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Development of a College Readiness Screening Measure for Student Athlete Recruits

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The National Collegiate Athletic Association recommends student athlete recruits be screened for academic preparation using high school grade point average (GPA) and college admission exam scores under the assumption these indicators will sufficiently predict college academic performance. In this study, the Student Athlete Pre-Screening Questionnaire (SA-PSQ) was developed based on a pre-existing measure of college readiness designed for high school students. The SA-PSQ allows for reliable and valid assessment of college readiness knowledge and skills that are aligned with the expectations of college faculty. Results of a discriminant function analysis revealed an optimal combination of 16 items that predict college GPA and probation status for current student athletes at two institutions (N = 216). Hierarchical multiple regression analyses showed these 16 items explained significant unique variance beyond typical precollege factors: gender, race, sport type (e.g., revenue/nonrevenue), high school GPA, and SAT scores. Implications for use in screening student athlete recruits for adequate academic preparation are discussed.

Introduction

Currently, there are 400,000 college student athletes competing in Division I, II, and III sports (National Collegiate Athletic Association, 2008a). Of these students, most were approached in high school and recruited by college coaches. In fact, college coaches are typically the first to establish communication between the recruit and the institution (NCAA, 2008a), and when choosing a college, evidence suggests high school student athletes are most influenced by the coach than any other institutional factor (Garbert, Hale, & Montalvo, 1999; Goss, Jubenville, & Orejan, 2006). College coaches, therefore, are in a unique position of influence, selection, and power in granting high school student athletes access to college.

The National Collegiate Athletic Association (NCAA) ensures coaches select well-rounded students who will succeed both academically and athletically by mandating academic bylaws. The NCAA requires colleges to screen potential student athletes primarily based on two academic measures: grade point average (GPA) and college admission test scores (NCAA, 2008a). However, evidence shows these academic measures are not well aligned with the knowledge and skills necessary for college coursework (Achieve, Inc., 2007; Brown & Conley, 2007; Brown & Niemi, 2007; Conley, 2003), thus suggesting the need to more thoroughly evaluate the academic preparation of high school recruits prior to college. The focus of the current study was to develop a unique measure of student athlete college readiness intended for coaches, athletic department personnel and student affairs professionals to use as a screening tool for recruits. Such a tool may provide useful information beyond GPA and admission exam scores, and will potentially help: (a) coaches and athletic department personnel to make recruiting decisions prior to admission, and (b) student affairs personnel to make academic support decisions after admission.

NCAA Academic Requirements

Two NCAA bylaws are influential in upholding academic requirements: (a) Progress-Toward-Degree benchmarks, and (b) Academic Progress Rate (APR). The first, Progress-Toward-Degree benchmarks, requires college student athletes to complete 40% of their degree requirements by the beginning of their third year, 60% by the beginning of their fourth year, and 80% by the beginning of their fifth year in order to be eligible for competition (NCAA, 2010). The second is the APR, a measure of eligibility and retention designed to penalize institutions for allowing student athletes to pass an insufficient number of credits or leave school without finishing their degree (NCAA, 2010). These academic bylaws are designed to uphold academic credibility of college student athletes, as well as encourage coaches to recruit academically motivated high school players to join the ranks of their college teams.

Given the NCAA's regulations related to student athlete academic readiness and progress, current recruiting practices rely heavily on traditional measures of college readiness—GPA and college admissions exam scores—in the hopes of recruiting student athletes who are prepared to successfully engage with college coursework. Yet, evidence shows these measures are not well aligned with the knowledge and skills pertinent for success in college environments (Achieve, Inc., 2007; Brown & Conley, 2007; Brown & Niemi, 2007; Conley, 2003). Further, evidence suggests the use of college admissions exam scores unduly penalize underrepresented groups such as African Americans and individuals with disabilities. Legal action over the use of standardized testing as part of the NCAA eligibility criteria has occurred in the past (*Cureton et al. v. NCAA,* 1999) and the courts originally ruled use of standardized testing unduly penalized underrepresented groups under Title VI of the Civil Rights Act (1964). The decision in *Cureton v. NCAA* was eventually overturned when courts ruled the NCAA does not receive federal funding and, therefore, is not required to provide protections under the Civil Rights Act. Thus, while the ruling in *Cureton v. NCAA* supports the supposition that NCAA eligibility requirements related to standardized testing are potentially discriminatory, individual student-athletes cannot file suit. Additionally, according to Cross and Koball (1991), research consistently shows the SAT and ACT "tend to over-predict rather than under-predict the grade point averages of Black students at predominantly White institutions" (p. 191). Other psychometric experts support the claim that there are "systematic differences in test

performance" (Bond, 1988, p. 19) between minority racial groups as well as individuals with disabilities.

