

# Athletic Identity and Academic Success: Supporting the Development of Student-Athletes

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This quantitative study examined the relationship between academic support services usage, athletic identity (AIMS), and academic success (ASICS) among student-athletes at a large, public, primarily White institution. Existing research about academic support services is available, but effectiveness is unknown. This study was grounded in Astin's Student Involvement Theory. Of 369 student-athletes contacted, 177 completed a 53-item online survey. Academic support services usage was positively correlated with athletic identity and negatively correlated with career decidedness, personal adjustment, and socializing. Athletic identity was negatively correlated with internal motivation and personal adjustment. Results indicated a significant regression equation, with athletic identity, career decidedness, personal adjustment, and socializing accounting for 15% of the explained variance in academic support services usage. Results may impact best practices for the holistic development of student-athletes.

*Keywords:* athletic identity, academic success, academic support services, career readiness.

According to the National Collegiate Athletic Association (NCAA; 2018) less than 2% of student-athletes will have professional athletic careers. This raises the question: Are universities providing academic support services that prepare student-athletes for success after college as much as coaches are preparing them for the upcoming season? Due to significant athletic commitments, many student-athletes pursue academic majors that do not align with their career aspirations and have insufficient time for career and personal development. This can negatively impact academic success among student-athletes, which may leave them unprepared for the realities of life after sport (Stokowski, Paule-Koba, Kaunert, 2019). In addition, some student-athletes possess a strong athletic identity, which may impede their willingness to seek out academic support services. Although existing research about student-athlete academic support services is available, the relationship between these resources and student-athlete identity and academic success is unknown.

The need for additional research in student-athlete development and the role of academic support services is well documented. Otto, Martinez, and Barnhill (2019) recommend, “University athletic departments should reevaluate and adjust their academic services based on the perception of student-athletes and how the provided services influence their overall college experience” (p. 40). Institutions must have a plan to ensure all athletes are ready to embrace a life after sports. Paule-Koba (2019) found “some athletes reported not knowing what they wanted to do after graduation” (p. 14). This is reason for institutional and NCAA reform to create legislation “that give athletes the opportunity to major in disciplines that are congruent with their career goals” (Paule-Koba, 2019, p. 14).

Stokowski et al. (2019) found that, “during the transitional phase, athletes often experience high levels of stress and anxiety as well as a decreased sense of self-worth, social support, changes

in mood, loneliness, and isolation” (p. 404). The ability to identify athletes of high athletic identity and create effective programming caters to those “‘physically, psychologically and emotionally’ committed to their role as an athlete, often to the exclusion of other academic and social roles” (Fuller, 2014, p. 3). Sandstedt et al. (2004) stated that a quantitative approach allows for the opportunity, “to adequately measure the career development (or career situation) of a student-athlete” utilizing “an instrument that considers the influence of external and internal barriers that are inherently different than those experienced by collegiate non-athletes” (p. 82).

While extant literature explores student-athlete experience, further research is needed to better represent the overall population of student-athletes. The sample of participants needs to reflect representation from all offered sports, gender, and race (Otto et al., 2019; Paule-Koba, 2019; Foster & Huml, 2017; Parietti, Leeann, & McCray, 2016; Sandstedt et al., 2004; Fuller, 2014; August, 2018). A current gap in existing literature reflects racial/ethnic diversity, a sufficient number of male athletes, and inclusive sport participation with sampling of athletes from freshman through senior year (Otto et al., 2019; Foster & Huml, 2017; Parietti, Leeann, & McCray, 2016; Sandstedt et al., 2004; August, 2018). The literature can be strengthened by the addition of institutional data collected such as major and athletic department programming, which provides accurate information not subject to participant recall (Foster & Huml, 2017; Sandstedt et al., 2004; Parietti, Leeann, & McCray, 2016).

