28%, 36.27%, 13.67%, 8.56%, and 7.61% of the variance, respectively. Multiple regression techniques revealed significant correlations between student-athlete "experiences" and the factors Career Development Self-Efficacy, Career versus Sport Identity, and Locus of Control

( $R^2 = 0.17$ ,  $p < .01$ ) Similarly, CDMSE and Career vs. Sport Identity were significantly related to the criterion variable “gains” ( $R^2 = 0.28$ ,  $p < .01$ ). Coefficient alphas calculated for each factor were .78, .80, .70, .72, and .83, respectively. The coefficient alpha for the total scale was .83.

In this study, the internal consistency of the SACSI prior to factor analysis was .859. Coefficient alphas for the Career Development Self-Efficacy, Career vs. Sport Identity, Career Locus of Control, Barriers to Career Development, and Sport to Work Relationship were .721, .730, .734, .517, and .580 respectively.

For the purpose of this study, the SACSI was slightly modified for a high school student-athlete sample population. For example, item number 8 on the SACSI originally read this way: “I would be willing to explore the university’s career center.” To make the language more appropriate for high school students, item number 8 was changed to, “I would be willing to explore the high school’s career information through the guidance office.” Another modified example includes item number 15: “My main reason for being at this university is to participate in my sport.” This item was changed to “My main reason for being at this high school is to participate in my sport.” From this point forward, the SACSI mentioned in this study refers to the modified version for high school students.

*Career Development Inventory S Form-CP Attitude Scale.* The Career Development Inventory S Form is a 120-item measure that assesses five levels of career planning and development for 8<sup>th</sup> -12<sup>th</sup> grade students (Thompson, Lindeman, Super, Jordaan, & Meyers, 1984). Considering the population included in this study and based on the NOICC’s (1992) guidelines for high school adolescents, only the Career Planning

(CP) scale was used as modeled in previous research with high school students (Hargrove et al., 2005).

The CP scale includes 20-items that examine one's overall level of current or anticipated career planning involvement. Some of these activities include talking about career plans with adults, obtaining employment during or after the school year, and obtaining employment post graduation. The subscale is formatted on a five-point, Likert-type structure that uses letters instead of numbers with each letter represented by a number (A = 1 to E = 5). Example items include "I have not yet given any thought to this" and "I have made definite plans, and know what to do to carry them out." Total scores on the CP scale range from 20 to 100. Test-retest reliability coefficient alpha found for the scale range from 0.77 to 0.79 for 9<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> graders. High scores indicate a curiosity about careers, a readiness to look ahead, and attempts at making tentative plans. Internal consistencies for the CP scale have ranged from .89 to .93 in previous studies (Graef, Wells, Hyland, & Muchinsky, 1985; Kuhlman-Harrison & Meely, 1980; Nevill & Super, 1988; Selfert, 1991; Thompson et al., 1984; Ward, 1982). The coefficient alpha for the CP scale in the present study is .874. Scores from the CP scale were used as a criterion variable.

### *Analyses*

Three types of analyses were conducted in the present study: descriptive statistics, factor analyses, and regression analysis. Specifically, exploratory factor and sequential regression analyses were completed. A logistic regression analysis was proposed, however, it was not completed due to insignificant group categorization. Because the majority of the sample noted that they planned to attend some type of postsecondary

educational training, appropriate groups could not be assessed. Prior to conducting these analyses, however, participant surveys were checked for incomplete data. Incomplete data was determined by the number of questions completed on each survey. Researchers have not determined a formula or equation for determining how to handle missing data; however, Tabachnick and Fidell (2001) offer three methods in this situation. First, they suggest simply deleting cases with missing data. Second, they recommend estimating values for missing data, particularly by inserting group means. The third recommendation offered for handling incomplete data is to use a missing data correlation matrix. The first and second methods were used to handle incomplete data in this study. Further explanation about how missing data was addressed is provided in Chapter 4.

Descriptive statistics were used to assess the age, academic levels, number of sports, and postsecondary plans for each participant. The mean, standard deviation, skewness, and kurtosis were calculated for each variable used in the regression analysis. At this stage, the extent to which the data met the assumptions for the analysis was assessed before regression analyses were conducted.

An exploratory factor analysis was conducted to assess the appropriateness of the SACSI for a high school student-athlete population. In addition, a correlation matrix of the sub-scales of the SACSI was calculated to determine the extent to which the factors were differentiated. After a preliminary analysis was conducted coefficient alpha and item-total correlations were calculated for the SACSI and associated factors to assess the internal consistency. A principal axis factor analysis was conducted, with a promax rotation. In addition to examining the SACSI in an exploratory manner with factors that



appear to be correlated, the above statistical technique was also used to mirror reflect that which was conducted with the original Student-Athlete Career Situation Inventory.

Last, a sequential regression equation was calculated. In an attempt to examine the predictive nature of one dependent, continuous variable on multiple independent variables, the sequential regression analysis, also known as hierarchical regression analysis, was chosen (Field, 2005). Furthermore, to examine the predictive nature of a categorical variable such as postsecondary plans, a logistic regression analysis was proposed, but not conducted. Career development attitudes served as the outcome variable for the sequential regression equation. Age and highest number of years played in one sport was entered in the first block. Then, the influence of the SACSI on the outcome variables was entered in the second block.

The next section of this report includes a comprehensive discussion of results presented in this chapter. Particularly, implications, recommendations for future research and practice are offered. The Penta-Sport model of assisting high school student-athletes in the career development process is also introduced.

Table 1  
*Racial Ethnicity and Postsecondary Planning Demographic Description*

	<i>n</i>	% of sample
<b>Race</b>		
African-American	112	62.9
European-American	46	25.8
Latino-American	7	3.9
Bi- or Multi-racial	11	6.2
Missing	2	1.1
 <i>Postsecondary Plans</i>		
Full Time Job Only	5	2.8
Full Time Job and College/ Technical School	11	6.2
Part Time Job Only	1	.6
Part Time Job and College/ Technical Training	48	27.0
Technical Training Only	3	1.7
Go to College and Earn College Degree	109	61.2
No College or Job	1	.6

Table 2  
*Profile of Age, Last Grade Completed, and Years in Sport*

	m	sd	mode	high value	low value
Age in Years	16.33	1.11	17	19	14
Highest Grade Completed	9.85	.88	10	11	8
Years in:					
Football	4.41	3.03	3	13	0
Basketball	1.56	2.73	0	14	0
Baseball	1.05	2.63	0	13	0
Wrestling	.13	.68	0	7	0
Swimming	.07	.55	0	7	0
Volleyball	.06	.44	0	4	0
Lacrosse	.01	.15	0	2	0
Tennis	.02	.30	0	4	0
Track	.64	1.36	0	9	0
Soccer	.46	2.00	0	0	12
Other	.13	.84	0	7	0
Highest Number of Years Played in One Sport	5.06	3.70	3	14	0

## Chapter 4

### Results

Results of the research analyses are presented in this chapter. Data collected in five schools in the eastern, mid-west, and southeastern regions of the U.S. were examined and results are outlined by the following two research questions:

1. Are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes? If not, how might the factor structure of the SACSI best be described in this population?
2. Do these factors explain variation in career development attitudes and postsecondary plans above and beyond demographic variables such as age and highest number of years played in one sport?

Several scales will be referred to in this section including the Student-Athlete Career Situation Inventory (SACSI) and the Career Planning (CP). The CP scale is the first of the scales included on the Career Development Inventory School Form (CDI S) for high school students.

#### *Pre-Analysis*

Initially, data was entered into Excel then transferred to SPSS to complete data cleaning and analysis. The initial data set included information for 188 participants. This data was first examined for notation of sport participation. Based on the inclusion criterion that students in the study must be student-athlete participants in their school's Play It Smart program, two cases were deleted because no sports affiliation was marked. Because no empirical or scholarly research suggests a method to determine the number of

missing items that constitute appropriate case deletion, the researcher consulted with a statistics professional who suggested that the total number of items from all measures be calculated. Based on the total number, the researcher should determine what would ideally be an appropriate number of missing items that would determine case deletion. A total of 76 items were subjected to data analyses including demographic items, the SACSI, and the CP scale of the CDI S. Of those, 52 items were used for the purposes of analyses while the remaining items were used to describe the sample. It was determined that three or more missing items per case would result in the rejection of a case from the data set. It seemed appropriate to set such criteria in order to permit at least one missing item per measure and allow for the inclusion of most participants' information. In light of this, an additional 8 cases were deleted. Ultimately, a sample size of 178 participants was included in the present study.

Next, sample size was considered for all analyses included in the study. Sample sizes for both the regression and the factor analyses were examined. First, relative to the regression analysis, Tabachnick and Fidell (2001) suggest the use of the following equation to determine an ideal sample size to detect a medium effect size:  $N \geq 50 + 8(m)$ ;  $m$  represents the number of predictor variables. Considering that the number of participants in this study is 178 and the number of predictors is four, the sample size obtained is adequate to determine a medium effect size ( $178 \geq 82$ ). Second, recommended sample sizes for an exploratory factor analysis were examined. Tabachnick and Fidell (2001) recommend a ratio of 10 items per participant, Tinsley and Tinsley (1987) recommend 5-10 items per participant, and Gorsuch (1983) suggests an item-participant ratio of 5 to 1. Though a larger sample size would have been preferable, the sample size obtained

seemed adequate for exploratory factor analysis. Further, in their initial validation of the SACSI, Sandstedt et al. (2004) used a comparable sample size of 204 college student-athletes. We anticipated obtaining 200 usable survey packets, however, due to administrative changes in the Play It Smart program and at the schools themselves, data collection was prematurely ended. Again, one school was in jeopardy of closing and Play It Smart eliminated Regional Coordinator positions which were held by the identified Research Assistants on this project.

*Replacement of missing data.* After the data was checked for sports participation and inadequate missing data, replacement of missing data for remaining cases was completed. Missing data was replaced on the SACSI, the CP scale, and the demographic questionnaire. Sample group means were calculated in SPSS and missing data was replaced for participants on the SACSI and CP scale. On the demographic questionnaire, only two variables, age and grade completed, were roughly estimated and replaced. Other items including race, sport played, number of years played in a particular sport, and postsecondary plans could not appropriately be estimated and replaced. Missing values on grade completed were calculated according to the average age of participants in a particular grade. Fourteen cases were roughly estimated to replace missing data for this variable. For example, the average age of participants who completed the 10<sup>th</sup> grade was 16 years old. The average age for participants who completed the 8<sup>th</sup> grade was 14 years old. Students who completed the 9<sup>th</sup> grade were typically 15 years old while and those who completed the 11<sup>th</sup> grade were 17 years old. Age was estimated for two cases according to the average age of students in a particular grade.