Based on this evidence, it seems clear that college coaches and athletic department personnel, as well as student affairs professionals involved in student athlete recruiting and admissions, should consider other academic preparation indicators beyond the GPA and admission exam scores of prospective high school recruits to ensure they are college ready. Of concern, there are few resources readily available that assess high school student athletes' knowledge and skills associated with college coursework. The focus of the current study was to develop a measure of college readiness beyond GPA and standardized testing that specifically screens high school student athlete recruits for these skills.

College and Career Readiness

According to Conley (2010), college ready students must (a) understand the structure of knowledge and big ideas of core academic subjects, (b) develop a set of cognitive strategies as they develop their understandings of key content, (c) possess the academic behaviors necessary to successfully manage and engage with a college workload, and (d) possess a contextual understanding of the navigational and cultural elements of gaining admission to and being successful in college (Conley, 2005, 2007, 2010). Essentially, in addition to the cognitive factors measured by admission exams, noncognitive factors are equally important to consider (Sedlacek, 2004). Conley's comprehensive college and career readiness model addresses both cognitive and noncognitive factors by specifying four keys: (a) Key Cognitive Strategies; (b) Key Content Knowledge; (c) Key Learning Skills and Techniques, and (d) Key Transition Knowledge and Skills[1]. Figure 1 shows the comprehensive model.
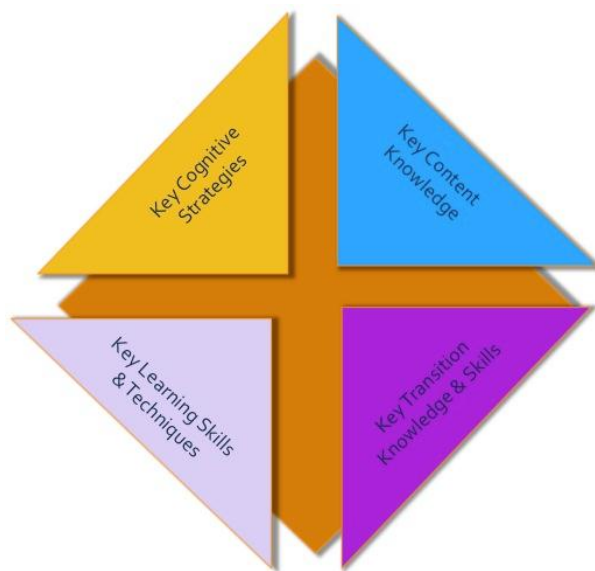

Figure 1 - *Conley's comprehensive model of college and career readiness*

Key Transition Knowledge and Skills encompasses knowledge of college access (e.g., financial aid, college application and admission processes) and the nuances of college academic and social culture. Key Content Knowledge encompasses the effort, attribution, and value put forth by students to understand academic disciplines, including overarching reading and writing skills, core academic subject areas (e.g., English/language arts, mathematics, science, and social sciences), and technology (e.g., familiarity with typical software programs and frequency of computer use to complete assignments). Key Learning Skills and Techniques encompasses self-monitoring and study skills (Lombardi, Seburn, & Conley, 2011). Examples include the ability to manage time, take notes, set goals, persevere in the face of obstacles, collaborate, and self-advocate (Bransford, Brown, & Cocking, 2000; Conley, 2007; Zimmerman, 2002). Key Cognitive Strategies (KCS) are comprised of the internal, metacognitive thinking skills linked to key attributes of college and career readiness (Conley, 2005). These skills include the intentional behaviors that enable students to learn, understand, retain, use, and apply content from a range of disciplines, and include the ability to make inferences, interpret results, analyze conflicting source documents, support arguments with evidence, reach conclusions, communicate explanations based on synthesized sources, and think critically about what they are being taught (Conley, 2003, 2005, 2007, 2010; National Research Council, 2002).

These four keys provide the foundation for *college and career readiness*, defined as the level of skills and preparation needed for a high school graduate to enroll and succeed in a credit-bearing, general education course at a postsecondary institution *without remediation* (Conley, 2010), and the strategies necessary to begin studies in a career pathway (Conley, 2011). In the current study, we specifically address high school student athletes pursuing college coursework; therefore, the phrase *college readiness* will be used.

