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Megan Parietti

University of Wisconsin-Parkside

Leeann Lower

Ball State University

Kristy McCray

Otterbein University

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Journal of Issues in **Intercollegiate Athletics**

The Career Readiness of Intercollegiate Athletes: Is There a Gender Gap?

Megan Parietti

University of Wisconsin-Parkside

Leeann Lower

Ball State University

Kristy McCray

Otterbein University

Career development is one of the major objectives of universities. It is well-known that intercollegiate athletes have many time commitments that make it more challenging for them to focus on their career development. To compound this issue, the effectiveness of career development efforts may be impacted by the gender of the intercollegiate athlete. The purpose of this study was to examine the career readiness of student-athletes, focusing on differences based on gender. This was accomplished through the lenses of the social cognitive career theory and career decision self-efficacy. A total of 137 intercollegiate student-athletes at a large Midwestern university completed a career readiness instrument. It was found that there were differences between genders in the intercollegiate athlete's perceived career readiness. Female intercollegiate student-athletes indicated lower levels of ability on career related skills, less confidence in their problem solving, higher levels of general indecisiveness about career choice, and a higher need for self-knowledge. There were similarities between the genders as well, such as the need for more career information and levels of career choice anxiety. Recommendations for programs to assist student-athletes in their career readiness and for areas of future research are provided.

Intercollegiate student-athletes within the United States are a unique population in that they are expected to prioritize and focus equally on the disparate and time-consuming roles of student and athlete (Harrison et al., 2009; Jolly, 2008; Mamerow & Navarro, 2014; Navarro, 2014; Simiyu, 2010; Woodruff & Schallert, 2008). This role conflict has been studied since the seminal works of Adler and Adler (1987) who explained that this conflict can impact many areas of an intercollegiate athlete's life, including career decision-making skills. One of the reasons that the roles of athlete and student conflict is because it can be challenging for intercollegiate athletes to balance the time commitment necessary to be successful as a student and as an athlete (Jolly, 2008; Martin, Harrison, Stone, & Lawrence, 2010; Singer, 2008). While the NCAA officially limits athletic related activities to 20 hours per week in-season, and eight hours per week out-of-season ("Defining countable athletically related activities," 2009), intercollegiate student-athletes often devote more than 30 hours a week toward their sport between practices, strength and conditioning training, travel, meetings, and competition (Ayers, Pazmino-Cevallos, & Dobose, 2012; Comeaux, 2010; Wolverton, 2008). As a result, many intercollegiate student-athletes feel it is necessary to focus more on their sport than their academics because of their athletic demands (Comeaux, 2010; Despres, Brady, & McGowan, 2008; Simiyu, 2010). Singer (2008) found that African-American football student-athletes did not think the term "student-athlete" was accurate because they spent more time on their athletics. These athletes believed the time they devoted to football was detrimental to their educational development. Tyrance, Harris, and Post (2013) found similar results from a study of Division I student-athletes from 17 different sports that indicated intercollegiate student-athletes were less optimistic about their potential careers when they devoted themselves to their sport.

When considering both sport and school responsibilities, it may be difficult for intercollegiate student-athletes to obtain formal work experience (Valentine & Taub, 1999). Valentine and Taub (1999) explained that intercollegiate student-athletes have limited opportunities to explore their career options because they do not have much discretionary time available for part-time jobs or internships. Intercollegiate student-athletes may also choose to focus on their athletics instead of exploring their career options (Houle & Kluck, 2015). Navarro (2014; 2015) found similar results with Division I student-athletes from 15 different sports. Through Navarro's qualitative studies, student-athletes shared their selection of a major was impacted by the time constraints of their sport, and this ultimately could impact their career choice. The lack of work experience and exploration of careers can impact the student-athlete's career maturity. Career maturity refers to how prepared a person is to handle the appropriate career demands for their age group (Keller & Whiston, 2008). Researchers have found intercollegiate student-athletes have lower career maturity attitudes than non-athletes (Linnemeyer & Brown, 2010), and when they had a higher athletic identity, intercollegiate student-athletes also had lower career maturity (Houle & Kluck, 2015). In addition, intercollegiate student-athletes were not as prepared for the workforce, nor did they have as strong of a focus on getting a job (Linnemeyer & Brown, 2010). In contrast, Fogarty and McGregor-Bayne (2008) found no difference between student-athletes and non-athletes on career indecision, meaning they were similar in their ability to choose a career. Their study took place in Australia, while the Linnemeyer and Brown study was conducted in the United States; it is

possible that cultural differences between the two countries could explain their differing results. Considering the different findings from researchers, it is possible that student-athletes are as likely as non-athletes to have decided on a career, but they are still less prepared to start a career.

One area that career development researchers have rarely examined is gender differences among intercollegiate student-athletes in their perceived career readiness. This is an important area to study because previous research has indicated that there are gender differences in regards to career readiness amongst the general collegiate student population (Lent & Brown, 2013; Luzzo, 1995; Patton & Creed, 2001; Stringer & Kerpelman, 2010). As stated earlier, intercollegiate student-athletes are a unique population. This study helps to address the lack of research in the area of career readiness for intercollegiate student-athletes. The purpose of this study was to examine the career readiness of intercollegiate student-athletes focusing on gender differences. This was done through the lenses of the social cognitive career theory (SCCT) and career decision self-efficacy (CDSE).