### *Summary Statistics of Scales*

Descriptive statistics including means, standard deviations, minimum and maximum values, skewness, and kurtosis were calculated for the CP scale and SACSI (see Table 3). Skewness and kurtosis values for the SACSI are discussed later in the section labeled “Factorability of Data.” The sample mean on the CP scale (3.16) suggests that participants in the study are moderately curious about careers, and somewhat likely to attempt to make tentative plans about the future. It also indicates that participants have moderate readiness levels to looking ahead.

### *Results for Research Question One*

1. Are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes? If not, how might the factor structure of the SACSI best be described in this population?

Before providing the results of the exploratory factor analysis included in this section, it is important to note a few limitations that may have influenced such results. First, the size of the sample population may limit the interpretability of the outcomes. After meeting with statistics consultants at UCLA and Penn State, both parties highly recommended a sample population of at least 300 participants in order to have interpretable results (C. Wells, personal communications, April 17, 2007, personal communication, April 27, 2007; H. Suen, personal communication, April 18, 2007). As presented earlier, only 178 participants are included in this study. Some researchers consider a sample size of 200 or less to be poor (Tabachnick & Fidell, 2001). The decision to move forward with analysis, however, was considered in light of Gorsuch’s

(1983) and Tinsley and Tinsley's (1987) recommendation of a five to one item-participant ratio, and on the basis that the factor analysis in this study is exploratory, not confirmatory.

In an attempt to examine whether five factors of the SACSI are descriptive of the career development of the sample population in this study, an exploratory factor analysis was conducted. According to Field (2005, p. 619), the three main uses of exploratory factor analysis allow one to "1) understand the structure of a set of variables, 2) create a measure that examines the underlying variable(s), and 3) reduce data to a more manageable size while retaining as much original information as possible." This study attempted to address all three of these goals.

#### *Factorability of Data*

Skewness and kurtosis values were examined to test the normality of the data collected (see Table 3). Tabachnick and Fidell (2001) suggest normality checks in order to identify data that may have reacted sensitively, and thus, may require transformation. Skewness and kurtosis values in this study appeared to be normal, thus, no transformations of the data were deemed necessary. That is, skewness values did not exceed 2 and kurtosis values did not exceed 7 as suggested by Fabrigar, MacCullum, Wegener, & Strahan (1999). Next, item correlations were inspected for values at .30 or greater. Tabachnick and Fidell (2001) indicate that a value less than .30 may not be worth a factor analysis. Most item correlations in this study were greater than the suggested .30. Last, the Kaiser-Meyer Olkin (KMO; 1974) versus Bartlett's (1954) test of sphericity was used to further assess factorability. Sphericity refers to the uncorrelated nature of the data (Tabachnick and Fidell, 2001). The KMO test was used as it is deemed appropriate for



research that includes six cases per variable, as in the present study. The KMO in this study was .81 which exceeded the minimum standard of .60 recommended by Tabachnick and Fidell (2001).

### *Factor Solutions*

A comparison of factor solutions is provided in Table 4. A principal axis extraction method with a promax rotation was used to conduct an exploratory factor analysis in SPSS. A principal axis extraction was chosen to discover the least number of factors that could account for the common variance of a set of variables (Tabachnick & Fidell, 2001). Furthermore, an oblique rotation, specifically a promax rotation, was used to allow the factors to be correlated. As indicated in the review of literature included in this paper, several of the factors on the SACSI were found to be correlated, specifically Career Development Self-Efficacy, Locus of Control, and Sport Identity (Brown et al., 2000; Korspan & Etzel, 2001). Further, although no empirical studies have been conducted to confirm the correlation between career barriers and career development self-efficacy, theoretical implications suggest that a possible correlation between these two factors may exist. That is, student-athletes who live in low socioeconomic communities (often associated with career barriers) may not have access to the necessary career development information including written literature, counselors, mentors, and internship/work experiences all of which could influence lower career development levels.

After careful examination and using Tabachnick and Fidell's (2001) criteria for retaining and deleting factors, a model factor structure was determined for the SACSI using this sample of 178 high school students. Factors that contained loadings less than

.32 with less than 5 items loading on each factor were deleted. In keeping with similar criteria set for the original creation of the SACSI, a factor loading criteria of .40 was employed. Coefficient alphas greater than .65 were also used in this study to indicate acceptable internal consistency values. DeVellis (2003) suggests that internal consistency reliability coefficients below .60 are unacceptable while alpha values between .60 and .65 are undesirable. Coefficient alphas between .65 and .70 are minimally acceptable and values between .70-.80 are respectable. Finally, alpha levels between .80-.90 are deemed very good while values greater than .90 may suggest the creation of a shortened scale.

Catell's (1966) scree test was conducted to determine the initial number of factors to retain for further analysis in this study. Factors retained are those that fall below the line drawn through the smaller value of the plotted eigenvalues (Zwick & Velicer, 1986). In this study, there appeared to be a break at the fourth eigenvalue on the scree plot. Given the exploratory nature of this study, the scree plot was critical in determining a starting point for a number of the possible factors. After determining the factorability of the data and a starting point for number of factors, extraction and rotation techniques were used to conduct an exploratory factor analysis. Four-, three-, and two-factor models were forced using SPSS.

Below are the results of all considered factor solutions. Item loadings, factor definitions, and coefficient alphas are also provided.

*Four-factor model.* First, as mentioned previously, based upon the scree test a four-factor solution was considered during this exploratory factor analysis. The first factor included 13 items that represented difficulties with career development. Of the 13

items, three were deleted due to inadequate loading values that were less than .4. Factor 1 had a coefficient alpha of .829. Factor 2 included items related to one's self awareness regarding career issues; eight items loaded on this factor. Four of the items on Factor 2 were deleted, again, due to items loading with values less than .4. With only four items remaining, Factor 2 was deleted because it did not meet the criteria of five salient item loadings. Factor 3 tapped into career identity and sport identity, similar to the dimension found on the original SACSI. Five items loaded on this factor with only three salient item loadings, thus, Factor 3 was also deleted because it did not meet the requirement of five salient loadings. The fourth factor included five items related to issues that might hinder career development. Only four of the five items were salient, thus, it was also rejected due to inadequate item loading. Overall, only one factor in the four factor model met the criteria of having five or more loadings at .4 or above, and was deemed interpretable.

*Three-factor model.* Given that the four-factor model was not viable or interpretable, a three-factor model was fit for the items. The pattern matrix for the three factor model yielded similar results to those of the four-factor model. The first factor included items that tapped into struggles with career development. Thirteen items loaded on factor 1; two items were deleted which had loadings less than .4. The second factor included ten items that tapped career awareness. Of the ten items, six items were deleted for inadequate loading. Six items loaded on factor 3, with only three salient item loadings. Factor 3 appeared to tap sport and career identity. The first factor, again, was the only factor with five or more item loadings at .40 or above, thus, the three-factor solution did not seem to represent the data well.

*Two-factor model.* A two-factor model indicated adequate items loadings on both factors, thus, both were retained and interpreted (see Table 5). The first factor included 13 items; items 1 and 24 were deleted due to inadequate loadings, .341 and .358, respectively. This factor appeared to be related to struggles with career development and had a coefficient alpha of .83. The second factor included 9 items that loaded saliently; items 2, 11, and 16 were deleted with loadings of .371, .330, and .349, respectively. Issues related to positive attributes that might facilitate career development were tapped on factor 2. The coefficient alpha for the second factor was .79. Kline (1986) suggests that items that correlate at .2 and higher with the total factor score are valid. Corrected item-total correlations are also reported in Table 5. Corrected item-total correlations relate the item being evaluated with all the factor items excluding itself (DeVellis, 2003). In this study, all item-total correlations were .2 and above, thus, all items should be included for further scale development. This model was accepted and named the Career-PLanning for Athletes Needs (C-PLAN). A summary of the two factor model is presented in Table 6.

#### *Description of the C-PLAN*

A final, two factor model was found to best represent the items on the new C-PLAN (see Table 6). The first factor is labeled Career Development Challenges as it tapped challenges and difficulties to growth in the area of career. Likewise, the second factor is labeled Career Development Strengths because it relates to positive attributes possessed by student-athletes that assist in the career development process. Career Development Challenges included 11 items while Career Development Strengths included 9 items.

Several factor models were considered in this study in order to examine if the SACSI is indeed descriptive of the career development of high school-athletes. Ultimately, results indicated that all five factors on the SACSI are not descriptive of the career development of high school student-athletes; however, it appeared that two factors on the original SACSI are similar to the two factors found through this exploratory factor analysis. The first factor of the C-PLAN contains 11 items and is labeled Career Development Challenges. Sample items on this factor are: “I feel pressure from others to pursue a particular career, I am often too tired to explore my career interests,” and “My athletic involvement does not allow me to explore career opportunities until my season is over.” This factor is related to three factors in the original SACSI including Career v. Sport Identity, Barriers, and Locus of Control. These factors were similar in such a way that each assesses difficulties noted by student-athletes that might hinder their ability to engage in career development tasks. Four items on the Career Development Challenges and Career v. Sport Identity factor overlap; three items on the Barriers and Locus of Control scales, each, overlap with the Challenges factor.

The second factor of the C-PLAN contains nine items and is labeled Career Development Strengths. This factor is similar in content to the Career Development Self-Efficacy subscale on the original SACSI. Both assess the extent to which a student-athlete feels confident in his ability to become involved with career activities. Example items on this subscale include, “I am confident about my ability to find a career that satisfies me, I am happy with my career interests,” and “Being an athlete has helped me develop skills that will help me be successful in my desired career.” Five items of the six items on the CDMSE factor of the SACSI overlapped with five items on the C-PLAN.

Other SACSI factors tapped on this Strengths factor were Career v. Sport Identity and Sport to Work Relationship (transferable skills). Two items from each of the above factors were found on the Strengths factor of the C-PLAN. Overall, the Challenges and Strengths factors of the C-PLAN seem to be measuring different, though related constructs; the two factors appear to be correlated moderately at .534 (see Table 7). Correlations between demographic variables and scales of interests are included in Table 8.

#### *Results for Research Question Two*

2. Do these factors explain variation in career development attitudes and postsecondary plans above and beyond demographic variables including age and highest number of years played in one sport?