Assessing student athletes for college readiness is especially crucial for two reasons: (a) student athletes are subject to academic standards above and beyond university requirements (e.g., the APR and Progress-Toward-Degree benchmarks), and (b) there are high-stakes consequences for student athletes and their respective institutions if they fail to meet these standards. Conversely, students who are not classified as athletes are not required to meet degree-progress benchmarks nor is their retention status tied to the possibility of institutional sanctions. In addition to NCAA bylaws, student athletes must adjust to athletic demands, including 40 or more hours per week of athletic practice and training commitments and the pressure to produce winning seasons (Eitzen, 2009; Sperber, 2000). Ironically, student athletes face unique challenges that are potential distractions from their academic development in higher education settings, particularly for those participating in revenue-generating sports (e.g., football and men's basketball; NCAA, 2010). As such, given the high-stakes consequences tied to their academic performance coupled with the mixed messages they may receive about prioritizing academics, it is especially important to determine if high school recruits will be ready for college coursework.

College Student Athletes: Prior Research

Previous studies on student athletes have focused almost entirely on their college experiences, particularly on demographic and noncognitive factors that affect academic achievement (Comeaux & Harrison, 2007; Gaston-Gayles & Hu, 2009; Harrison, 2002; Simons & Van Rheenen, 2000). Typically, female student athletes earn higher GPAs than males, especially males participating in revenue-generating sports (Simons, Van Rheenen, & Covington, 1999). Minority student athletes tend to earn lower GPAs than white student athletes (Comeaux & Harrison, 2007; Simons & Van Rheenen, 2000), a finding that is

consistent with the general college student population (Chen & DesJardins, 2010). In regards to noncognitive factors, Simons and Van Rheenen (2000) found achievement motivation and the relative strength of athletic and academic identities explained a significant portion of unique variance in college GPA beyond demographic characteristics, high school GPA, and college admission exam scores (Simons & Van Rheenen, 2000). Other findings suggest the importance of institutional and social engagement; specifically, student athletes who were more engaged in social and institutional activities outside of their sport also self-reported better learning outcomes, and these findings differed significantly between student athletes participating in revenue and nonrevenue-generating sports (Gaston-Gayles & Hu, 2009).

Other findings show faculty and peer interactions meaningfully influence student athlete achievement, particularly in regards to race. Negative perceptions by faculty and non student athletes create social and academic stigma among student athletes and reinforce "dumb jock" stereotypes, especially for student athletes of color (Simons, Bosworth, Fujita, & Jensen, 2007). Concurrently, Comeaux and Harrison (2007) found male student athlete and faculty interaction had differential effects, where students of color were not as likely to rely on faculty mentorship as their white student athlete peers. Together, these findings demonstrate the diverse nature of college student athlete populations overall, and show academic outcomes differ substantially by gender, race, and participation in a revenue or nonrevenue sport.

College Readiness and Recruiting Practices

Despite prior research on academic pressures, demographic characteristics, and noncognitive factors that affect college student athletes (e.g., Comeaux & Harrison, 2007, 2011; Gaston-Gayles & Hu, 2009; Harrison, 2002; Simons et al., 2007; Simons et al., 1999; Simons & Van Rheenen, 2000), little attention has been devoted to the academic aspect of the recruitment process. To address the theoretical and analytical gaps related to levels of student athlete success, Comeaux and Harrison (2011) recently identified critical precollege factors related to academic success: (a) family background, (b) educational experiences and preparation, and (c) individual attributes. Factors a and c represent demographic characteristics such as race, gender, and whether the student is the first in the family to attend college. Factor c overlaps with Conley's college readiness model, particularly in regards to academic motivation, goal setting, and awareness of college culture. Factor b is solely defined as high school GPA (Comeaux & Harrison, 2011).

The purpose of the current study was to apply Conley's keys to college and career readiness to the context of high school student athlete recruiting for collegiate competition. In particular, we were interested in informing recruiting practices related to academic preparation and college readiness. Drawing from a validated measure of college and career readiness (Conley, 2010), we developed and field-tested a measure intended for college coaches and athletic department personnel to use as a recruiting tool to determine the likelihood that a student athlete will be academically successful. Specifically, our study objectives were to: (a) design a brief yet psychometrically sound instrument to screen high school recruits for college readiness behaviors, (b) field-test the measure on current college student athletes, (c) examine predictive validity using college GPA and academic probation status as outcomes, and (d) clarify whether college readiness score, as measured by the newly designed instrument, provides unique information beyond the demographic and academic precollege factors currently required by the NCAA.