Literature Review

Social Cognitive Career Theory

Social cognitive career theory (SCCT) was originally introduced by Lent, Brown, and Hackett (1994), and since then, many career researchers have used the theory to investigate career development and overall career readiness for individuals of varying ages (Conklin, Dahling, & Garcia, 2013; Inda, Rodríguez, & Peña, 2013). SCCT posits that a person's individual and background factors impact their learning experiences, and those experiences in turn affect self-efficacy and expectations for career outcomes (Conklin et al., 2013; Cunningham, Bruening, Satore, Sagas, & Fink, 2005; Gibbons, & Shoffner, 2004; Inda et al., 2013; Lent et al., 1994; Wright, Jenkins-Guarnieri, & Murdock, 2012). Self-efficacy and outcome expectations then "lead to goals, actions, and performance attainments" (Wright et al., 2012, p. 40). An example of an individual factor that might have an impact on experiences is gender (Gibbons, & Shoffner, 2004; Lent et al., 1994).

SCCT has also been utilized with the general college student population. Conklin et al. (2013) applied SCCT to the relationship between academic major and career outcome expectations. They found that affective commitment to a major was indirectly related to outcome expectations as it was mediated by career decision self-efficacy, explained later. Cunningham et al. (2005) "used SCCT to examine student intentions to enter the sport and leisure industry" (p. 125). Their findings supported SCCT's assertions that cognitive-person variables impact career choice. Gibbons and Shoffner (2004) proposed that SCCT could be utilized to assist first-generation college students with their college careers. Yeagley, Subich and Tokar (2010) examined female students' interest in leadership roles. Inda et al. (2013) utilized SCCT to predict Spanish college students' interests and goals in regards to engineering. They found that the theory was very effective for their purposes.

Limited research has used SCCT to examine individuals who work in sport or athletes. Cunningham, Doherty and Gregg (2007) utilized SCCT to examine how gender influences an individual's intentions to become a collegiate head coach. They found that in regards to being a head coach, men had greater self-efficacy, expected more positive outcomes, and possessed greater interest in being a head coach. Only one recent study was found to address SCCT in regards to athletes. Demulier, Le Scanff, and Stephan (2013) examined the career planning of

elite athletes through the lens of SCCT. These researchers felt that SCCT was valuable because it “emphasizes the importance of individual differences in career planning” (p. 342), and it is “widely supported by research focusing on the prediction of career planning in the academic domain” (p. 343). They found when the participants made effort to consider their careers, they were better at making career plans.

Researchers have found that SCCT is a valuable theory for considering career readiness. While many researchers have used SCCT to examine the general student population, very few have utilized it with the unique population of intercollegiate athletes. In fact, no studies were found in our research that tied the theory to intercollegiate athletes. This is a large gap in the research about the career readiness of intercollegiate athletes because it considers individual factors, self-efficacy, and expectations which have all been shown to impact career readiness. This is one of the gaps in the literature that this study fills.

Career Decision Self-Efficacy

Several researchers discovered that self-efficacy is an important part of career readiness through helping individuals make career decisions (Houle & Kluck, 2015; Lent et al., 1994; Quimby & DeSantis, 2006). Self-efficacy refers to an individual’s judgment of his or her ability to complete a course of action that is required to attain a desired performance level (Lent et al., 1994). Lent et al. (1994) shared that self-efficacy was one of the most studied topics in the career literature. They explained that self-efficacy assists the individual in his or her decision making about what activities to pursue, what environments to enter and the effort and persistence that is put forth into an action. Quimby and DeSantis (2006) learned that self-efficacy accounted for a significant part of the variance in career choice for the female psychology students at a Mid-Atlantic university that participated in their study. Yeagley et al. (2010) found that when undergraduate women had higher levels of self-efficacy, they were more likely to have the goal to reach a position of leadership.

One area of self-efficacy that career researchers have begun examining is career decision self-efficacy (CDSE). CDSE is having the confidence to make career decisions based on the self, goals, and career opportunities (Burns, Jasinski, Dunn, & Fletcher, 2013; Stringer & Kerpelman, 2010). CDSE includes the dimensions of:

- (a) accurate self-appraisal (being realistic about one’s skills, abilities, strengths), (b) problem solving (ability to deal with problems related to career decisions), (c) planning (having a plan for ways to obtain career goals), goal selection (having goals), and (d) gathering occupational information (seeking information about occupations available) (Stringer & Kerpelman, 2010, p. 183).

It has been found that an increase in CDSE is tied to a decrease in self-defeating thoughts in regards to a career (Grier-Reed, Skaar, & Conkel-Ziebell, 2009).