First, one must note that the five factors of the SACSI were not descriptive of the sample population. So, the initial answer to the above question is no, the factors of the original SACSI do not explain variation in the career development attitudes and postsecondary plans above and beyond demographic variables including age and highest number of years played in one sport. A more valid question, however, is do the two factors of the C-PLAN explain variation in career planning attitudes and postsecondary career plans above and beyond age and highest number of years played in one sport? Below are the results of a sequential regression analysis conducted to answer this question.

*Sequential regression analysis.* Sequential regression analysis, also known as hierarchical regression analysis, allows a researcher to enter variables at different steps in order to examine the extent to which these variables predict the outcome variable (Field,

2005). Assumptions for regression including linearity, independence, constant variance, and normality were checked using descriptives, box plots, and histograms in SPSS. All results indicated that the researcher could continue with her regression analysis.

Typically, variables entered in the first block of the model are those that have been based on past research in order of their importance in predicting the model (Field, 2005). Demographic variables including age and highest number of years played in one sport were entered in the first block of the analysis in this study. The two factors of the newly created C-PLAN were entered in the second block. Although limited past research suggests that age or highest number of years played in one sport predict career development attitudes, it may be safe to say that, theoretically, adolescents have lower career development attitudes than young adults. That is, in the case of this study, the researcher hypothesized that older high school student-athletes had more exposure to career development activities and materials than younger high school students. First, younger adolescents in this sample may not have the wherewithal to explore their own career development or prepare for career exploration. Second, younger high school student-athletes may not have had the opportunity to participate in career related exercises such as job shadowing, internships, externships, and paid positions because of the time devoted to athletics. The researcher included highest number of years played in one sport as a predictor to examine the influence of one's time spent in sport on his career development. The pendulum, however, can swing both ways using this as a predictor. That is, the longer one has played sports may strengthen his sport identity, which in turn may or may not increase his commitment to career exploration. The researcher has

experienced the positive and negative effects of number of years played in sport, therefore, this analysis is conducted for exploratory purposes.

Results from the sequential analysis are presented in Table 9. The first block failed to account for a significant amount of variance of career attitudes ( $R^2=.101$ ,  $F=9.819$ ). Age, however, one of the variables within the block, was significant ( $\beta=.313$ ,  $p<.05$ ). The second block, Career Development Challenges and Career Development Strengths, significantly contributed to the variance of career attitudes ( $R^2=.282$ ,  $\Delta R^2=.181$ ,  $\Delta F=21.870$ ,  $p<.001$ .) Within the second block, the addition of Career Development Challenges failed to account for a significant amount of variance of career attitudes, although the addition of Career Development Strengths in the second block was significant ( $\beta=.402$ ,  $p<.05$ .) The model explained approximately 27% of the variance in career attitudes for this sample of predominantly African-American, male inner-city, low SES, high school student-athletes (total adjusted  $R^2=.266$ ,  $F=17.016$ ,  $p<.001$ ).

#### *Logistic regression*

A logistic regression analysis was originally proposed to examine predictors of post-secondary planning. Participants were offered seven options for postsecondary plans: 1) full time job only, 2) full time job and college/technical school, 3) part time job only, 4) part time job and college/technical school, 5) technical training only, 6) go to college and earn a college degree, and 7) no college or job. Of these seven categories, two groups were formed to describe this outcome variable: postsecondary training and no postsecondary training. Students who indicated future plans for obtaining continued education were placed in the training group (i.e. part time job and college/technical school). Students who did not indicate plans for further educational studies (part time job



only) were placed in the no training group. One hundred and seventy-two participants were included in the “training” group while only six participants were included in the “no training” group. Because there appeared to be “too much training” in the data set, it was determined that two different groups were not represented in the data analysis; therefore, the logistic regression was abandoned.

Table 3  
*Summary Statistics for Independent and Dependent Scales*

	<i>m</i>	<i>sd</i>	Low Value Reported	High Value Reported	Lowest Value Possible	Highest Value Possible	Skewness	Kurtosis
C-PLAN –Total Scale	67.33	10.31	31.49	91.01	20	100	.000	-.106
C-PLAN-Career Development Challenges	36.20	7.03	19.18	50.45	11	55	-.202	-.334
C-PLAN-Career Development Strengths	31.13	4.95	11.22	40.56	9	45	-.494	.912
CDI S-Career Planning Subscale	63.19	12.81	34	100	20	100	.399	.096

Note. *m* = mean, *sd* = standard deviation

Table 4  
*Comparison of Factor Solutions*

Number of Factors Extracted	Number of Factors with 5 Salient Loadings	Number of Complex Items	Number of Items Failing to Load
4	1	3	2
3	1	1	2
2	2	0	5

*Note.* Analyses were conducted using principal axis extraction and promax rotation.

Table 5

*Two-Factor Structure of the SACSI High School Version*

Item	Item Description	Pattern Loading	Item-Total Correlation <sup>a</sup>
Factor I- Career Development Challenges			
27	I am pursuing a certain career only because others have told me I would be good at it.	.781	.652
21	Most of the career decisions I make are strongly influenced by what others may suggest.	.742	.574
15	My main reason for being at this high school is to participate in my sport.	.631	.515
26	I feel pressure from others to pursue a particular career.	.625	.542
13	It is difficult for me to think about careers because I am an athlete.	.576	.541
17	The time I have spend being an athlete makes me more suitable for certain careers.	.570	.495
20	In choosing a career path, I am more concerned about what is easiest for me to manage with my athletic commitment than about what really interests me.	.540	.458
22	Being a professional athlete is the only career that interests me.	.523	.482
10	I am an athlete first, student second.	.511	.490
7	I am often too tired to explore my career interests.	.483	.436
4	My athletic involvement does not allow me to explore career opportunities until my season is over.	.406	.411

table continues

Table 5 (continued)

Factor II-Career Development Strengths			
Item	Item Description	Pattern Loading	Item-Total Correlation <sup>a</sup>
3	I am confident about my ability to find a career that satisfies me.	.567	.524
6	I have a strong interest in at least one career opportunity.	.544	.567
25	I am happy with my career interests.	.541	.455
23	I have a good sense of careers that interest me.	.526	.520
5	I have a good understanding of the steps I need to take to find a career that satisfies me.	.522	.487
29	Because I am an athlete, I have a mental edge that others might not have.	.492	.325
12	I have many personal goals outside of sport.	.464	.516
9	Excelling in academics is as important to me as excelling in my sport.	.437	.508
18	Being an athlete has helped me develop skills that will help me be successful in my desired career.	.416	.359

*Note.* Analyses were conducted using principal axis extraction and promax rotation.

<sup>a</sup>Each value is a corrected item-total correlation, representing the correlation between the respective item with all factor items excluding itself. The two factors included are Career Development Challenges (e.g., I am often too tired to explore my career interests) and Career Development Strengths (e.g., I have a good sense of careers that interest me).

Table 6  
*C-PLAN Factor Summary*

	Factor I Career Development Challenges	Factor II Career Development Strengths
Nature of Factor:	Career Development Challenges	Career Development Strengths
# Items:	11	9
Alpha:	.834	.786
Comparable Dimensions of SACSI:	Barriers to Career Development	Career Development Self-Efficacy
Sample Items:	My athletic involvement does not allow me explore opportunities until my season is over.	I am confident about my ability to find a career that satisfies me.

Table 7  
*Factor Correlations*

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Factor	Career Development Challenge	Career Development Strengths
Career Development Challenges	-	.534
Career Development Strengths	.534	-

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Table 8  
*Correlations between Demographic Variables and Scales of Interest*

	1	2	3	4	5	6	7	8	9
1. CD Challenges	--								
2. CD Strengths	.535**	--							
3. C-PLAN	.922**	.821**	--						
4. Total CP Scale	.273**	.464**	.398**	--					
5. Age	.010	.119	.061	.308**	--				
6. Race	.059	.089	.080	-.021	-.138	--			
7. Grade Completed	.029	.184*	.104	.292**	.784**	-.091	--		
8. Highest # yrs in 1 Sport	.118	.149*	.148*	.056	-.062	.091	-.121	--	
9. Post2ndary Plans	.172*	.179*	.198**	.077	.144	-.073	.047	.057	--

*Note.* \*\*Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 level (2-tailed). CD is Career Development, C-PLAN is Career-PLanning for Athlete Needs, CP is Career Planning, Highest # in yrs in 1 sport is Highest Number of Years Played in One Sport, and Post2ndary Plans is Postsecondary Plans.



Table 9  
*Summary of Regression Analysis for Variables Predicting Career Development Attitudes*  
 (n=178)

Variable	Block 1			Block 2		
	b	Beta	p	b	Beta	p
Age	3.606		.000	3.01		.000*
MaxYrnSport	.263		.292	.021		.962
CD Challenges				.094		.474
CD Strengths				1.011		.000*
Model F and (p)	9.819(.000**)			17.016 (.000**)		
Total R <sup>2</sup>	.101			.282		
Adjusted R <sup>2</sup>	.091			.266		
R <sup>2</sup> Change	.101			.181		

Note. \*p≤.05. \*\*p<.01.

## Chapter 5

### Discussion

Professional sport organizations such as the NFL provide statistics indicating that only 2% of all high school football players will proceed to the elite level of the game (Retrieved from [www.nflpa.org](http://www.nflpa.org) on January 30, 2006). This small number creates a realistic view of one's chances of making it to the professional ranks and suggests a need for an exploration of alternative career options. In a study of African-American high school students' career dreams, Parmer (1993) notes that the career aspirations of students in this ethnic group are typically "high or lofty." In fact, 32% of the population in his study indicated that they were "likely" or "very likely" to be professional athletes in ten years. While previous research indicates that striking percentages of student-athletes plan to attend college and participate in college sports, particularly African-American students, many will not be afforded this opportunity due to low self-efficacy beliefs, low academic achievement, financial difficulties, and lack of support (Gushue & Whitson, 2006; Guest & Schneider, 2003; Lee, 1983; Parmer, 1993).

Social Cognitive Career Theory partially informed the present study (SCCT; Lent et al., 1994). That is, components of the theory including career decision-making self-efficacy, locus of control, barriers, and other contextual variables were examined. Ultimately, the purpose of the study was two-fold. First, this project aimed to assess the five structure model of the original SACSI in a high school student-athlete population since the original SACSI was created in a college student-athlete population. Specifically, are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-

athletes. Second, it attempted to examine the predictive nature of demographic and cognitive variables on career planning attitudes and postsecondary education plans. The results of the study confirmed the importance of SCCT constructs in the career development of the sample population. Analyses suggest that these variables, in addition to demographic variables, significantly predicted career planning attitudes. That is, when Career Development Challenges and Career Development Strengths were added to the block that included age and highest number of years played in one sport, these two factors accounted for more variance in the data.