The purpose of this correlational quantitative study was to measure the relationship between athletic identity, academic success, and participation in academic support services among student-athletes. The authors believe the findings of this study will benefit those working with student-athletes if any deficits are discovered in current student-athlete developmental practices. The

results may indicate a need for greater financial and personnel resources geared toward assisting student-athlete development. It is also believed the findings of this study will enhance institutional programming, potentially resulting in higher student-athlete graduation rates. The following research questions were used to guide the collection and analysis of data in this study:

1. Is there a relationship, positive or negative, between academic support services usage, athletic identity, and academic success among NCAA Football Championship Subdivision (FCS) student-athletes?
2. Can athletic identity and/or academic success predict the use of academic support services for NCAA FCS student-athletes?

## **Review of Literature**

This review of literature includes findings of both qualitative and quantitative studies related to student-athlete development published in peer-reviewed journals between 2004 and 2019. The primary keywords used to conduct the search included “student-athlete academic majors,” “transition after college athletics,” and “college athlete career readiness.” Research was limited to studies conducted in the United States of traditional, amateur NCAA student-athletes. The following topics, which emerged from the literature, are discussed below:

1. meaningful academic majors and engagement among student-athletes,
2. career readiness among student-athletes, and
3. perceptions and experiences of student-athletes transitioning out of intercollegiate athletics.

In addition, a critique of the literature related to Astin's (1999) Student Involvement Theory and its relation to student-athlete development is included to frame the study.

### ***Meaningful Academic Majors and Engagement***

Otto et al. (2019) surveyed 103 (63% female, 37% male) student-athletes and found that academic engagement in educationally purposeful activities led to a more favorable impression on student-athlete development and overall college experience. Paule-Koba (2019) distributed online surveys to 605 (56% female, 44% male) student-athletes and found that 31.7% of student-athletes reported majors that did not align with their career aspirations (reason being they had always wanted to be in the field associated with their major). Foster and Huml (2017) contacted 546 (71% female, 29% male) NCAA DI-DIII student-athletes and found that those participants with a stronger athletic identity experienced more negative outcomes as it pertained to academic experiences.

As for Otto et al. (2019), a greater sample size, with greater representation of males and non-white racial identities with higher proportion of FCS student-athletes would produce more conclusive results. Two theories, Student Involvement Theory and Social Exchange Theory were used to support the findings. In Paule-Koba's (2019) study, representation by sport was not equivalent and the sample was not racially diverse. A limitation was accounting for truthful answers, as the researcher received answers believed to be misleading. Findings in the Paule-Koba (2019) study were not associated with a theory. Foster and Huml (2017) were dependent on student-athletes to self-report athletic identity and major, which may have biased the results. No theory was included, but researchers discussed NCAA's Academic Progress Report and Graduation Success Rate in relation to the findings.

### ***Career Readiness Associated with Student-Athletes***

Parietti, Leeann, & McCray (2016) utilized email for a quantitative online questionnaire, resulting in a sample of 137 (64% female, 36% male) student-athletes. Females “indicated lower levels of ability on career related skills [and] higher levels of general indecisiveness about career choice” (p. 283). Parietti et al. (2016) was framed around Social Cognitive Career Theory. Sandstedt et al. (2004) conducted research on 204 student-athletes (32% female, 68% male) and found five common factors to measure the career situation of student athletes. These five were career development self-efficacy, career versus sport identity, locus of control, barriers to career development, and sport to work skill relationship. The “influence of student-athletes immersion into their own athletic identities and whether or not they can apply sport-related skills to job-related tasks plays apparent salient roles in a student-athlete’s career situation” (Sandstedt et al., 2004, p. 92). Sandstedt et al. (2004) did not frame their research around a theory. August (2018) interviewed 18 (50% female, 50% male) student-athletes and discovered the four personal qualities used to distinguish career readiness were “optimism, resilience, adaptivity, and their recognition of crossover skills” with “skills, knowledge, and personal strengths required for both sports and work domains” (August, 2018, p. 1). Seven student-athletes were classified as career ready, three were semi-career ready and eight were minimally or not career ready (August, 2018). August (2018) was framed in Grounded Theory, as “career readiness was identified as the central phenomenon of interest and so was thoroughly explored in terms of identifying its properties and dimensions” (p. 5). Parietti et al. (2016) included a sample reflecting the racial identities of the institution’s student-athlete population. However, the study was conducted at a single institution without representation from five athletic teams, leaving representation at 86%. In Sandstedt et al. (2004), participant responses were limited to five