In reference to intercollegiate athletes, it has been discovered that when athletes are satisfied with their university’s academic support services, they usually had higher levels of CDSE (Burns et al., 2013). This was more likely to be true “for student athletes with a more external locus of control and lower levels of general self-efficacy” (Burns et al., 2013, p. 165). If an intercollegiate athlete already had higher levels of self-efficacy, then academic support services had less of an impact on their CDSE. Researchers have also found that Portuguese club

athletes who had a higher athletic identity also had higher CDSE (Cabrita, Rosado, Leite, Serpa & Sousa, 2014). Houle and Kluck (2015) found that for Division I intercollegiate athletes, a higher level of CDSE also had greater career maturity. CDSE has also been applied to the general collegiate student population. Komarraju, Swanson, and Nadler (2014) found with their sample of students from a psychology course that “increased career decision self-efficacy is a significant predictor of self-determined motivation, satisfaction with the [psychology], and satisfaction with the major” (p. 428). As intercollegiate athletes are also expected to be students, they may see similar benefits from increased CDSE.

Gender and Career Readiness

Lent and Brown (2013) shared that “educational and career-relevant resources are often differentially conveyed to children and adolescents on the basis of how key social agents respond to their gender” (p. 563). This means it is possible that individuals of different genders may receive different guidance and information during their career development. Research has been split as to whether this is true and how it might play out (Patton & Creed, 2001). Some researchers found that women surpass men in their career readiness when they are at the same education level (Luzzo, 1995; Luzzo & McWhirter, 2001; Stringer & Kerpelman, 2010; Wright et al., 2012) while other scholars have concluded the opposite, that men demonstrate better career readiness aspects, such as career decision self-efficacy and confidence in abilities (Fogarty & McGregor-Bayne; 2008; Inda et al., 2013; Luzzo, 1995; Wilson, Kickul, & Marlino, 2007). Still other researchers found no gender differences (Choi et al., 2012).

Some researchers also discovered that collegiate women are further in their career readiness than men. Stringer and Kerpelman (2010) learned that women had a higher “identification with career identity commitment” (p. 194). This meant that women were more likely to have committed to a career of their choice, and begun to identify themselves with that career. Other researchers found that women have higher odds of succeeding academically (Wright et al., 2012). Luzzo (1995) and Houle and Kluck (2015) discerned that female students scored themselves higher on measures of career maturity. Luzzo and McWhirter (2001) shared that the male and female students in their study had equal confidence that they could cope with and overcome barriers to their chosen career. The female teenagers in a study by Patton and Creed (2001) also produced higher levels of career knowledge than their male counterparts.

On the other hand, some researchers found that women are behind men with their career readiness, or they may have more barriers in the way of their career readiness. Fogarty and McGregor-Bayne (2008) shared that they uncovered elite Australian female athletes to have lower CDSE than their male counterparts. They also found that the women were less confident in their ability to make career decisions, and further hypothesized that the female athletes knew less about jobs in the sport field (that would relate to the participation) which would lead to the findings. Other researchers also noticed women scored below men in regards to self-efficacy. For instance, Tyrance et al. (2013) concluded that Division I female intercollegiate athletes felt “uncomfortable with their level of career development” (p. 31). This may lead them to feel less confident in their career readiness. Elsewhere, Inda et al. (2013) explained that women had lower self-efficacy about their abilities in engineering. Moreover, Wilson et al. (2007) learned that women in middle school, high school, and an MBA program had significantly lower levels of self-efficacy when it came to entrepreneurship. Even women who were accepted into an MBA program at a top-ranked school were less confident in their abilities than men in the same

position (Wilson et al., 2007). Finally, in a study of 66 assistant coaches of Canadian intercollegiate women's teams, Cunningham et al. (2007) discovered that women had lower head coaching self-efficacy than men. Further, Hancock and Hums (2016) found in a qualitative study of 20 women in senior-level administrative positions at Division I athletics programs that "women may not perceive themselves as professionally qualified for high-level management" (p. 203). They discussed how this belief may discourage women from striving to become intercollegiate athletic directors.

Studies also suggested that women see more barriers in their career path than men. The female student respondents in a study by Luzzo (1995) mentioned more role conflicts and career barriers in the path of their career readiness than their male counterparts. In a later study, Luzzo and McWhirter (2001) concluded that women expected to receive more discrimination both with comments and with being hired based on their gender. This meant that they thought they would receive negative or sexist comments because they were females, and that they would face hiring discrimination based on their gender. Cunningham et al. (2007) found that women had more negative outcome expectations for a head coaching job. They shared that this "suggests that men, relative to women, anticipate more satisfaction, rewards, and approval from others associated with being a head coach" (p. 370). In a similar field, Hancock and Hums (2016) discovered that their female participants believed being a woman was a barrier to becoming an intercollegiate athletic director because of how they would be perceived by men. Tyrance et al. (2013) discovered that female intercollegiate athletes felt that they would not reach their maximum potential in their future careers.

Researchers further discovered that women may be behind men in regards to career knowledge and choices. For example, Patton and Creed (2001) found that female teenagers were more indecisive about career choices than males. They also noticed that as the girls got older (from 14 to 17) they became more indecisive about their career. Tyrance et al. (2013) added "male Division I student-athletes believed they had a better understanding of the job market and employment trends than their female counterparts" (p. 30). This leads us to believe that female student-athletes did not feel they had as much career knowledge which may negatively impact their career decision-making.