The present study included 178 male, high school student-athletes who were members of their schools' respective Play It Smart program. Five schools in the eastern, mid-west, and southeast regions of the U.S. are represented. Respondents completed three surveys including a demographic questionnaire, the SACSI, and the Career Planning (CP) scale of the Career Development Inventory School (S) form. Two statistical analyses (i.e., an exploratory factor analysis and a sequential regression analysis) were conducted on the data obtained from the above measures. Results of those analyses are summarized below.

Issues of scale development and significance of predictors on career planning attitudes and postsecondary plans are important in this study. The greater issue, however, is that while the majority of inner-city student-athletes expect to attend college and play a college sport, their expectations will not be met. In this study, approximately 97% of the participants planned to attend college either part-time or full-time. That is, of the 178 students included in the analysis, 172 students indicated that they plan to seek some type of postsecondary education training (college or technical school). This number is more

striking than the Parmer (1993) result of his 100% African-American high school sample population. Out of 443 students, 56.4% reported that their postsecondary plans included attending a four year college. Thirty two percent of the sample identified themselves as student-athletes. What, then, do the results of the present study mean for this population? What key components need to be in place in order to assist these student-athletes in obtaining their academic and career goals? This chapter will provide preliminary answers to these questions. This chapter also includes a discussion of the strengths and limitations of the study, as well as research and practice implications and recommendations.

*Research Question Number One: Are the five factors of the SACSI descriptive of the career development of predominantly African-American, male, inner-city, low SES, high school student-athletes?*

*Two factor model-C-PLAN.*

The results of an exploratory factor analysis suggest that the five factors of the SACSI did not describe the career development of the sample population. Instead, a model structure that included two factors was identified, resulting in the creation of a new instrument called the Career- PLanning for Athlete Needs (C-PLAN) assessment.

*Career Development Challenges.* The first factor found on the C-PLAN is labeled Career Development Challenges and includes 11 items. This factor is related to difficulties student-athletes encounter in their career development. Sample items on the Career Development Challenges factor include the following: “I am an athlete first, student second; It is difficult for me to think about careers because I am an athlete;” and “In choosing a career path, I am more concerned about what is easiest to manage with my

athletic commitment than about what really interests me.” Items on the Challenges subscale overlap with items in the original SACSI. In particular, items on the Challenges scale overlap with four items on each of two factors of the original SACSI, Career vs. Sport Identity and Locus of Control. Three items of the Challenges factor come from the Barriers factor of the SACSI. The coefficient alpha for the Challenges scale on the C-PLAN is .83. Given that the Challenges factor of the C-PLAN is comprised of items representing sport identity, locus of control, and barriers, each construct is discussed relative to a high school student-athlete population. Issues including one’s identification with the athlete role beyond his student role, the influence of others regarding career interests, and barriers including time and lack of vocational guidance pose challenges to the career development of the sample population included in this study.

*Career vs. sport identity.* To date, only one study exists that examines career identity with a high school student-athlete population, and thus, the present study extends the research in this area because it examines athletic identity in a high school student-athlete group. Moreover, no studies have investigated the athletic identity construct with the sample population. Athletic identity was assessed in this study as participants endorsed the following identity statements on the Challenges factor: “I am an athlete first, student second,” and, “My main reason for being at this high school is to participate in my sport.”

The results of the present study were consistent with Ryska’s (2002) finding that the student and athlete role moderately affects career skill. Specifically, Ryska (2002) found that athletic identity accounted for 8.2% of the variance in vocational competence for high school student-athletes. Other studies have examined the construct of athletic

identity relative to GPA and achievement levels in low SES high school student communities. Guest and Schneider (2003) found that sport identity is associated with being viewed as a “good student” in low SES groups. That is, a student who identifies more with the athlete role earns higher grades and pursues postsecondary educational plans (Guest & Schneider, 2003). Perhaps this statement is true in that students who are involved in extracurricular activities may be seen as productive versus unproductive. Unfortunately, many schools located in urban, low SES communities also have lower academic standards which may affect the realistic pursuit of higher education.

The effect of athletic identity on the career development of predominantly African-American student-athlete populations is important in light of Sailes’ (2000) following statement: “The success and popularity of the African-American athlete in the past three decades is unprecedented” (p. 53). Statements such as this lend insight into the notion that African-American high school student-athletes take on the athlete role more than the student role. With that, high school students attempt to achieve the same level of fame, financial gain, and prestige as African-Americans who dominate the elite levels of football, baseball, and basketball. Respectively, 60%, 30%, and 85% of African-Americans comprise the preceding professional sport teams (Sailes, 2000). In order to deter the chase of unrealistic dreams, students must become aware of their career development strengths, challenges, and levels of career planning attitudes that will assist in exploring alternative career opportunities other than professional sports.

*Locus of control.* Items from the Locus of Control subscale were also tapped on the Challenges factor of the C-PLAN. Respondents indicated an external locus of control orientation as they endorsed statements including, “I am pursuing a certain career only

because others have told me I would be good at it; Most of the career decisions I make are strongly influenced by what others may suggest,” and “Being a professional athlete is the only career that interests me.” This result implies that some students in this study exhibited an external career locus of control. With previous research linking an external locus of control orientation to lower levels of CDMSE and career maturity within collegiate student-athlete populations, this construct is important to consider when assessing high school student-athletes career development levels (Korspan & Etzel, 2001; Brown et al., 2000). Learning how to foster a more internal locus of control may lead to a more intrinsic influence on making career decisions as Denga (1994) found in his study of African high school non-athlete students. An internal locus of control is deemed favorable because it allows students to hold the belief that reinforcements are a result of personal choices. An external locus of control, on the other hand, allows them to hold the belief that reinforcements are a result of outside forces that are beyond their control (Rotter, 1966). This is critical in terms of student-athletes because “powerful others” including coaches and parents, an external locus of control subgroup, have a great influence in the lives of these students.

*Career barriers.* One major career barrier identified in the Challenges factor was time. Respondents in the study noted time as a barrier by endorsing statements including, “My athletic involvement does not allow me to explore career opportunities until my season is over,” and “I am often too tired to explore my career interests.” Previous research supports this claim that time management negatively impacts career development of both high school and college student-athletes (Brown et al., 2000; Etzel et al., 1996; Lee, 1983). Sports related activities including training, playing, and

traveling contend with sufficient career education. According to Rhatigan (1984), high school student-athletes spend up to approximately 40 hours per week in training, attending team meetings, watching films, and traveling. He also stated that these students miss as much as 26% of class time. With this in mind, Lee's (1983) result indicating that poor time management contributed to low academic standards for high school student-athletes is no surprise. Similarly, Brown et al. (2000) found that the hours of sport activity were negatively related to CDMSE levels for college student-athletes. Students must learn time management skills in order to allocate sufficient time to engage in meaningful career exploration activities. Parents, coaches, and high school personnel could assist in this process by providing such time and space.

*Career Development Strengths.* The second factor found in the development of the C-PLAN is labeled Career Development Strengths. Nine items loaded on this factor which tapped the positive attributes that assist in the career development process. Sample items on this factor include, "I am confident about my ability to find a satisfactory career; I have a strong interest in at least one potential career," and, "I have a good understanding of the steps I need to take to find a satisfactory career." The Strengths factor is similar to the Career Development Self-Efficacy factor on the original SACSI in such a way that both factors assessed student-athletes' confidence levels that will allow them to successfully move forward in their career development process. Five of the six items on the Career Development Self-Efficacy subscale of the SACSI overlap with items on the Strengths subscale of the C-PLAN. This indicates a strong relationship between the two factors. Other items on the Strengths factor of the C-PLAN were slightly common on the Sport to Work Relationship and Career vs. Sport Identity factors of the SACSI. That is,



two items on both the Identity and Sport to Work Relationship factors overlap with items on the Strengths factor. The coefficient alpha of the Career Development Strengths subscale is .79.

Career confidence levels in this study were indicated by statements including, “I am confident about my ability to find a career that satisfies me; I am happy with my career interests, I have a strong interest in at least one career opportunity, and “I have a good understanding of the steps I need to take to find a career that satisfies me.” The presence of a Career Development Strengths factor on the C-PLAN supports Sanstedt et al.’s (2004) identification of a Career Development Self-Efficacy subscale on the SACSI. Career confidence levels have been previously related to other career variables including higher levels of career maturity, an internal locus of control, and career exploration activities for college student-athletes. Germane to this study are Ali et al.’s (2005) results. These researchers explored CDMSE levels of a low SES high school student population. Results of the study indicated that 21% of the variance in predicting vocational outcome expectations was accounted for by vocational/educational self-efficacy. That is, the greater one’s CDMSE, the higher his belief that he is responsible for his future career status. Another study that supports the results of the present research is Creed et al. (2004). These researchers found that, for male high school students, CDMSE significantly predicted both career focus and career indecision.

*Conclusion.* The five factors found to be descriptive of the career development of college student-athletes are not descriptive of the career development in this sample of predominantly African-American, male, inner-city, low SES, high school athletes. Results of an exploratory factor analysis yielded a two factor model which resulted in the

creation of a new career development measure called the C-PLAN. Interestingly, however, while not all five factors were distinctly found within the sample population, four of the five were significantly tapped. Career versus Sport Identity, Locus of Control, and Barriers were identified on the Career Development Challenges factor of the C-PLAN. Five of the six items on the CDMSE factor of the SACSI related to the Strengths factor of the C-PLAN. Two items from the Career vs. Sport Identity and Sport to Work Relationship factors were also related to the Strengths factor.

*Research Question Number Two: Do the factors found on the SACSI significantly predict career development attitudes over and above demographic variables including age and highest number of years played in one sport?*

As the previous analysis indicated, the five factors of the original SACSI were not indicative of the career development of the sample of high school student-athletes included in this study. Instead, two factors of the C-PLAN were identified. With that, the above question was reframed to ask: Do the factors on the C-PLAN, Career Development Challenges and Career Development Strengths, significantly predict career development attitudes over and above age and highest number of years played in one sport?