selections, but allowed student-athletes to review and change their answers. The August (2018) sample represented only 12 of the 15 institutional sports and failed to include freshmen, but the pool was diverse in racial/ethnic identity. Researchers were consistent in the 21 questions asked, but follow-up questions were up to their discretion, allowing for inconsistency and potential bias (August, 2018).

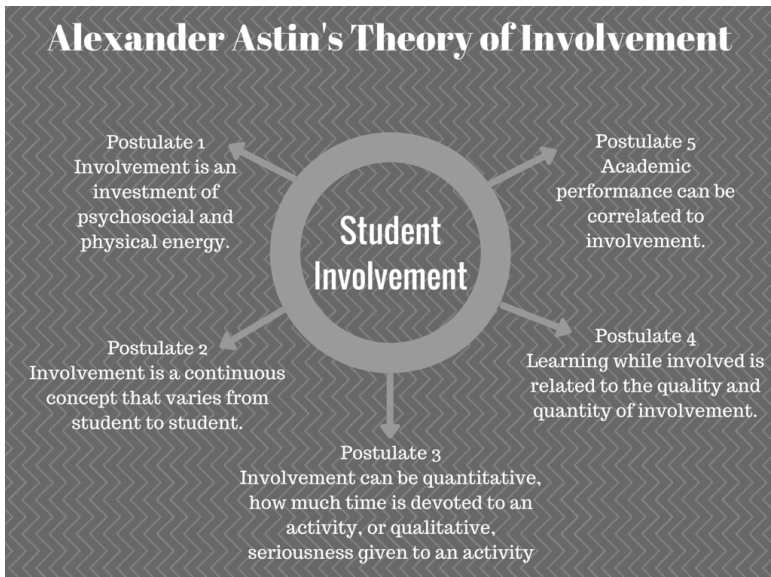
### ***Perceptions and Experience Transitioning Out of Intercollegiate Athletics***

The Fuller (2014) study was framed around Grounded Theory. Fuller (2014) synthesized nine qualitative studies resulting in a sample size of 96 (65% females, 35% males) student-athletes from 11 sports, and found “six themes characteristic of the transition experience: athletic identity, anticipation and preparation, branching out, satisfaction with athletic performance, loss of camaraderie and support systems” (p. 1). Stokowski et al. (2019) was framed by Schlossberg’s Transition Theory. Stokowski et al. (2019) utilized Twitter and posted a prompt receiving 178 responses from former athletes, represented by at least six sports who spoke to two major themes, “what do I do now?” and “I’m free” (p. 410). Twenty-two of the athletes’ responses mentioned “not being ready for the next phase of his or her life” (Stokowski et al, 2019, p. 412).

The benefit of Fuller (2014) utilizing a meta-analysis approach was to “transform the original results into a new conceptualization” (p. 2). A meta-analysis does not allow the opportunity to present new information and is limited by the parameters of prior research. Participants in Stokowski et al. (2019) were limited by the 240-character limit of a Tweet. The study utilized free, public communication but researchers were not able to collect former athlete’s demographics, sport, or years of participation.