Other researchers discovered no significant differences between men and women on career readiness factors. In a meta-analysis of 34 CDSE studies written in English from 1983-2008, Choi et al. (2012) did not find gender to be a critical factor in regards to CDSE. They suggested that the relationship between gender and CDSE might be indirect, mediated, or moderated. Without knowing the populations of all the studies, it is hard to determine why Choi et al.'s findings contradict the majority of the studies found for this review.

Much research has been conducted in regards to gender and career preparation with athlete, student, and workforce populations. However, there is limited research on how gender and career readiness are related in regards to intercollegiate athletes. One purpose of this study was to address that gap in the literature by examining the career readiness of intercollegiate athletes focusing on gender differences. The current research on the relationship between career readiness and gender has shown inconsistencies in findings, with some finding women as more prepared, some finding men more prepared, and some finding no differences. Another purpose of the current study was to add to this discussion by comparing male and female intercollegiate athletes to see what differences may exist. More specifically, the current study sought to answer the following research questions:

- R1: What is the difference in psychological career readiness between male and female intercollegiate athletes?
- R2: What is the difference in competencies related to career readiness between male and female intercollegiate athletes?

Method

Participants and Procedures

A study designed to examine the career readiness of intercollegiate student-athletes was conducted at a large post-secondary institution in the Midwest region of the United States. With support from the university's Student-Athlete Support Services Office, an invitation email to participate in the study was sent to 1,036 intercollegiate athletes. The email contained informed consent information, as well as a link to the online questionnaire, distributed through the online survey host Qualtrics. For individuals who had not participated in the study after the initial invitation email, a reminder email was sent up to two times throughout the period of 30 days from the initial email invitation. Of the 1,036 intercollegiate student-athletes invited to participate in the study, 137 completed the online questionnaire, reflecting a 13.2% response rate. This response rate is relatively consistent with research investigating response rates and population demographics for survey research (Guo, Kopec, Cibere, Li, & Goldsmith, 2016). More specifically, Guo and colleagues (2016) found an online survey administered to a sample size of 1,000 with no incentive in the social sciences was associated with a 16.8% response rate. It should be noted that a low response rate does not necessarily indicate nonresponse bias (Davern, 2013). Furthermore, research demonstrated a weak association between response rate and demographic representativeness (Holbrook, Krosnick, & Pfent, 2008). However, low response rates limit the external validity of the study.

The final sample consisted of 137 intercollegiate student-athletes, representing 86% of the collegiate athletic teams. Of the participants, 24 (17.5%) intercollegiate student-athletes received full athletic grant-in-aid, 63 (46.0%) received partial athletic grant-in-aid, and 50 (36.5%) intercollegiate athletes reported having no athletic grant-in-aid. The sample included 87 (63.5%) females and 50 (36.5%) males, ranging from 18 to 23 years of age. All four undergraduate classifications were represented, with 28 (20.4%) freshmen, 25 (18.2%) sophomores, 47 (34.3%) juniors, and 37 (27.0%) seniors. The majority of participants identified as White (81.8%), followed by Asian (5.8%), "Two or more races" (5.1%), Black / African American (3.6%), and Hispanic (1.5%), with less than 1% reporting American Indian or Alaska Native, Pacific Islander, or race / ethnicity unknown. This sample is relatively representative of the institution's intercollegiate student-athlete population (i.e., 60% of athletes receive some form of athletic grant-in-aid; 52% females, 48% males; 76% White, 12% Black / African American, 2.5% Asian, 2.5% Hispanic). It should be noted a binary code for gender was used based upon the institution's gender classifications for enrollment.

Instrumentation

A career readiness instrument was constructed with a blend of valid and reliable established scales (i.e., Career Factors Inventory - career choice anxiety, generalized indecisiveness, need for career information, and need for self-knowledge subscales; Chartrand,

Robbins, Morrill, & Boggs, 1990), as well as developed items (i.e., perceived competencies related to career readiness), based upon the availability of instruments measuring the variables of interest. There are existing measures of CDSE and SCCT, but none directly relate to collegiate athletics. Therefore the researchers used measures that conceptually align with the study's theoretical framework and are appropriate for the student-athlete population.

To strengthen the validity and reliability of the instrument, the tool underwent review by a panel of experts followed by pilot testing. A panel of seven experts, in the fields of collegiate athletic administration, academic advising, career counseling, and research design and methodology, reviewed the instrument for content validity. Based upon feedback, the instrument was revised and then pilot tested with 44 members of the Student-Athlete Advisory Board (SAAB) at the institution investigated. To gain additional feedback regarding the instrument, the researchers conducted a cognitive group interview with SAAB following the pilot test. The final instrument consists of 43 items measuring psychological career readiness (17 items), competencies related to career readiness (20 items), and demographics (5 items).