*Demographic Variables.* A sequential regression analysis was conducted to address the second research question. The results of the analysis suggest that age and highest number of years played in one sport, together entered in the first block, did not account for a significant amount of variance in career planning attitudes ( $R^2=.101$ ,  $F=9.819$ ). Age, individually in the same block, however, did account for a significant amount of variance in career planning ( $\beta=.313$ ,  $p<.05$ ). Although no empirical studies confirm the result above, it was hypothesized that, theoretically, older student-athletes

would have higher levels of career planning attitudes due to higher levels of exposure to career development activities including meetings with guidance counselors to discuss career options, work experiences, internship experiences, and other career related learning experiences.

*C-PLAN Factors.* Career Development Challenges and Career Development Strengths were entered in the second block. Together, the addition of Challenges and Strengths significantly accounted for 27% of the variance in the full model including age and highest number of years played in one sport entered in the second block (total adjusted  $R^2=.266$ ,  $F=17.016$ ,  $p<.001$ ). Within the second block, the addition of Career Development Challenges failed to account for a significant amount of variance of career attitudes, although the addition of Career Development Strengths in the second block was significant ( $\beta=.402$ ,  $p<.05$ .)

The regression analysis yielded important results of this study. That is, first, Career Development Challenges and Career Development Strengths, together, predicted the career preparation of high school students. Second, Career Development Strengths, alone, significantly predicted one's curiosity about careers and readiness level to engage in career exploration activities. The Career Development Strengths factor is most similar to the CDMSE factor of the SACSI such that five of the six items on CDMSE scale overlap with the Strengths subscale. Evidence of the predictive nature of the Strengths factor extends previous research that suggest that CDMSE contributes to higher levels of career maturity, career locus of control, higher levels of self-esteem, and higher levels of academic achievement (Korspan & Etzel, 2001, Brown et al., 2000, Creed et al. 2004).

*Conclusion.* Ultimately, the two factors of the C-PLAN, Career Development Challenges and Career Development Strengths together, significantly predicted career planning attitudes above and beyond demographic variables including age and highest number of years played in one sport. Overall, the full sequential regression model accounted for 27% of the variance in career attitudes (total adjusted  $R^2=.266$ ,  $F=17.016$ ,  $p<.001$ ). The significance of the above results indicate that high school student-athletes need on-going assessment of career development strengths and challenges in order to foster adequate career preparation.

#### *Strengths and Limitations*

*Strengths.* This study has several strengths. First, a common theme evident throughout the literature is the lack of empirical research that examines the career development of high school athletes. Collecting data in high schools is not a simple task, and thus, is seen as strength of this study. Many preliminary steps have to be taken before access to students is granted. Support and consent from school districts, school principals, school personnel, and parents of students under the age of 18 years old must be obtained. Perhaps one of the reasons for the scarcity of information on this population is the difficulty in conducting research, especially as an external versus an internal researcher. That is, a school teacher may encounter less difficulty collecting data in the school than a doctoral student who has no affiliation with the organization. Further, samples comprised of predominantly African-American, low SES student-athletes, such as the one in this study, are almost non-existent. Thus, the data generated by this research study provides us with valuable information about how members of this population approach career planning.

Second, this study provides preliminary psychometric data for a new measure of career development for high school student-athletes. No prior research has focused on the development of such a measure for this population. This new instrument, the C-PLAN, contains two factors: Career Development Challenges and Career Development Strengths. As previously noted in this chapter, the Challenges factor relates to several different factors of the original SACSI that are pertinent to this population including time as a barrier, an external locus of control, and identification with the athlete role over and above the student role. The presence of a Strengths factor, which was found to be similar to the CDMSE factor of the SACSI, is critical to the sample population as it has been related to vocational outcome expectations in low SES high school students. Furthermore, CDMSE has been found to be related to hours of sport activity, athletic identity, and career exploration activities with college student-athletes.

*Limitations.* As with most research studies, this study has several limitations. There are four major limitations: 1) generalizability of results, 2) a relatively small sample size, 3) lack of validity data, 4) and lack of variation in postsecondary plans. These limitations are further explained in the following paragraphs.

To begin, this study intentionally targeted mostly African-American male student-athletes who attend high schools situated in urban, low SES environments. As discussed previously, this is one of the study's strengths. Yet, the inclusion criteria for participants limit the extent to which the results of the study are generalizable to the overall high school student-athlete population. Participants' involvement in the Play It Smart program may also influence sample bias, thus, also effecting generalizability of results.

One of the major limitations of the study is the small number of participants obtained. As noted in Chapter 4, the sample size obtained is smaller than what is typically recommended when conducting exploratory factor analysis. According to Tabachnick and Fidell (2001), a sample of 200 participants is deemed fair. They further recommend a participant-item ratio of 10 to 1. For this study, an ideal sample size would be about 300 participants, given that the original SACSI has 30 items.

Next, while the C-PLAN was found to be a reliable instrument, our study does not assess the extent to which the C-PLAN is valid. Given that this sample of high school student-athletes was asked to complete 76 items on three questionnaires, concerns about short attention spans and willingness levels to complete additional surveys were taken into consideration. The researcher ultimately decided not to include validity instruments for fear of a low response rate.

The final limitation of this study is that the measure of postsecondary plans did not result in clearly defined groups, and thus, the proposed logistic regression analysis was not conducted. Students were given seven options for plans after high school. Of these seven, two main groups were formed: a training group and a no training group. Of the 178 participants, 172 were included in the training group (college of some sort after high school) and 6 were included in the no training group (no college after high school).

#### *Implications for Research and Practice*

*Research.* The factor analysis included in this study resulted in the creation of a two factor career development instrument that reflects both challenges and strengths for a predominantly African-American, male, inner-city, high school student-athlete population. High scores on the Career Development Strengths factor were significantly

associated with career planning attitudes which were measured by the Career Planning scores on the CDI (S) form for the sample population. Further, the presence of this factor confirms Sandstedt et al.'s (2004) finding of a Career Development Self-Efficacy factor in their college student-athlete population. As discussed throughout this entire paper, the benefits of examining Career Development Strengths, similar to career decision-making self-efficacy, is critical to understanding career development attitudes in this population. Continued investigation of strengths related to career decision-making is warranted as past research related the construct to both career and non-career related variables that may be useful with students from low SES, urban communities such as those where Play It Smart participants reside. Future research should include an examination of CDMSE levels for both male and female high school student-athletes in urban, suburban, and rural areas.

Some of the noted challenges of students in this study were barriers to time allotted to engage in career activities, the influence of others on career interests and identification of career skills, and one's identification with the athlete role over the student role. The presence of the Career Development Challenges factor suggests that future research should include an investigation of locus of control, barriers, and athletic and career identity with high school student-athletes. Though student-athletes' career barriers were not found to significantly contribute to the variance in career planning, further assessment of career barriers seems important as they may have a negative effect on one's career indecision level. Indeed, the two factors of the C-PLAN are moderately related, indicating that the two factors share some common variance. Constantine et al. (2005) found that in a general (non-athlete) high school student population, perceived

career barriers significantly and positively predicted career indecision ( $F=12.68, p<.001$ ). Furthermore, although highest number of years played in one sport did not predict career planning attitudes in this study, it continues to warrant further exploration. As measured in this study, we were not able to assess reliably the number of years participants played in sports. We maintain that it is reasonable to assume that the amount of time athletes devote to sports has an effect on one's athletic identity as well as one's ability to devote time to career exploration. Future recommendations for a more accurate account of number of years played in sport may include asking participants to note their most significant sport(s) played and the amount of time spent in that sport(s).

Given our inability to identify well-differentiated groups relative to postsecondary plans, an examination of the C-PLAN factors and demographic variables was not conducted. It is recommended that future studies include more defined options for postsecondary planning. That is, instead of providing a number of overlapping plans as included in this study (i.e., seven options with choices including: get a part time job only; get a part time job and go to college/technical school, go to college and get a college degree), fewer options will be provided to allow for clear distinction in groups.

Future research should also include an examination of the effects of the Play It Smart program on participants' career development levels. Particularly, how does the career development of those involved in the program differ from those who are not involved in the program? Relatedly, since the results of this study do not generalize to the overall high school student-athlete population, it would be beneficial to administer the C-PLAN with the general high school student-athlete population (including males and



females), and test the effects of the two factors, Career Development Challenges and Career Development Strengths, on athletes' career preparation levels.

This study provided only a partial assessment of SCCT. Ethnic and gender differences should be studied to conduct a full examination of SCCT. Additionally, a more thorough examination of the data informed by SCCT will warrant an investigation of outcome expectations with this population.

Finally, parents and guardians alike are critical to future examinations of the career development of predominantly African-American, male, low SES high school student-athletes. Guardians are important to include in the career development equation as today, many African-American adolescents are raised by adults other than their parents (grandparents, aunts, uncles, foster parents, and family friends). Previous research indicates that social supports, including kinship and parental/guardian supports, are significant to the academic pursuits of African-American college students and high school students in low SES communities (Ali et al., 2005; Hyatt, 2003; Kenny, 2003). An examination of socioeconomic status and support system would add value to the research with this population, particularly parental/guardian support.

*Practices.* Previously in this chapter, the three major results of the present study were summarized: 1) the evidence of a two-factor model career instrument called the C-PLAN, 2) the finding that Career Development Challenges (CDC) and Career Development Strengths (CDS), together, significantly predicted career planning attitudes, and 3) the result that CDS, alone, significantly predicted career planning attitudes. Practical implications for such results are explained below.

The C-PLAN is a measure that assists high school student-athletes in the identification of career related challenges (i.e. time) and career related strengths (i.e. mental edge). Adults including parents, teachers, and coaches can assist student-athletes' in this identification process through several methods including discussions and career development exercises and activities. An example of one such career activity is the administration of the C-PLAN. As student-athletes become more aware of their career development challenges and career development strengths, they may develop better insight regarding their career interests, skills, and values. Their curiosity about careers may increase as their participation in career exploration activities increases.

Career development self-efficacy levels, also know as Career Development Strengths in the present study, were deemed critical to the career planning attitudes of the sample population. This finding has also been supported by previous research that related higher CDMSE levels to increased career maturity, decreased barriers levels, and vocational outcome expectations (Ali et al., 2005; Brown et al., 2000; Korspan & Etzel, 2001). Particularly in inner-city environments where positive reinforcement may be lacking in homes, schools, and communities, it is critical that low SES students develop increased efficacy levels regarding career issues which will help them to understand their potential to achieve academic and career success. Efforts aimed at increasing career development self-efficacy with this population seem critical.