Methods

Measure

To address our first study objective, we developed the Student Athlete Pre-Screening Questionnaire (SA-PSQ). The SA-PSQ is derived from the CollegeCareerReady™ School Diagnostic (CCRSD), which measures the four keys of college readiness (a) Key Cognitive Strategies; (b) Key Content Knowledge; (c) Key Learning Skills and Techniques; and (d) Key Transition Knowledge and Skills (Conley, 2010). The CCRSD was created based on a validation study in 38 high schools and over 4,000 students (Conley et al., 2010). Findings were translated into a diagnostic instrument to allow schools to measure progress and guide reform efforts designed to address the four keys of college readiness. Preliminary internal validity evidence for the CCRSD item content and factor structure has been established (Lombardi, Conley, Seburn, & Downs, in press; Lombardi, Seburn, & Conley, 2011).

To develop the SA-PSQ, response data from 338 items were analyzed from a pilot test of students ($N = 1,324$) across ten high schools in Illinois, Indiana, Michigan, and Wyoming. Analyses occurred in three consecutive phases. In the first phase, a series of analyses of variance (ANOVAs) were conducted to identify items on which the responses of students who indicated intent to attend college were significantly different from the responses of students who did not plan to attend college. In addition, item responses were correlated with student GPA. Items not significantly correlated with GPA or not significantly different between those whose college intentions differed were removed, reducing the number of items to 220.

In the second phase, a content analysis was conducted to further reduce the number of items. Three content experts in the field of college readiness, psychometrics, and student athletes completed this analysis. Items were considered for removal based on the following criteria: not relevant to student athletes, not relevant to college students, or generally unclear. Items considered for inclusion were those that assessed knowledge, skills, and behaviors identified through a literature review of student athletes and college performance as linked with college success in this population (e.g., Comeaux & Harrison, 2011; Gaston-Gayles & Hu, 2009; Harrison, 2002; Simons et al., 1999; Simons & Van Rheenen, 2000). The experts participated in the content analysis independently, and removal or inclusion of items only occurred when there was inter-rater agreement.

In the third phase, an alpha analysis was conducted to determine whether removing any of the items selected in phase two would negatively affect the internal consistency reliability of the scale when removed. Based on the three-phase analysis, a total of 46 items were identified (e.g., 14 KCS, 13 Key Learning Skills and Techniques, 16 Key Content Knowledge, and 3 Key Transition Knowledge and Skills).

We field-tested a version of the SA-PSQ that contained 46 items with response options ranging from 1 (*not like me*) to 3 (*a lot like me*). Participants are asked: "Please indicate how much each statement describes you" and they rate the items accordingly. The original CCRSD had response options ranging from 1 (*not at all like me*) to 5 (*very much like me*). The decision to limit the response scale to 3 points was based on the potential need to orally administer the SA-PSQ to recruits over the phone or as an in-person interview, as NCAA bylaws prohibit recruits to take online or pencil-and-paper surveys prior to signing a letter of intent with the university (NCAA, 2010). As such, fewer response options allowed for ease of response and administration.

Sample

To address our second study objective, we field-tested the SA-PSQ on current student athletes ($N = 216$) enrolled in two NCAA Division I institutions—one public and one private—located in the Pacific Northwest. Across both institutions, there was an overall response rate of 67%. Sports were classified as revenue or nonrevenue. Consistent with NCAA classification (NCAA, 2010), revenue sports were football and men's basketball, and nonrevenue sports were baseball, women's basketball, cross country, golf, lacrosse, soccer, tennis, track, and volleyball. Table 1 shows a summary of the sample demographic characteristics.