Psychological career readiness. A modified version of the Career Factors Inventory (CFI) was used to measure psychological career readiness (Chartrand et al., 1990). Prior structural equation modeling (SEM) of the CFI supported a four-factor structure [$\chi^2(183) = 298$; relative $\chi^2 = 1.63$; GFI = .94; RMSR = .04; 0 modification indices ≥ 9.0 ; 3 normalized residuals ≥ 2], reflecting career choice anxiety (5 items), generalized indecisiveness (5 items), need for career information (6 items), and need for self-knowledge (3 items). Additional testing conducted by Chartrand and colleagues confirmed the reliability of the individual factors, including test-retest scores ranging from .76 to .84 and Cronbach's alphas ranging from .73 to .86.

The CFI was reviewed by a panel of experts and pilot tested to establish validity and reliability of the scale for the current study. Upon review, the panel of experts' indicated concern over the interpretation of the "Dry/wet" item response options, which warranted item removal to enhance internal validity of the subscale. Responses to the items were made on a six-point Likert-type scale, based on the argument that use of a no-opinion option hinders meaningful measurement (Krosnick et al., 2002). Validity and reliability of the modified CFI were examined through principal component analysis (PCA) and reliability testing. PCA, with oblique rotation, of the four subscales supported the four factor structure, with factor loadings greater than .40, and 66.40% of the variance explained (see Table 1). The factor loading of one item in the need for self-knowledge subscale (i.e., "What things are most important to me") fell below the established threshold of .40 and was consequently removed to enhance the construct validity of the subscale. Following factor analysis, reliability of the modified subscales was confirmed with Cronbach's alphas ranging from .80 to .88. The final modified CFI measure consisted of 17 items broken into the following four subscales: career choice anxiety (4 items), generalized indecisiveness (5 items), need for career information (5 items), and need for self-knowledge (3 items). The modified CFI scale relates to SCCT as a measure of factors influencing career outcomes (Lent et al., 1994).

Table 1

Principal Component Analysis with Oblimin Rotation of Competencies Related to Career Readiness

	1	2	3	4
Interviewing Skills				
In-person interview	0.81	-0.02	0.10	0.14
Phone interview	0.85	0.00	0.07	0.08
Skype interview	0.89	-0.05	-0.04	0.02
Networking	0.68	0.02	0.01	0.04
Critical Thinking Skills				
Planning for career	0.36	-0.43	0.21	-0.04
Time management	-0.15	-0.78	0.07	0.11
Critical thinking	0.14	-0.88	-0.08	-0.10
Problem solving	0.23	-0.85	-0.17	-0.07
Prioritizing responsibilities	-0.07	-0.78	0.11	0.04
Attention to detail	-0.15	-0.58	0.04	0.16
Career Preparation Skills				
Resume	-0.05	-0.07	0.90	-0.07
Cover Letter	-0.03	0.02	0.85	-0.08
Career Fair	0.38	0.01	0.56	-0.14
Job Application	0.28	0.12	0.63	0.23
Written communication	-0.11	-0.15	0.47	0.52
Teamwork Skills				
Oral communication	0.33	-0.04	0.25	0.41
Leadership	0.31	-0.24	-0.05	0.54
Dependability	0.15	-0.10	0.04	0.72
Teamwork	0.06	0.07	-0.19	0.85
Working independently	-0.10	-0.45	0.06	0.52

Competencies related to career readiness. The researchers consulted literature related to career development, career readiness, career-related skills, and intercollegiate student-athlete development. Additional input was ascertained from academic scholars, with expertise in research design and methodology, and practitioners in the field of collegiate athletics. Initial items measuring competencies related to career readiness were developed based upon constructs present in the literature, as the researchers found no existing CDSE or SCCT measure that contains a comprehensive battery of career related skills. Per DeVillis' (2003) recommendation for scale development, the researchers generated an item pool, formatted the measurement, had the scale reviewed by a panel of experts and pilot tested, evaluated the items, produced and administered the final scale, then tested its validity and reliability. The final scale included 20 items measuring competencies related to career readiness (see Table 2). To maintain consistency throughout the survey, responses to the items were made on a six-point Likert-type scale, ranging

from 1 (*Low Skills/Abilities*) to 6 (*High Skills/Abilities*). PCA and reliability testing were conducted to examine the validity and reliability of the scale. Results of the PCA, with orthogonal rotation, support a four factor structure, accounting for 65.85% of the variance, with factor loadings greater than .40 (see Table 2). Reliability testing of the individual subscales resulted in acceptable Cronbach's alphas, ranging from .81 to .88. The final developed measure consisted of 20 items reflecting four competencies related to career readiness, including: interviewing skills (4 items), critical thinking skills (6 items), career preparation skills (5 items), and teamwork skills (5 items). The competencies related to career readiness items relate to CDSE as a measure of confidence in career preparation activities (Stringer & Kerpelman, 2010).