In order to achieve levels of success in these areas, it is important for adults assisting these athletes to adhere to the African proverb that "it takes a village to raise a child." The following and final section of this paper describes members of that village and provides recommendations.

### *Recommendations*

The following recommendations are informed by my knowledge gained from the literature, results of the present study, and my experience as a former Academic Coach with the National Football Foundation's Play It Smart program. Through these channels, I have developed a clearer understanding of the career development process for high school student-athletes, particularly male, African-American, inner-city, low SES adolescents. In addition to learning about the students' athletic aspirations, I discovered the pathways through which these students come to know more about themselves via the career development field. This exploration process can be honed by students and adults within the lives of these athletes. As previously noted, below is a description of the "village" that it will take to aid in the identification of career development strengths and challenges for student-athletes.

The application of the results of the present study are important to various constituents involved in the career development process of predominantly African-American, male, inner-city, high school student-athletes. Particularly, adults in the lives of these students, and the students themselves are critical to the exploration of challenges, strengths, career planning attitudes, and postsecondary planning of this group. In his article titled "Counseling the High School Student-Athlete," Goldberg (1991) discusses the "athletic triangle." The athletic triangle includes the athlete, coach, and parent. While these three persons are important to the partnership and promotion of the well-being of student-athletes, I propose an updated version of this model of athletic support and have renamed it the "Penta-Sport" model (See Figure 1). The Penta-Sport model includes five key components to the development, particularly the career development, of the inner-

city, African-American high school student-athlete: a) athletes, b) parents/guardians, c) coaches, d) helping professionals, and e) mentors. Prior research indicates that social support was more important to African-American's positive academic performance than prior academic success (Petrie, 1993). In light of such findings, the support of others is critical to the development of this group.

Gibbons (2004) wrote an article that discusses the first generation college student, constructs of SCCT including CDMSE, and techniques for high school counselors to assist in the career development process in this population. Interestingly, her description of first-generation college students fits the description of the sample population included in this study. That is, although not assessed in the demographic questionnaire, most of the participants' parents probably did not attend college. Furthermore, as Play It Smart programs are strategically placed in low SES communities, it is expected that participants were members of low SES families, and as assessed, were African-American (Gibbons, 2004). Similar to first generation college students, students in this population also have a strong desire to attend college evidenced by the 97% of students who planned to attend institutions of higher education (Solorzano; 1992; Valadez, 1998).

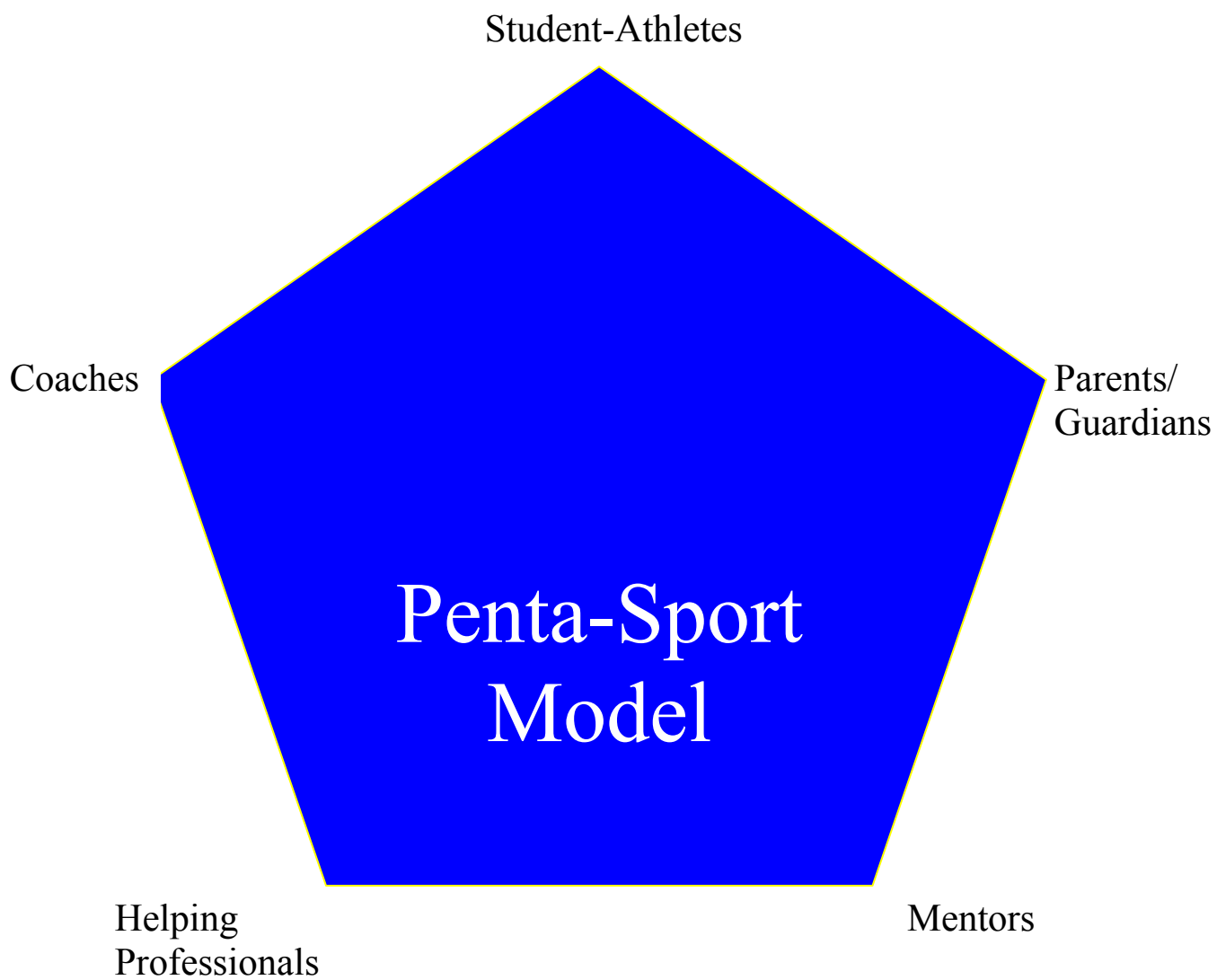


Figure 1. Penta-Sport Model

It is critical that the adults included in the Penta-Sport model help students identify barriers to and build upon strengths that assist in the career development process of the sample population. Research that highlights the effects of barriers and strengths on the career development of high school student-athletes suggest that vocational assessment, guidance, and exploration are important activities that lead to enhanced levels of career decision-making self efficacy and career planning. In order to enhance these areas, adults included in students' personal, academic, and sport environments are key players. The following paragraphs explain the role of each constituent identified in the aforementioned Penta-Sport model.

First and foremost, parents/guardians are the primary line of support for student-athletes. Parental/guardian involvement, whether it be simple at-home career conversations with their children or meetings with school staff and coaches regarding their child's career development, can help students identify career challenges, strengths, and future career plans and aspirations. Previous research indicates that students who have increased family support also have lower perceived career barriers and higher career self-efficacy beliefs (Kenny et al., 2003; Creed et al., 2003; Ali et al., 2005). Because students' identified time as a barrier to gaining career information or participating in career development activities, parents could help by assisting with time management skills. Furthermore, they could take a more hands on approach and assist in the career development process by attending information sessions regarding various careers, the college application process, financial aid, and career exploration (Gibbons, 2004; Goldberg, 1991).

Coaches are another key component in the career development of high school student-athletes. Coaches tend to have a major influence on athletes' decisions, whether athletic, career, or personal in nature. This influence can be used to the advantage of their players. While working as an Academic Coach, I found that student-athletes were more likely to engage in planned career development activities "if the coach said so." With that, coaches could collaborate with others including Play It Smart Academic Coaches, guidance counselors, and parents/guardians to plan and implement career related activities such as job shadowing days, college visits, and career panel speakers. Coaches could also assist and encourage the identification of athletic transferable skills honed by players that can be used on the playing field as well as in more traditional work settings.

When addressing the support of helping professionals, this group includes teachers, guidance counselors, school administrators, career counselors, and psychologists. Teachers can assist in the identification of career challenges, strengths, and career planning attitudes by adding components of career development in their daily lesson plans. For example, an English writing assignment could require students to write an essay about a career field of interest, and also include students' perceived barriers to entry into the field, and students' identified strengths and skills that would help them gain access to the field. In a more direct effort to increase career decision making self-efficacy, teachers could help students' identify academic goals and set realistic expectations of such plans (Ormond, 1999). This includes setting goals that are not too high or too low for each individual student so that these goals are attainable, thus increasing one's self-efficacy.

Guidance counselors play a major role in the career development of high school student-athletes. Not only are they responsible to the student-athlete himself, they also serve as the mediator between all parties of the Penta-Sport model in assisting with the identification of career strengths, challenges, postsecondary plans, and career planning attitudes. In serving students individually, counselors may meet with students to discuss academic concerns, college admissions, barriers to career development, and strengths students' possess to reach their career goals. Counselors may use both standardized and unstandardized approaches to assessing students' strengths and barriers. For example, they may administer informal checklists or more formal assessments including the C-PLAN, My Vocational Situation, Perceived Barriers Scale, the CDMSES-SF, or the VESES.

Collaborative efforts between all members of the Penta-Sport model would be most beneficial to the career development of high school, urban, male, African-American student-athletes. One meaningful effort of the group would be to identify mentors for these students. Particularly, it would be helpful for parents, coaches, and school staff to introduce their students/children to people of color who are or have worked in careers of interests to students in this population. Many times African-American students do not explore various careers because of stereotypes that "Black people don't become..." (Gibbons, 2004). This thought may be provoked because students are unaware of other African-Americans who are or have been employed in such career fields. For this very reason, mentorship is crucial to the career development of this population.

The C-PLAN can be easily used by all members of the Penta-Sport model. Particularly, the instrument can be used by high school guidance counselors, career



counselors, school psychologists, Play It Smart Academic Coaches, and other community based organizations to assess the career development of high school student-athletes. This measure could be used as a pre and post measure or used periodically to reflect changes in the Career Development Challenges and Career Development Strengths of student-athletes. Additionally community programs staff (i.e. after school educational activities) can be trained to use the measure to examine student-athletes career development. Mentors could use this measure to learn how best to help their mentees identify their areas of improvement and their strong suits, and help students move along successfully in gaining access to particular career fields.