### *Astin's (1999) Student Involvement Theory*

Astin's (1999) Student Involvement Theory stated that the learning and personal growth associated with an educational program is proportionate to the student's involvement in the program. Student involvement refers to "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1999, p. 518). See Figure 1 for further explanation of the five postulates that frame student involvement according to Astin (1999). Student development is strengthened through increased involvement "in meaningful activities during their academic career, leading to an increased satisfaction of their overall



*Note.* From *Life in the yellow hammer state*. [Online Image], (n.d., 2016). <https://lifeintheyellowhammerstate.wordpress.com/2016/02/09/theoristorcrushtue-sday-astins-theory-of-involvement/>

*Figure 1. Astin's Theory of Student Involvement*



college experience” (Otto et al., 2019, p. 41). Literature suggested building relationships with peers is often the first step in becoming involved on campus (Otto et al., 2019). However, the time students-athletes spend participating in athletic related activities may negatively affect their ability to connect with faculty, participate in student organizations, and engage academically (Otto et al., 2019). Astin’s (1999) Student Involvement Theory will provide a framework to predict and improve academic success of student-athletes.

Astin’s (1999) Student Involvement Theory has “heightened the discussion of practical issues, such as faculty-student interaction” (Jones & Karpinski, 1996, p. 11). Additionally, the theory “focuses less on what the educator does and more on what the student does... to be an active participant in the process of learning” (Jones & Karpinski, 1996, p. 13). Student-athletes with less athletic identity are more apt to be active participants in the learning process, utilizing academic support services achieving greater academic success. Astin’s (1999) Student Involvement Theory speaks to student departure from college as a lack of campus involvement but fails to consider the complexities of student lives today. Student-athletes with a strong athletic identity may shut down academically, if external factors such as inadequate play-time or isolation/disengagement from the team occurs. External variables often impact the individual’s academic success by inhibiting engagement with academic support services.

### ***Conclusion***

Little research was discovered pertaining to student-athlete development as it related to academic satisfaction and career readiness. The sample sizes often lacked diversity and included more females. Studies were either specific regarding issues addressed or too vague, which did not allow for findings to cross domains. Much of the research on student-athlete development has been

published recently, reflecting interest in academics and the student-athlete. The current research will address current student-athlete academic service practices and evaluate sufficiency and accessibility in relation to academic satisfaction and career readiness.

## **Methods**

The intent of this study was to measure the relationship between participation in academic support services and athletic identity and academic success among student-athletes to determine the effectiveness of academic support services. This purpose was accomplished by administering an electronic survey to student-athletes representing multiple sports and years in school at a large, public, Midwestern school. Prior literature utilizing a quantitative approach and email correspondence effectively measured student-athlete traits (Sandstedt et al., 2004; Parietti, et al., 2016). This sampling frame was selected to strengthen existing literature that lacks FCS student-athletes (Otto et al., 2019). A correlational quantitative study was conducted to explore the differences in levels of athletic identity and academic success in relation to academic support services usage. The following research questions were used to guide the collection and analysis of data in this study:

1. Is there a relationship, positive or negative, between academic support services usage, athletic identity, and academic success among NCAA Football Championship Subdivision (FCS) student-athletes?
2. Can athletic identity and/or academic success predict the use of academic support services for NCAA FCS student-athletes?

### *Sample*

The target population related to this assessment was current student-athletes at a large, public, in one of 17 offered sports. The following sampling frame criteria was used to identify potential participants: male or female varsity student-athletes enrolled full-time (12 credit hours unless in their final semester and enrolled in the credits needed to graduate) with remaining eligibility as of the Spring 2020 semester. Student-athletes represented all years in school, all teams, domestic or international status, various ethnicities, and chosen disciplines.

Primary data collection was conducted through an online questionnaire comprised of a locally developed instrument referred to as Student-Athlete Identity, Success, and Support (SAISS), comprised of 53 questions. Questions in the first section were adapted from the Athletic Identity Measurement Scale (AIMS), which asks participants to respond to statements with a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) (Brewer et al., 1993). Student-athletes were asked to respond to each statement, including the statements: “I consider myself an athlete,” “most of my friends are athletes,” and “[my] sport is the most important part of my life” (Brewer et al., 1993). The purpose of AIMS is to measure the degree to which an individual identifies with the athlete role and assess the impact of one’s athletic identity on successful transitions (Brewer et al., 1993). AIMS was chosen because it is cited more than any other athletic identity instrument in circulation since its development. Research suggested, “student-athletes who identify strongly with their athletic role tend to ignore exploring other career and educational ambitions unrelated to their sport” (Moiseichik et al., 2019, p. 4).