Table 1 - *Sample Characteristics*

	Institution				Total ($N = 216$)	
	Public		Private			
	N	*%*	*N*	*%*	*N*	*%*
Gender						
Males	80	70	55	54	135	62
Females	35	30	46	46	81	38
Sport						
Revenue	80	93	6	7	86	40
Nonrevenue	35	27	95	73	130	60
Race/Ethnicity						
White	62	54	86	85	148	68
Hispanic/Latino	6	5	4	4	10	5
Asian/Native Hawaiian/Pacific Islander	10	9	6	6	16	7
African American	32	28	0	0	32	15
Multiple Races	2	2	5	5	7	3
Decline to report	2	2	0	0	2	1
First Generation student?						
Yes	39	34	10	10	49	23
No	76	66	91	90	167	77

Procedures

An email list of current student athletes was obtained from the director of academic support at both institutions. Recruitment invitations were emailed to student athletes on the football, women's basketball, and lacrosse rosters at the public institution, and all student athletes at the private institution. The recruitment email explained the purpose of study and invited students to begin the online survey by clicking on the active link. Participants were asked to provide consent prior to beginning the survey. When asked to provide consent, if participants selected "no" they were redirected to the end page and unable to access the survey items.

Results

Item Reduction Analysis

SA-PSQ responses from student-athletes at the public ($n = 115$) and private ($n = 101$) universities were correlated with college GPA. Sixteen items were significantly correlated with GPA, and responses to those 16 items were entered into a discriminant function analysis (DFA) in order to determine the extent to which they predicted whether a student athlete had ever been on academic warning or probation. Results indicated that 79.7% of cases were correctly classified using the 16 items as predictors of academic status. Internal consistency reliability coefficients for the resulting three subscales of Key Learning Strategies and Techniques (6 items), Key Cognitive Strategies (6 items), and Key Content Knowledge (4 items) were adequate and ranged from .706 to .781, and the alpha of the entire 16-item scale (.873) was good. Total SA-PSQ scores were calculated by summing respondent scores to the 16 items, and subscale scores were calculated by summing responses on the items that comprised the three dimensions.

Our third study objective was to examine predictive validity using college GPA and academic probation status as outcomes. To meet this objective, we conducted independent samples *t*-tests based on academic probation status. Results indicated that student athletes who had never been on academic warning or probation scored significantly higher on all three subscales than did student-athletes who had been on academic warning or probation for at least one semester, specifically Key Learning Strategies and Techniques, $t(1, 211) = 4.62$, $p < .001$, Key Cognitive Strategies, $t(1, 213) = 3.36$, $p < .05$, Key Content Knowledge, $t(1, 212) = 2.89$, $p < .05$, and total SA-PSQ score, $t(1, 210) = 4.39$, $p < .001$.

Descriptive Statistics

As part of our third study objective, we examined descriptive statistics of demographic characteristics and selected outcome variables. Using independent samples *t*-tests, we compared mean SA-PSQ subscale scores, college and high school GPA, and combined SAT scores (math and verbal) by the following demographic characteristics: institution type, gender, race, revenue or nonrevenue sport type, and first generation college student status. These demographic variables were selected based on previous findings that show significant differences among college student athletes in these areas (e.g., Comeaux & Harrison, 2011; Gaston-Gayles & Hu, 2009; Harrison, 2002; Simons et al., 1999; Simons & Van Rheenen, 2000). Results are shown in Table 2.

Table 2 - *Mean SA-PSQ Subscale Scores, GPA, and SAT scores by Demographic Variables*

	SA-PSQ: Key Learning Strategies & Techniques	SA-PSQ: Key Cognitive Strategies	SA-PSQ: Key Content Knowledge	College GPA	High School GPA	SAT score
Institution						
Public	2.61*	2.47*	2.77	2.89**	3.21**	991**
Private	2.75*	2.63*	2.83	3.27**	3.65**	1168**
Gender						
Males	2.59**	2.49*	2.76*	2.97**	3.29**	1034**
Females	2.81**	2.64*	2.86*	3.24**	3.59**	1132**
Race						
White	2.72*	2.57	2.81	3.18**	3.54**	1118**
Non-white	2.56*	2.49	2.76	2.84**	3.12**	976**
Sport type						
Revenue	2.57*	2.46*	2.76	2.86**	3.15**	968**
Nonrevenue	2.74*	2.61*	2.82	3.21**	3.59**	1142**
First generation student?						
Yes	2.55*	2.45	2.71*	2.86**	3.09**	967**
No	2.71*	2.57	2.82*	3.13**	3.51**	1103**

Note. SA-PSQ subscale scores range from 1(*not like me*) to 3 (*a lot like me*). College and high school GPA on a 4.0 scale. SAT score is combined SAT verbal and math scores.
*$p < .05$, **$p < .001$

Results revealed significant differences in college and high school GPA and combined SAT score according to all demographic factors. However, not all of the SA-PSQ subscales showed significant differences, suggesting the SA-PSQ subscales measure constructs not necessarily measured by GPA and SAT score.