Last, but certainly not least, the student-athlete himself shares responsibility in his career development. Student-athletes have been viewed as a “privileged” group of students, expecting things to “just happen” for them because of their status. Students must become accountable, early, for their career outcomes and goals. As many of our African-American, inner-city, low SES high school student-athletes are faced with cognitive and environmental challenges to career development, it is important that their positive academic, athletic, and personal attributes are reinforced by adults around them, which will lead to increases in self-efficacy, decreased perceived barriers, a more internal locus of control, a balanced student-athlete role, and the identification of skills learned on the field/court that are suitable for traditional career settings. Similar to the sentiments of McGregor, Mayleben, Buzzanga, Davis, and Becker (1991) regarding first-generation college students, student-athletes, too, have the determination to succeed in college as do other college students. An examination of career development challenges and strengths

could help this population to obtain this success. Moreover, the increased development of career decision-making self-efficacy will lead to increased career preparation and readiness levels.

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**Appendix A**  
**Letter of Permission to Access Students**

Date:

Dear Dr. Maney:

The purpose of this letter is to confirm that at McKeesport Area High School, the school site where Amy Cammack intends to conduct her research as part of the requirements for completion of her doctorate in Counseling Psychology from Penn State University, I am aware of the scope of the investigation and agree to provide access to our high school students. I have discussed the nature of the research, data collection procedures, and plans for data analysis for her research entitled: *An Examination of the Career Situations of Play it Smart Participants*, IRB# 23713. As the Athletic Director, I support this research and will allow her access to our students for data collection purposes. With regard to the data collection methods, I understand that the athletic coaches have agreed to assist Ms. Cammack in the recruitment of parents of minor students and adult students to the research only. Coaches will not be involved in obtaining parental consent or collecting data. I also understand that the data will be collected during study hall periods and that Dr. Tinsley, Play It Smart staff, will be responsible for picking up the completed questionnaires in the Head Football Coaches' office. The study hall teachers will not be actively involved in the recruitment or data collection procedures, rather, they will direct eligible students to a central location where the Play It Smart survey packets will be located, and where to drop off the completed questionnaires. These locations will be out of reach of other students during the study hall periods. These questionnaires also will be moved to a locked drawer in the office of the Head Football Coach at the end of the period and always transferred in sealed envelopes. If you have any questions or I may provide additional information, please feel free to let me know.

Sincerely,

Name of Administrator  
Address  
Telephone  
Fax  
Email



## **Appendix B Parental Recruitment Notice**

### An Examination of the Career Situations of Play It Smart Participants

Amy S. Cammack is a Ph.D. candidate at the Penn State University, and a former Academic Coach for the Play It Smart program at Westinghouse High School located in Pittsburgh, PA. She is currently conducting a research study to examine the career situations of Play It Smart participants.

Your child's participation is voluntary; he can choose whether or not he would like to participate in this project. He can refuse to participate in this study, and his decision will not affect his status with Play It Smart in any way. All male students who are current Play It Smart participants are eligible to participate. If your child is under 18 years old, he must obtain parental consent in order to participate. Only those parents *who are not willing to allow their child's participation* in the research should complete both copies of parental consent form and return one signed copy to the school. If you do not return this form and your child agrees to participate, then he will be asked to complete three questionnaires: a demographic questionnaire, the Student-Athlete Career Situation Inventory, and the Career Development Inventory-High School version during the normal school day. Filling out the forms will take approximately 20 minutes.

All participants will be entered in to a drawing where he will be eligible to win 1 of 4 \$50 gift certificates to Best Buy, Footlocker, FootAction, and Wal-Mart.

If you wish to have your child participate in this study, please return your parental consent form and put it in this designated box by February 10, 2007. If you have any questions regarding the study, please feel free to contact Ms. Cammack at 310.825.0768.

ORP USE ONLY: IRB# <b>Doc.#1</b> The Pennsylvania State University Office for Research Protections Approval Date: 01-26-2007 DWM Expiration Date: 07-30-2007 DWM Social Science Institutional Review Board
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## Appendix C Parental Passive Assent

### Parental Information Form for Social Science Research The Pennsylvania State University

**Title of Project:** An Examination of the Career Situations of Play It Smart Participants

**Principal Investigator:** Amy S. Cammack, M. A.  
221 Westwood Plaza Mail Code: 155606  
Box 951556 Los Angeles, CA 90095-1556  
(310) 825-0768; asc163@psu.edu

**Advisor:** Dr. Kathleen Bieschke, 327 CEDAR Building,  
University Park, PA 16802,  
(814) 865-3296; kbieschke@psu.edu

**Other Investigator(s):** Dr. Taunya Tinsley and Ms. LaLisa Anthony

1. **Purpose of the Study:** The purpose of this study is to examine the career situations of Play It Smart program participants.
2. **Procedures to be followed:** Your child is being asked to participate in the Play It Smart research project. You are being asked to read the following information about the research prior to allowing your child to participate in the research project. **Only those parents *who are not willing to allow their child's participation in the research should complete both copies of this form and return one signed copy to school.*** Please be aware, if this form is not returned by XXX and your child agrees to participate in the study, he will then be asked to complete three questionnaires: a demographic questionnaire, the Student-Athlete Career Situation Inventory, and the Career Development Inventory-High School version during the normal school day.
3. **Discomforts and Risks:** There are no risks involved with your child's participation in this study beyond what would be found in normal daily living.
4. **Benefits:** The potential benefits of participating in the research project to your child and family include learning more about career planning and development levels.

5. **Duration/Time:** It will take approximately 20 minutes to complete the questionnaires.
6. **Statement of Confidentiality:** Your child's participation in this research is confidential. Only the person in charge, and his/her assistants, will know your or your child's identity. The data will be stored and secured in a locked file cabinet in the office of the principal researcher. The following may review and copy records related to this research: The Office of Human Research Protections in the U.S. Department of Health and Human Services, Penn State University's Social Science Institutional Review Board, and Penn State University's Office for Research Protections. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.
7. **Right to Ask Questions:** You or your child can ask questions about this research. Contact Amy S. Cammack, Principal Investigator, at (310) 825-0768 with questions. You can also call this number if you have complaints or concerns about this research. If you have questions about your rights as a research participant, or you have concerns or general questions about the research, contact Penn State University's Office for Research Protections at (814) 865-1775. You may also call this number if you cannot reach the research team or wish to talk to someone else.
8. **Payment for participation:** As a result of his participation in this study, your child will be entered into a drawing where he or she would be eligible to win *one of four \$50 gift* certificates to Best Buy, Footlocker, Wal-Mart, and Foot Action. The compensation your child receives for participation would be treated as taxable income and taxes will be taken from the total amount. This may require you to claim the compensation that you receive for participation in this study as taxable income.
9. **Voluntary Participation:** Your decision to participate or allow your child to participate in this research is voluntary. You or your child can stop at any time. You or your child do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will not affect you or your child's participation in Play It Smart program.

If you do not agree to the information noted above, please complete the following sections of the signatory page to represent disagreement to allow your child to participate. If student is over age 18, he or she may sign in place of the parent.

You will be given a copy of this signed and dated passive/opt out consent form for your records.

**INSTRUCTIONS: Only Parents / Guardians who DO NOT WANT THEIR CHILD(REN) TO PARTICIPATE IN THE *Play it Smart* Research Project should sign both copies and return one signed copy of this form to the school.** If you agree to

allow your child to participate, do not complete the information requested below. Simply retain this form for your future use.

---

1. **Name of Parent** (PLEASE PRINT)

---

2. Signature of **Parent** or **Adult** Participants 18 or Older

Date

---

3. **Name of child** (PLEASE PRINT)

---

4. Signature of Person Obtaining Consent

Date

## **Appendix D**

### **Participant Recruitment Notice**

#### An Examination of the Career Situations of Play It Smart Participants

Amy S. Cammack is a Ph.D. candidate at the Penn State University, and a former Academic Coach for the Play It Smart program at Westinghouse High School located in Pittsburgh, PA. She is currently conducting a research study to examine the career situations of Play It Smart participants.

Your participation is voluntary; you can choose whether or not to participate in this project. You can refuse to participate and your decision will not affect your status with Play It Smart in any way. All male students who are current Play It Smart participants are eligible. If you are under 18 years old, you must obtain parental consent in order to participate. Only those parents *who are not willing to allow their child's participation* in the research should complete both copies of parental consent form and return once signed copy to the school. Upon obtaining consent from your parents and you decide to participate, you will be asked to complete three surveys: a demographic questionnaire, the Student-Athlete Career Situation Inventory, and the Career Development Inventory-High School version during the normal school day. Filling out the forms will take approximately 20 minutes.

All participants will be entered in to a drawing where he will be eligible to win 1 of 4 \$50 gift certificates to Best Buy, Footlocker, FootAction, and Wal-Mart.

If you wish to participate in this study, and you are under 18 years old, please obtain parental consent by February 10, 2007. If you have any questions regarding the study, please feel free to contact Ms. Cammack at 310.825.0768.

## Appendix E Child Assent Form

ORP USE ONLY: IRB# **Doc.#2**  
 The Pennsylvania State University  
 Office for Research Protections  
 Approval Date: 01-26-07 DWM  
 Expiration Date: 07-30-07 DWM  
 Social Science Institutional Review

### Child Assent Form for Social Science Research The Pennsylvania State University

- Title of Project:** An Examination of the Career Situations of Play It Smart Participants
- Principal Investigator:** Amy S. Cammack, M. A.  
221 Westwood Plaza Mail Code: 155606  
Box 951556 Los Angeles, CA 90095-1556  
(310) 825-0768; asc163@psu.edu
- Advisor:** Dr. Kathleen Bieschke, 327 CEDAR Building,  
University Park, PA 16802,  
(814) 865-3296; kbieschke@psu.edu
- Other Investigator(s):** Dr. Taunya Tinsley and Ms. LaLisa Anthony

1. **Purpose of the Study:** The purpose of this study is to examine the career situations of Play It Smart program participants.
2. **Procedures to be followed:** Your parent(s)/guardian(s) were asked whether they would allow you to participate in the *Play it Smart* research project. Those parents who wished to remove their child(ren) from the research were given instructions to complete a parent form so that their child(ren) would not enroll in the research. If your parent signed and returned this type of form, you should not participate in the research project. If your parent/guardian **DID NOT complete and return this type of form**, it is OK for you to proceed and choose to participate. If you also agree to participate in the research study, you will then be asked to complete three questionnaires: a demographic questionnaire, the Student-Athlete Career Situation Inventory, and the Career Development Inventory-High School version during the normal school day.
3. **Discomforts and Risks:** There are no risks involved with your participation in this study beyond what would be found in normal daily living.
4. **Benefits:** The potential benefits of participating in the research project to you include learning more about career planning and development levels.