The next section reflected a modified version of the Academic Success Inventory for College Students (ASICS; Prevatt et al., 2011). ASICS was developed from the theoretical framework of “Astin (1998) regarding student and environment characteristics

and Tinto's (1998) work on persistence and departure" (Prevatt et al., 2011, p. 27). The five of the 10 ASICS subscales most related to the research questions (Career Decidedness, External Motivation Future, Personal Adjustment, Socializing, and Internal Motivation) were utilized. The questions centered around an individual's perception of his/her sport, affective reactions to sport-related outcomes, and solemnity of one's identification with the athlete role (Brewer et al., 1993). ASICS is a recently developed, time-efficient, internet-based self-reporting survey "that could be widely and easily used as a screener to identify college students who might be at risk for poor academic progress, and determine appropriate interventions geared towards their specific patterns of strengths and weaknesses" (Prevatt et al., 2011, p. 27). Both AIMS and ASICS are validated measurements, and with a modified version of ASICS there is no anticipated concern for validity. The AIMS' coefficient alpha of 0.93, in the original study, provided support for internal consistency reliability (Brewer et al., 1993). While the External Motivation Current subscale of the ASICS (Cronbach's  $\alpha = 0.62$ ) did not indicate internal consistency, the remaining nine subscales ranged between 0.77 and 0.93, providing adequate support (Prevatt et al., 2011). Furthermore, for the five subscales utilized in the current study, the internal consistency reliability ratings ranged from 0.84 to 0.88 (Prevatt et al., 2011).

To conclude the survey, academic support services usage questions and demographic data were collected. Such questions included age, gender, race, year in school, sport played, and whether they are receiving an athletic scholarship or not. According to Comeaux and Crandall (2019):

Despite the growing work in this area, additional research is needed to better understand the type and quality of educational activities in a range of academic settings that lead to positive gains for athletes... large-scale quantitative studies—with data

disaggregated by race/ethnicity, gender, and type of sport, and other background characteristics (e.g., first generation status, family income, athletic scholarship status)—would advance this line of work. (p. 81)

To enhance the credibility of usage of academic support services and demographic questions, the protocol was pilot tested by eight former student-athletes and academic advisors in the student-athlete academic services office. These experts did not meet sampling criteria and thus were not invited to participate in the study. Feedback from the pilot test confirmed clarity, survey length, and appropriateness of survey questions with regard to the purpose of this study.

### ***Data Collection***

Non-probability, purposeful sampling was used to identify individuals to participate in the study. Meetings were held with coaches and academic advisors early Spring semester 2020 to discuss the purpose of the study and address any questions. Both were asked to speak to the importance of the study with their athletes in the week the survey was released. Participants were emailed about the opportunity to participate in the study, at which time they were provided with the sampling frame criteria and asked to determine if they met the criteria for inclusion in the study. Student-athlete participants who met the sampling frame criteria and wished to participate were invited to participate in the study. Prior to data collection, participants were provided with the study's Institutional Review Board (IRB) approval via email, which was received in December 2019. Informed consent was solicited from participants on the first page of the survey. No incentive for participation was offered for participation in the study.

Data were collected in the Spring semester of 2020. Student-athletes were sent a link by email for the survey, estimated to take between five and eight minutes to complete, and accessible from

their phone or computer. Student-athletes received an email reminder one week after the initial email to complete the survey. Academic advisors reminded student-athletes of the opportunity to participate during their academic meetings. Data were collected electronically via Campus Labs Baseline.