Table 2

Principal Component Analysis with Oblique Rotation of Career Factors Inventory

Items	1	2	3	4
Need for Career Information				
Talk to people	0.76	0.33	0.07	0.08
Gain practical knowledge	0.81	-0.10	0.00	0.16
Find job opportunities	0.86	0.07	0.03	0.06
Use free time to determine career	0.71	0.27	0.14	-0.04
Familiarize myself with majors	0.37*	0.67	0.13	0.05
Seek advice	0.62	0.35	0.14	-0.01
Need for Self-Knowledge				
"Who am I?"	0.11	0.79	0.13	0.21
"What are my personal values?"	0.14	0.88	0.08	0.17
"What type of person would I like to be?"	0.13	0.83	0.08	0.23
Career Choice Anxiety				
Fearless ...Frightened	0.18	0.17	0.79	0.18
Relaxed... Tense	0.24	0.18	0.82	0.11
Carefree... Worried	0.13	0.01	0.86	0.20
Calm... Jittery	-0.06	0.07	0.85	0.14
General Indecisiveness				
Easy... Hard	0.11	0.14	0.21	0.75
Clear ... Hazy	0.03	0.10	0.11	0.74
Fulfilling...Frustrating	0.17	0.11	0.20	0.71
Quick ... Slow	-0.04	0.12	0.05	0.66
Certain ... Uncertain	-0.00	0.12	0.09	0.74

Note. * indicates item removed as it fell below the 0.400 threshold.

Demographics. The demographic section consisted of five items, including athletic grant-in-aid status, gender, age, academic year, and racial / ethnic group. The classifications within the individual items were based upon the institution's recommendations, which reflected enrollment classifications adopted by the institution.

Analysis

The data were exported into SPSS Statistics 22 software for treatment and analysis. Prior to analysis, the data were examined for missing values, with a mean replacement treatment approach employed to reduce the number of missing values (Shumacker & Lomax, 2010). The variables were then reduced into scale scores, based upon the PCA and reliability testing previously outlined. Prior to conducting a multivariate analysis of variance (MANOVA), the independence, normality, and homogeneity of variance and covariance assumptions were examined (Stevens, 2009). The independence assumption was considered to be met if the residual plots by group for each dependent variable demonstrated random patterns. Skewness and kurtosis statistics were produced for each dependent variable by group, for which univariate normality was considered acceptable if scores fell within ± 2.0 . Additionally, bivariate normality was considered acceptable if the scatterplots created for each pair of dependent variables by group demonstrated elliptical shapes. Lastly, Levene's test of equality of error variances and Box's test of equality of covariance were employed, for which a non-significant p -value was indicative of homogeneity. Upon examination of the statistical assumptions, a MANOVA was conducted using the Wilks' Lambda test criteria and adopting a $p < .05$ level of significance (Stevens, 2009).

Results

An online questionnaire examining the career readiness of intercollegiate athletes was administered to 137 intercollegiate athletes at a large university. Prior to analysis, the data were screened for missing values, for which 0.27% of the data were found missing. Due to the minimal amount of incomplete data, a mean replacement treatment method was employed (Shumacker & Lomax, 2010). Upon treatment of the data, screening revealed 137 complete cases.

Preliminary Analysis

As a precursor to the main analysis, the assumptions of a MANOVA were examined. The independence assumption was deemed met based on random patterns demonstrated in the residual plots by group for each dependent variable. In regards to normality, skewness and kurtosis scores for each dependent variable fell within the acceptable range, indicating univariate normality (see Table 3). There was a slight violation, as the kurtosis of the teamwork skills variable for the female population was marginally outside the acceptable range. Bivariate normality was also established through scatterplots for each pair of dependent variables by group, which displayed elliptical shapes. Furthermore, the homogeneity of variance assumption was met based on the results of Levene's test, with non-significant statistics for each dependent variable. There was a violation of the homogeneity of covariance assumption as Box's test had a significant result. However, MANOVA has been found relatively robust to a violation of homogeneity if the group sample sizes are relatively equivalent (Stevens, 2009).

Table 3

Descriptive Statistics of Career Readiness Factors

Factors	<u>Male</u>					<u>Female</u>				
	<i>N</i>	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	<i>N</i>	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
General Indecisiveness	50	2.71	0.87	0.49	0.49	87	3.11	0.93	0.38	-0.38
Career Choice Anxiety	50	3.21	1.11	-0.20	-0.52	87	3.64	1.16	0.15	-0.73
Need for Self-Knowledge	50	2.65	1.20	0.19	-1.13	87	3.27	1.45	0.20	-1.00
Need for Career Information	50	4.28	0.92	-0.45	-0.14	87	4.67	1.10	-1.21	1.03
Interviewing Skills	50	4.22	1.10	-0.49	0.44	87	3.50	1.23	-0.14	-0.63
Critical Thinking Skills	50	5.02	0.75	-0.97	1.08	87	4.64	0.72	-0.42	0.16
Career Preparation Skills	50	3.85	1.10	0.15	-0.42	87	3.73	0.99	-0.02	-0.50
Teamwork Skills	50	5.22	0.64	-0.98	0.90	87	4.90	0.76	-1.12	2.34

Multivariate Analysis of Variance

A MANOVA was conducted to examine differences in career readiness factors across gender. More specifically, the MANOVA compared general indecisiveness, career choice anxiety, need for self-knowledge, need for career information, interviewing skills, critical thinking skills, career preparation skills, and teamwork skills across groups. The multivariate main effect was statistically significant (Wilks' $\Lambda = .84$, $F(2) = 3.02$, $p < .01$), with a large effect size (partial $\eta^2 = .16$) and observed power (.95).