**5. Duration/Time:** It will take approximately 20 minutes to complete the questionnaires.

**6. Statement of Confidentiality:** Your participation in this research is confidential. Only the person in charge, and his/her assistants, will know your identity. The data will be stored and secured in a locked file cabinet in the office of the principal researcher. The following may review and copy records related to this research: The Office of Human Research Protections in the U.S. Department of Health and Human Services, Penn State University's Social Science Institutional Review Board, and Penn State University's Office for Research Protections. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.

**7. Right to Ask Questions:** You can ask questions about this research. Contact Amy S. Cammack, Principal Investigator, at (310) 825-0768 with questions. You can also call this number if you have complaints or concerns about this research. If you have questions about your rights as a research participant, or you have concerns or general questions about the research, contact Penn State University's Office for Research Protections at (814) 865-1775. You may also call this number if you cannot reach the research team or wish to talk to someone else.

**8. Payment for participation:** As a result of his participation in this study, you will be entered into a drawing where you would be eligible to win *one of four \$50 gift certificates* to Best Buy, Footlocker, Wal-Mart, and Foot Action. The compensation you receive for participation would be treated as taxable income and taxes will be taken from the total amount. This may require you to claim the compensation that you receive for participation in this study as taxable income.

**9. Voluntary Participation:** Your decision to participate in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will not affect your participation in Play It Smart program.

**Please note:** *Completion and return of the surveys implies that you and your parent/guardian have read the information in this form and consent to take part in the research.*

Please keep this form for your records or future reference.

## Appendix F Demographic Questionnaire

Age \_\_\_\_\_

Race \_\_\_\_\_ (Black, White, Latino, Asian, Native American,  
other, please specify)

Last Grade completed \_\_\_\_\_

What sports do you play?

How many years did you play?

Football	_____	_____
Basketball	_____	_____
Baseball	_____	_____
Wrestling	_____	_____
Swimming	_____	_____
Volleyball	_____	_____
Lacrosse	_____	_____
Tennis	_____	_____
Track	_____	_____

Postsecondary Plans: What do you plan to do after you graduate from high school?

- a) get a full-time job only
- b) get a full-time job and go to a college or technical school
- c) get a part-time job only
- d) get a part-time job and go to a college or technical school
- e) get technical training only
- f) go to college and get a college degree
- g) not going to college or getting a job.



**Appendix G**  
**Student Athlete Career Situation Inventory (modified)**

**Directions:** For each of the following statements, circle if you 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

1. I do not have enough time to explore potential career opportunities.	1	2	3	4	5
2. I have enough career-related information to make informed decisions about potential careers.	1	2	3	4	5
3. I am confident about my ability to find a career that satisfies me.	1	2	3	4	5
4. My athletic involvement does not allow me to explore career opportunities until my season is over.	1	2	3	4	5
5. I have a good understanding of the steps I need to take to find a career that satisfies me.	1	2	3	4	5
6. I have a strong interest in at least one career opportunity.	1	2	3	4	5
7. I am often too tired to explore my career interests.	1	2	3	4	5
8. I would be willing to explore the high school's career information.	1	2	3	4	5
9. Excelling in academics is as important to me as excelling in my sport.	1	2	3	4	5
10. I am an athlete first, student second.	1	2	3	4	5
11. Many job-related skills can be learned from experiences in sport.	1	2	3	4	5
12. I have many personal goals outside of sport.	1	2	3	4	5
13. It is difficult for me to think about careers because I am an athlete.	1	2	3	4	5
14. I believe that being an athlete makes me more suitable for certain careers.	1	2	3	4	5
15. My main reason for being at this high school is to participate in my sport.	1	2	3	4	5
16. My commitments as an athlete do not get in the way of exploring career opportunities.	1	2	3	4	5
17. The time I have spent being an athlete has kept me from doing other things that might help me explore possible careers.	1	2	3	4	5
18. Being an athlete has helped me develop skills that will help me be successful in my desired career.	1	2	3	4	5
19. Being an athlete has influenced my thinking about what I might want to do for a career.	1	2	3	4	5
20. In choosing a career path, I am more concerned about what is easiest to manage with my athletic commitment than about what really interests me.	1	2	3	4	5
21. Most of the career decisions I make are strongly influenced by what others may suggest.	1	2	3	4	5
22. Being a professional athlete is the only career that interests me.	1	2	3	4	5
23. I have a good sense of careers that interest me.	1	2	3	4	5
24. I am more concerned with just graduating, rather than being focused on a particular career field.	1	2	3	4	5
25. I am happy with my current career interests.	1	2	3	4	5
26. I feel pressure from others to pursue a particular career.	1	2	3	4	5
27. I am pursuing a certain career only because others have told me I would be good at it.	1	2	3	4	5
28. I am focusing more on preparing for a career than on becoming a professional athlete.	1	2	3	4	5
29. Because I am an athlete, I have a mental edge that others might not have.	1	2	3	4	5
30. I feel that in my sport, I am encouraged more to achieve success in academics than in athletics.	1	2	3	4	5

## Appendix H

### The Career Development Inventory-S Form

#### Part 1. Career Orientations

##### A. CAREER PLANNING

How much thinking and planning have you done in the following areas? For each question below, circle the answer that best tells what you have done so far.

##### 1. Finding out about educational and occupational possibilities by going to the library, sending away for information, or talking to somebody who knows

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

##### 2. Talking about career plans with an adult who knows something about me.

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

##### 3. Taking classes that will help me decide what line of work to go into when I leave college or university.

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

##### 4. Taking classes which will help me in college, in job training, or on the job.

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

**5. Taking part in school or out-of-school activities which will help me in college, in training, or on the job.**

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

**6. Taking part in school or after school activities (for example, science club, school newspaper, volunteer nurse's aide) that will help me decide what kind of work to go into when I leave school.**

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

**7. Getting a part-time or summer job that will help me decide what kind of work I might go into.**

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

**8. Getting money for college or for job training.**

A. I have not yet given any thought to this.
B. I have given some thought to this, but haven't made any plans yet.
C. I have some plans, but am still not sure of them.
D. I have made definite plans, but don't know yet how to carry them out.
E. I have made definite plans, and know what to do to carry them out.

**9. Working out problems that might make it hard for me to get the kind of training or the kind of work I would like.**

- |  |
|--|
| A. I have not yet given any thought to this.                             |
| B. I have given some thought to this, but haven't made any plans yet.    |
| C. I have some plans, but am still not sure of them.                     |
| D. I have made definite plans, but don't know yet how to carry them out. |
| E. I have made definite plans, and know what to do to carry them out.    |

**10. Getting the kind of training, education, or experience I will need to get the kind of work I would like.**

- |  |
|--|
| A. I have not yet given any thought to this.                             |
| B. I have given some thought to this, but haven't made any plans yet.    |
| C. I have some plans, but am still not sure of them.                     |
| D. I have made definite plans, but don't know yet how to carry them out. |
| E. I have made definite plans, and know what to do to carry them out.    |

**11. Getting a job once I have finished my education and training.**

- |  |
|--|
| A. I have not yet given any thought to this.                             |
| B. I have given some thought to this, but haven't made any plans yet.    |
| C. I have some plans, but am still not sure of them.                     |
| D. I have made definite plans, but don't know yet how to carry them out. |
| E. I have made definite plans, and know what to do to carry them out.    |

**12. Doing things that will help me be a good worker, one who is most likely to be sure of a job.**

- |  |
|--|
| A. I have not yet given any thought to this.                             |
| B. I have given some thought to this, but haven't made any plans yet.    |
| C. I have some plans, but am still not sure of them.                     |
| D. I have made definite plans, but don't know yet how to carry them out. |
| E. I have made definite plans, and know what to do to carry them out.    |

The next questions concern the kind of work you would like to do when you complete your education. At this stage, you probably have not definitely decided on a specific occupation, but you probably can think of a field or type of job you would like to work at. Keeping in mind the type of job you think you might like to be in after you finish your schooling, choose the one best answer that tells the amount of knowledge you already have about these jobs.

**13. What people really do on the job.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**14. The abilities needed for the occupation.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**15. The working conditions on such jobs.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**16. The education or training needed to get such a job.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**17. The need for people on that kind of job in the future.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**18. Different ways of getting into that occupation.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**19. The chances of advancing in that kind of kind of job or occupation.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

**20. What sort of working day and work week the future might have in that occupation.**

A. <i>Hardly</i> any knowledge.
B. A little knowledge.
C. An <i>average amount</i> of knowledge.
D. A <i>good deal</i> of knowledge.
E. A <i>great deal</i> of knowledge.

## VITA

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### EDUCATION

Ph.D.	Counseling Psychology	The Pennsylvania State University	August 2007
M.A.	Community/Career Counseling	University of Maryland College Park	May 2001
B.A.	Communications/English	University of Pittsburgh	April 1999

### CAREER COUNSELING EXPERIENCE

#### Academic Coach/Consultant

National Football Foundation and  
College Hall of Fame April 2005-June 2006

#### Career Counselor

Career Services, Penn State University August 2002-May 2005  
George Washington University Law School June 2001-June 2002  
University of Maryland College Park July 1999-May 2001

#### Assistant Career Coordinator

University of Pittsburgh December 1997-April 1999

### CLINICAL COUNSELING EXPERIENCE

#### Psychology Intern

UCLA Student Psychological Services August 2006-Present

#### Therapist

Auberle, Center for Families and Children September 2005-August 2006

#### Practicum Counselor

PSU Counseling and Psychological Services May 2003-May 2004  
CEDAR Clinic September 2002-May 2003

### PUBLICATIONS AND PRESENTATIONS

Cammack, A. S. (2005, October). The impact of race and socioeconomic status on the student athletes' career development process. Paper presented at the 2005 Diversity Challenge Conference, Boston, Massachusetts.

Worrell, F. C., & Cammack, A. S. (2003, June). *The reliability and validity of scores on the Almost Perfect Scale-Revised with adolescents in Trinidad and Tobago.*

Paper accepted for presentation at the 2003 Hawaii International Conference on Social Sciences, Honolulu, Hawaii.

### PROFESSIONAL AFFILIATIONS

American Psychological Association (APA)  
Society for Vocational Psychology  
Delta Sigma Theta Sorority, Inc.