### ***Data Analysis***

Upon survey completion, an analytic file was created from Campus Labs Baseline. Responses were evaluated for missing data and those with too many missing values were removed from the study. Scores were calculated for the AIMS scale and ASICS subscales. Descriptive statistics were presented for demographic data including sample size by age, gender, race, and sport. A Pearson correlation was calculated to assess the first research question, the relationship among scores on the AIMS, ASICS, and academic support services usage. The second research question was addressed using a regression model to determine the proportion of variance in academic support services usage accounted for by athletic identity and academic success. Tables were constructed to present resulting statistical values.

## **Results**

The purpose of this study was to determine the relationship between usage of academic support services, athletic identity and academic success among student-athletes at a large, public, PWI. The findings indicated there are statistically significant relationships between academic support services usage, athletic identity, and academic success for this population. Athletic identity and academic success provide a significant proportion of variance in academic support services usage amongst student-athletes. The population reflected male and female student-athletes, represent-

ing all institutionally sponsored sports and academic classifications as of the Spring 2020 semester.

One hundred seventy-seven of 369 student-athletes participated in the current study, yielding a 48% response rate; however, six participants did not answer the demographic questions. Participants were primarily white (74.3%), female (54.4%), and ages 18 to 23 (35.1% freshman, 22.8% sophomore, 20.5% juniors, and 21.6% seniors). All 17 teams were represented in this sample with 26 baseball, 22 football, 19 women's swimming, 17 women's indoor and outdoor track and field, 12 women's soccer, 11 men's swimming, 10 women's volleyball, nine men's soccer and softball, seven women's tennis and women's cross country, five women's basketball, women's golf, men's basketball, and men's golf, and two beach volleyball. On average this survey took six and a half minutes to complete.

Internal consistency reliability scores were analyzed after the all requirement checks were determined tenable for the revised AIMS scale and five ASICS subscales. Coefficient alpha for the AIMS (Cronbach's  $\alpha = .747$ ) indicated adequate item interrelatedness. Internal consistency reliability estimates for the five ASICS subscales ranged between Cronbach's  $\alpha = .816$  and  $.903$ , suggesting strong item interrelatedness. Academic support services usage was measured from one question. Thus, it did not require an internal consistency reliability rating.

### ***Research Question 1: AIMS, ASICS, and Academic Support Services Usage Relationship***

Significant relationships were found between AIMS, ASICS, and Academic Support Services Usage. Athletic identity was positively correlated ( $r(175) = .246, p = .001$ ) with academic support services usage among NCAA FCS student-athletes.

Athletic identity was negatively correlated with internal motivation for academic success ( $r(175) = -.310, p < .001$ ) and per-

Table 1  
*Correlation Coefficients for Relationships between Academic Support Services Usage, AIMS, and ASICS Subscales*

Scale or Subscale	1	2	3	4	5	6	7
1. Academic Services	-						
2. Athletic Identity	.246**	-					
3. Career Decidedness	-.239**	-.104	-				
4. Internal Motivation	-.079	-.310**	.235**	-			
5. External Motivation	.043	-.048	.241**	.469**	-		
6. Personal Adjustment	-.257**	-.166*	.226**	.147	-.106	-	
7. Socializing	-.185*	.009	.156*	.071	-.022	.441**	-

*Note:* \* $p < .05$  (2-tailed). \*\* $p < .01$  (2-tailed).



sonal adjustment for academic success ( $r(175) = -.166, p = .027$ ) among NCAA FCS student-athletes. Athletic identity was not significantly correlated with academic success in regards to career decidedness ( $r(175) = -.104, p > .05$ ), future external motivation ( $r(175) = -.048, p > .05$ ), or socializing ( $r(175) = .009, p > .05$ ) for NCAA FCS student-athletes. See Table 1 for the Pearson correlation coefficients among scores on the AIMS, ASICS subscales, and academic support services usage.