As the MANOVA produced a significant main effect, univariate analyses of variance (ANOVA) were examined to determine which career readiness factors demonstrated a significant difference. A Bonferroni correction of $p < .025$ was used to reduce Type I error (Stevens, 2009). With respect to R1, the results demonstrated a significant difference in general indecisiveness [$F(1,135) = 6.32$, $p = .01$], and need for self-knowledge [$F(1, 135) = 6.53$, $p = .01$], with a non-significant difference in career choice anxiety [$F(1,135) = 4.60$, $p = .03$], and need for career information [$F(1,135) = 4.42$, $p = .04$] between male and female intercollegiate student-athletes. In regards to R2, interviewing skills [$F(1, 135) = 11.71$, $p < .01$], critical thinking skills [$F(1,135) = 8.46$, $p < .01$], and teamwork skills [$F(1,135) = 6.19$, $p = .01$] were found significantly different between genders, while career preparation skills [$F(1,135) = 0.41$, $p = .52$] was not significantly different.

More specifically, males reported significantly higher interviewing skills ($M = 4.22$; $SD = 1.10$), critical thinking skills ($M = 5.02$; $SD = 0.75$), and teamwork skills ($M = 5.22$; $SD = 0.64$), while females reported significantly higher perceived general indecisiveness ($M = 3.11$, $SD = 0.93$), and need for self-knowledge ($M = 3.27$; $SD = 1.45$). When considering overall mean values of the variables measured (see Table 3), psychological career readiness was found moderate, with respondents reporting the greatest need for career information. With respect to competencies related to career readiness, respondents reported the lowest skills in interviewing and career preparation.

Discussion

The purpose of this study was to examine gender differences in the career readiness of intercollegiate student-athletes. Previous research on career readiness yielded mixed results on the impact of gender on how postsecondary students (Inda et al., 2013; Luzzo, 1995; Luzzo & McWhirter, 2001; Stringer & Kerperlmen, 2010; Tyrance et al., 2013; Wilson et al., 2007; Wright et al., 2012), middle school and high school students (Patton & Creed, 2001; Wilson et al., 2007), and professional athletes, coaches, and administrators (Cunningham et al., 2007; Fogerty & McGregor-Bayne, 2008; Hancock & Hums, 2016) viewed their career readiness. This study produced findings that both align with, and contradict, some of the previous literature. Further, it was discovered that social cognitive career theory (SCCT) and career decision self-efficacy (CDSE) provided insight into how gender impacts the career readiness of intercollegiate student-athletes.

Results from this study indicated that when compared to men, female intercollegiate student-athletes reported significantly higher levels of general career indecisiveness. Men also rated their interviewing skills, critical thinking skills, and teamwork skills higher than female intercollegiate student-athletes rated themselves. Women reported a significantly higher need for

self-knowledge. There were no significant differences between the male and female intercollegiate student-athletes on career choice anxiety, career preparation skills, and need for career information. The female intercollegiate student-athletes in this study seemed to have less confidence in their career readiness and career skills (e.g., interviewing skills), which contradicts previous literature that women, particularly collegiate women, outperform men on career readiness (Luzzo, 1995; Luzzo & McWhirter, 2001; Patton & Creed, 2001; Stringer & Kerpelmen, 2010). However, it is supportive of the findings of Tyrance et al. (2013) that Division I female student-athletes were not comfortable with their level of career development. It is possible that since this study was a self-report assessment, the female intercollegiate student-athletes may feel less confident, but perform at the same or higher levels than their male counterparts.

Next, findings from this research exposed that male and female intercollegiate student-athletes had a relatively equivalent need for more career information, a measure which was different from general career indecisiveness. However, previous research, as well as this study's findings, showed that females were more indecisive on their career choice (Patton & Creed, 2011). It is likely that indecisiveness stems from a lack of information; thus, the results that male and female intercollegiate student-athletes exhibited similar levels of need for more information may be seen to contradict reports of female indecision. The university in this study offered several methods for obtaining career information. Perhaps access to career information is the key to lowering that indecisiveness in girls and women. Further research in this area is recommended to confirm this connection.

Lastly, results from this study indicated that men and women experienced similar levels of career choice anxiety. This information contradicts previous research that women and girls experience more barriers, such as anticipating gender discrimination, in their career development (Cunningham et al., 2007; Hancock & Hums, 2016; Luzzo, 1995; Luzzo & McWhirter, 2001; Tyrance et al., 2013). Despite the anticipation of discrimination and barriers in their future careers, some of the previous literature determined that women felt confident in overcoming these obstacles (Luzzo & McWhirter, 2001). This is supported by the current study's finding that female intercollegiate student-athletes did not report lower levels of confidence in general career preparation skills.