Predictors of Academic Performance

Our final study objective was to determine if the college readiness score established by the SA-PSQ provided unique predictive information beyond the precollege demographic and academic variables identified in college student athlete research and recommended by the NCAA. Using hierarchical multiple regression, we examined the combined effect of precollege factors and SA-PSQ score on college academic performance as measured by cumulative college GPA. College GPA was regressed on demographic factors at step 1 (gender, race, revenue/nonrevenue sport type, and first generation status), precollege academic factors on step 2 (high school GPA and combined math and verbal SAT score) and the total SA-PSQ score on step 3. Precollege factors were divided by demographic and academic preparation variables currently used by the NCAA to screen student athlete recruits and were entered separately from the college readiness score to isolate the unique variance associated with SA-PSQ score. We took this approach so we could ultimately determine whether the instrument provided unique information about student athletes beyond demographic and academic precollege factors. For this analysis, race was dummy coded so that participants were either white (1) or non-white (0), sport was coded as revenue (1) or nonrevenue (0), and first generation status was coded as no (0) and yes (1). Model results are shown in Table 3.

Table 3 - *Hierarchical Regression Model Results Predicting College Grade Point Average from Demographic and Academic Precollege Factors and College Readiness Score*

Outcomes	B	SEB	β	ΔR^2
Step 1: Demographic Precollege Factors				.165**
Gender	.015	.070	.015	
White	.032	.061	.032	
Revenue/Nonrevenue sport	.052	.077	.053	
First generation status	.002	.067	.002	
Step 2: Academic Precollege factors				.261**
High school GPA	.388	.077	.371**	
SAT score	.001	.001	.212*	
Step 3: College readiness				
SA-PSQ score	.488	.088	.318**	.082**
Total R^2				.508**

Note. Standardized beta weights are shown for the model that included all predictors.
*$p < .05$. **$p < .001$.

The overall model explained approximately 51% of the variance in college GPA, $R^2 = .508$, $F(7, 187) = 27.622$, $p < .001$. After controlling for demographic and academic precollege factors, SA-PSQ score accounted for an additional 8% of the variance in college GPA, $\Delta R^2 = .082$, $F(1, 187) = 31.042$, $p < .001$. High school GPA ($\beta = .371$, $p < .001$), combined SAT score ($\beta = .212$, $p < .05$), and SA-PSQ score ($\beta = .318$, $p < .001$) made significant unique contributions to the equation. Essentially, the college readiness score as measured by the SA-PSQ explained significantly more variance in GPA when controlling for the demographic and academic precollege factors endorsed by the NCAA and associated with positive student athlete learning outcomes.

Discussion

The purpose of this study was to develop a brief yet psychometrically rigorous measure of college readiness to be used as a student athlete recruiting tool. Our study findings show the promise of the SA-PSQ as a robust measure of student athlete readiness for college coursework. DFA results show an optimal combination of 16 items may be administered as a college readiness screening tool among high school student athletes. Further, the DFA results provide evidence of predictive validity of the measure using two major indicators of progress-toward-degree benchmarks, sport eligibility, and degree completion: college GPA and probation status.

A secondary interest was the adequacy of current indicators of academic college readiness endorsed by the NCAA—high school GPA and admission exam scores. We suspected these academic variables, coupled with other precollege demographic factors, did not provide enough information on the knowledge and skills associated with college readiness (Conley, 2010). Consistent with previous studies (Gaston-Gayles & Hu, 2009; Harrison, 2002; Simons et al., 1999; Simons & Van Rheenen, 2000), significant differences in college and high school GPA and combined SAT score were found according to all demographic factors. However, not all PSQ subscale scores were significantly different according to demographic variables, suggesting the SA-PSQ measures knowledge and skills that are not captured by high school GPA and SAT score.

Finally, results of the follow-up regression analysis revealed the college readiness subscale scores explained significant unique variance beyond other typically used precollege demographic factors (gender, race, and revenue/nonrevenue sport) and academic preparation variables (SAT score and high school GPA). Thus, these results confirmed the SA-PSQ score measures unique college readiness knowledge and skills.