Academic support services usage was negatively correlated with the career decidedness subscale for academic success ( $r(175) = -.239, p = .001$ ), personal adjustment for academic success ( $r(175) = -.257, p = .001$ ), and socializing for academic success ( $r(175) = -.185, p = .014$ ) among NCAA FCS student-athletes. However, academic support services usage was not significantly correlated with academic success in regards to internal ( $r(175) = -.079, p > .05$ ), or external motivation ( $r(175) = .043, p > .05$ ).

### ***Research Question 2: Prediction of Academic Support Services Usage***

Athletic identity and academic success were able to explain significant variance in academic support services usage. External and internal motivation were left out of the multiple regression model as the correlation analysis did not find a significant relationship for either with academic support services usage. Results indicated a significant regression equation ( $F_{4,172} = 7.33, p < .001$ ), with athletic identity, career decidedness, personal adjustment, and socializing accounting for about 15% ( $R^2 = .146, p < .001$ ) of the explained variance in academic support services usage.

Higher levels of athletic identity ( $b = .061, p = .005$ ) and lower levels of career decidedness ( $b = -.020, p = .020$ ) significantly contributed to increased usage of academic support services; however, personal adjustment ( $b = -.015, p > .05$ ) and socializing ( $b = -.014, p > .05$ ) did not contribute significantly. As shown in Table

Table 2  
*Regression Analysis Summary for AIMS and Three ASICS  
 Subscales Predicting Academic Support Usage Score*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	Cronbach's $\alpha$
Athletic Identity	.061**	.021	.206	.747
Career Decidedness	-.020*	.009	-.171	.842
Personal Adjustment	-.015	.009	-.141	.866
Socializing	-.014	.011	-.099	.824

*Note:*  $R^2 = .15$  ( $N = 177$ ,  $p < .001$ ).

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

2, the participants' predicted academic services usage equaled  $4.581 + .061$  (identification)  $- .020$  (career), where identification is measured by student-athlete scores on the AIMS scale and career is measured by student-athlete scores on the career decidedness ASICS subscale. For every one unit increase in athletic identification the predicted academic services usage score increases by .061 units, and every one unit increase in career decidedness the predicted academic services usage score decreases by .020 units. See Table 2 for more information.

## Discussion

While existing literature has focused on the student-athlete experience, further research is needed to investigate the relationship among athletic identity, academic success, and academic support services usage. Insights gained in this study may be useful to a broader audience of individuals engaged in the development of successful student-athletes in the future. Respondents in this study reflected the need of a more racially diverse (Paule-Koba, 2019)

and gender equal representation than prior research (Otto et al., 2019). The choice to include all sports reflects that the majority of existing research on athletic identity and career maturity has focused on revenue-generating sports (Moiseichik et al., 2019). Several statistically significant relationships emerged in this study related to academic support service usage and athletic identity and academic success. The relationships reflect responses indicative of student-athletes' positions on the developmental continuum. Study results could be utilized by athletic support staff to potentially better understand the student-athletes they advise. It's the authors opinion, academic achievement centers may use these recommendations to establish practices to better ensure departmental programming caters to the success of student-athletes.

***Research Question 1: AIMS, ASICS,  
and Academic Support Services Usage Relationship***

The positive correlation found between strong athletic identity and academic support services usage may reflect student-athletes whose primary focus has been athletics and now recognize a greater academic responsibility. The relationship of stronger athletic identity with greater usage of academic support services may reflect team specific or institutional policy for student-athletes. This may include academic benchmarks, such as GPA or progress toward degree, that may warrant more frequent meetings with academic advisors or increased use of tutoring services. This supports previous literature that high athletic identity leads to negative ramifications on the student-athlete's academic experience (Foster, 2017). This could also reflect student-athletes whose own personal academic goals result in greater usage of academic support services. Future analyses by demographic variables (such as major, year in school, and scholarship status) may further delineate these relationships.