In addition to contributing to the body of literature on gender differences in general career readiness, the findings from this study may also be viewed through the lenses of SCCT and CDSE. SCCT posits that individual factors, such as gender, contribute to the experiences and self-efficacy of individuals, which then affect setting goals, taking action, and assessing performance (Wright et al., 2012). The women in the current study reported lower abilities on career related skills, such as interviewing, critical thinking, and teamwork, suggesting a lower self-efficacy in career readiness. This indicates that women, in their eyes, have less desirable performance, supporting the findings of Hancock and Hums (2016) and Cunningham et al. (2007). Female intercollegiate student-athletes also reported a higher need for self-knowledge. Using the SCCT pattern that individual factors precede goal-setting and action, it would seem that women need more opportunities to learn about themselves in-depth, to better help prepare them for setting goals and taking action toward their career development. As such, for the female intercollegiate student-athletes who ranked themselves lower on general indecisiveness, there is an indication of a greater need for career counseling. There is a potential to lose out on career opportunities due to the indecisiveness affecting their goals, actions, and performance, in accordance with SCCT.

CDSE refers to the confidence needed to make career decisions, including various dimensions of self-efficacy (Burns et al., 2013; Stringer & Kerpelman, 2010). One element of CDSE examines problem solving. The findings show that men found themselves to be better critical thinkers than women did; thus, female intercollegiate student-athletes had less confidence in their ability to problem solve than did the males. Another CDSE dimension referred to planning, such as creating a plan to obtain career goals. Women in this study indicated more indecisiveness, which may hinder planning; additionally, women in this study reported a greater need for more self-knowledge, which also may be a barrier to planning. Thus, it may appear that female intercollegiate student-athletes struggle under the weight of CDSE's planning element. This is further supported by the finding in this study that both genders reported similar levels of career choice anxiety.

Future Recommendations

The current study lends to recommendations for practitioners working with intercollegiate athletes and researchers alike. Individuals who work closely with intercollegiate athletes, such as academic advisors for athletics, coaches, or other athletic staff, can take the results from this study and apply it to their work. One strategy is to work with male intercollegiate student-athletes on their general indecisiveness. Considering the fact that intercollegiate student-athletes need to progress through their degrees in order to stay eligible, according to NCAA guidelines, they need to have a clear decision about their career goals. A recommendation is to offer first-year intercollegiate student-athletes, especially men, programs where they can be exposed to different majors and jobs so they can make more informed decisions about their careers. This offering would also assist all intercollegiate student-athletes with their need for more career information and ease their career choice anxiety.

This study showed that female intercollegiate student-athletes at this university reported lower abilities on career related skills, less confidence in their problem solving, significantly greater career indecisiveness, as well as a higher need for self-knowledge. Programs specifically aimed at female intercollegiate student-athletes can focus on these areas. For example, there may be a once-a-month seminar that covers career-related skills and problem solving. These seminars would allow female intercollegiate student-athletes to learn and practice these skills so they feel more confident in their abilities. Additionally, advisors and coaches can sit down with female intercollegiate student-athletes to discuss who they are and what they want to do. It would be beneficial for intercollegiate athlete services to have counselors available for assisting female intercollegiate student-athletes with self-knowledge and confidence in their abilities.

Overall, intercollegiate student-athletes would benefit from more guidance as to where they can find career information. To provide this guidance, individuals from career services could spend one day a week in the student-athlete support services office to offer support to intercollegiate athletes in a location where they already spend time. Anyone who works with intercollegiate student-athletes needs to consider how gender plays a part in their career readiness. Understanding the different career development needs of male and female intercollegiate athletes will allow those who work with them to assist them in the most effective manner.

This study highlights a few areas where more research is needed. Replication of this study at different universities will bring more light to how gender impacts the career readiness of all intercollegiate athletes in the United States. Also, an investigation into career readiness at

universities in the NCAA's Division II and III will offer a more well-rounded view of intercollegiate athlete career development, as different divisions may see different levels of career readiness. Consideration of the intercollegiate athletes' career field may provide valuable insight, as previous studies have found this factor to be influential. Finally, a qualitative study could allow for intercollegiate student-athletes to verbalize what they think about their career readiness and what they need.

Limitations

Altogether, this study demonstrated greater perceived career readiness among male intercollegiate athletes in comparison to their female counterparts. However, the limitations of the study must be addressed for appropriate interpretation of the results. First, the investigation was conducted at a single university, for which five athletic teams were not represented, limiting the generalizability of the results. To broaden the application of the results, researchers should consider inclusion of multiple institutions and seek a sample representative of the population studied.

With respect to the research instrument, intercollegiate student-athletes were asked to evaluate their career-related skills. While literature supports the use of self-assessment as a methodological approach, it can result in inflated responses due to unrealistic optimism of one's skills (Dunning, Heath, & Suls, 2004). Future research may include evaluation of intercollegiate student-athletes' career-readiness by academic advisors and coaches to bolster the results. Use of triangulation may verify the accuracy of the self-assessed career-related skills. As the scale measuring perceived career-related skills was developed for the current study, future research to confirm the validity and reliability of the scale is warranted. Although there are some limitations to the current study, as a whole, the findings contribute to the body of knowledge on the career readiness of intercollegiate student-athletes, and can be used with confidence in both research and practice.

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