Limitations

Though the findings from the current study offer insight into measuring college readiness among student athletes, our findings should be interpreted along with the following limitations. First, the study sample was from two NCAA Division I institutions. The extent to which these findings generalize to other institutions may vary and it is important to replicate these findings in other NCAA Division I, II, and III settings.

Second, although white student athletes constitute 68% of the current college student athlete population in both our sample and at Division I institutions nationwide (NCAA, 2008b), our sample did not adequately represent non-white student athletes participating in revenue sports (e.g., football and men's basketball). Particularly, in our sample, 15% were African American student athletes across all sports, and 31% participating in revenue sports. In NCAA

Division I institutions nationwide, African American student athletes comprise 20% overall, and 53% participating in revenue sports (NCAA, 2008b). As such, our sample slightly underrepresented the African American student athlete population.

Third, current student athletes were sampled in this study to develop a measure intended for prospective student athletes. Therefore, the findings are based on student athletes who had successfully navigated the recruitment process. High school student athletes who were unsuccessful in the recruitment process and therefore did not transition to college athletics were not represented in this study.

Implications for Future Research

There are important considerations for future research on the further development and validation of the SA-PSQ. First, future studies should include samples of high school *and* college student athletes. This approach will allow for comparison of college readiness skills and behaviors between both populations and include student athletes who were unsuccessful in the recruitment process. Second, one of the main objectives of the current study was to determine if a small set of previously validated items from a larger instrument could successfully predict college academic performance. We did not seek to re-evaluate construct validity of the small item set as compared to the larger instrument. In future studies, confirmatory factor analysis should be used as a method to examine the construct validity of the SA-PSQ as compared to the prior CFA studies conducted on the larger CCRSD (Lombardi, et al., in press; Lombardi, et al., 2011).

Implications for Practice

Of significance, these findings suggest the SA-PSQ provides unique information that may not be captured by the typical measures of academic preparation used by the NCAA (e.g., high school GPA and college admission exam scores). Specifically, the SA-PSQ measures both cognitive and noncognitive factors associated with college readiness and success (Conley, 2010). Thus, these findings have salient implications for college coaches and athletic departments, offices of academic support services, and intercollegiate policymakers.

The SA-PSQ may be a viable tool to provide valuable predictive information regarding student athlete college readiness, increasing the likelihood of players remaining academically eligible while enrolled at the academic institution. Professionals in offices of student support services who work closely with student athletes may also find the SA-PSQ valuable. Because the items on the SA-PSQ are linked to Conley's (2010) model of college readiness, subscale scores provide useful diagnostic information regarding individual student athlete academic strengths and weaknesses, information not generally provided via high school GPA or SAT/ACT scores. Additionally, once a student athlete is admitted, there may be further academic benefit by administering the entire CCRSD, which has the potential to provide rich placement and support information. The value of administering the CCRSD to student athletes post-enrollment, and using such information to guide placement and support decisions, is worthy of consideration and warrants further research. Finally, the current study was conducted on a sample of student athletes, but the SA-PSQ items are specific to college readiness, not sport. Therefore, student affairs professionals could use the SA-PSQ as a screening tool to make data-driven support decisions for *all* incoming freshmen.

Intercollegiate policymakers such as university presidents, members of the NCAA, and other like decision makers may be interested in these study findings. Based on this preliminary research, policymakers may wish to encourage further research examining measures other than GPA and ACT/SAT as eligibility requirements. In particular, further research related to measures contributing to enhanced placement and academic support information for student athletes is recommended.

Potentially, use of the SA-PSQ, coupled with other best practices in recruiting, could reduce the number of student athletes who are academically ineligible, do not meet degree progress benchmarks, or fail to graduate; as well as inform coaches of the most optimal selection of student athlete recruits who will succeed both academically and athletically at their respective institutions. Use of the measure may also contribute to better placement and academic support decisions to support student athletes once enrolled in institutions of higher education.

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Footnotes

[1]Conley's (2010) college readiness model is described in *College and Career Ready: Helping all
Students Succeed in College* as being comprised of four dimensions: Key Cognitive Strategies,
Key Content Knowledge, Academic Behaviors, and Contextual and Awareness Skills (p. 31).
Recently, the model dimensions have been relabeled as model keys. Names of two keys have
been relabeled: Academic Behaviors are now Key Learning Skills and Techniques, and
Contextual Awareness and Skills are now Key Transition Knowledge and Skills. This paper uses
the most recent model labels.