Data showed a negative correlation between academic support services usage and ASICS subscales: career decidedness, personal adjustment, and socializing. Career readiness included questions such as, “I know what I want to do after I graduate.” Socializing subscale included questions such as, “My grades suffered because of my active social life” and was reverse scored. Personal adjustment subscale was also reverse scored and included questions such as, “I would have done much better in this class if I didn’t have to deal with other problems in my life.” These negative correlations may reflect that student-athletes who had well defined career aspirations exhibited a lesser need to utilize academic support services. Those who did not let their socializing affect their academic success had less of a need to utilize academic support services. Those who scored well internally regarding personal adjustment likely did not rely on academic support services as they were capable of adjusting and solving their personal problems. Findings reflect similar themes of career development self-efficacy, locus of control, and barriers to career development found in Sandstedt et al. (2004) that noted the importance of transferable skills from one’s athletic career to one’s professional career. One of the postulates of Astin’s Student Involvement Theory (1984) described that involvement occurs along a continuum that is distinct for each student at a given time. Astin (1984) would suggest that those on the lower end of the continuum have the greatest need for academic support services.

Athletic identity was negatively correlated with the internal motivation subscale of ASICS with questions such as, “I knew that if I worked hard, I could do well in this class.” It appears those with stronger athletic identity are less apt to be internally motivated to perform well in school. This confirms existing literature (Foster & Huml, 2017) that a stronger athletic identity limits the scope of career preparations and exploration. Lower internal motivation may be the result of placing their athletic career over their

academic or professional career. Athletic identity was also negatively correlated with personal adjustment for academic success. These student-athletes may be on the lower end of the continuum (Astin, 1984) where they have not yet acquired necessary problem-solving skills.

### ***Research Question 2: Prediction of Academic Support Services Usage***

The ASICS subscale of career decidedness and athletic identity were significant in predicting usage of academic support services. Astin's Student Involvement Theory (1984) stated those with high athletic identity have a lower level of involvement. Student involvement refers to "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1999, p. 518). Students on the lower end of the continuum may have low levels of involvement due to career undecidedness and inadequate personal adjustment and socializing habits. Low levels of involvement could also be reflective of student-athletes' personal attitudes or non-interest in academics. Increased use of academic support services may foster responsibility and preparedness necessary for development along the continuum. These findings support Astin's Student Involvement Theory (1984) and the importance of holistic programing for student development.

### ***Implications for Practice***

It is clear from the participants in this study that academic support services staff could benefit from having their student-athletes complete this survey as part of existing forms/ questionnaires completed prior to the start of each school year. These results would allow academic support staff to tailor their programming to best suit their students' needs on an individual or group basis. Ac-

ademic support staff may then create a plan to determine how hours are allotted to study hall, academic, career specialist, and life skills meetings and attendance at programming events, to ensure student-athlete development. Coaches should be involved in discussing action plans for student-athletes to be knowledgeable and supportive of the work of student-athlete academic support staff. Further, coaches may also be supportive of the development of their student-athletes off the field. Annual completion of the survey would allow academic support staff to track student-athletes' progress and cater to areas needing improvement. Further, this would allow student-athletes to benefit from holistic programming in the areas of career, personal and social development. Based on the collective results, academic support services staff may find it beneficial to review and possibly update their current practices. This study further validates recent initiatives at many institutions acknowledging the need for resources ensuring the overall well-being of their student-athletes.

### ***Directions for Future Research***

This study was conducted at a large, public, in the Midwestern region of the United States, potentially limiting the generalizability of the results to larger populations. Study participants reflected the diversity of the institution, but further research could be strengthened by expanding the sampling frame to explore the impact of regional locality on the experiences of student-athletes. The sample reflected Division I FCS student-athletes. Future research could extend to Division I FBS, Division II, and Division III institutions to ensure reliability at all levels of NCAA athletics. A multivariate analysis of variance could be conducted to test differences between the independent variables (demographic variables) of student-athletes on the three dependent variables of AIMS, ASICS and academic support services usage.

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