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College Athletes and the Influence of Academic and Athletic Investment on Sense of Belonging

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While the athletic and academic experiences of student-athletes have been frequently examined by scholars (Houle & Kluck, 2015; Rettig & Hu, 2016), there is a lack of research into which investment in these activities creates a sense of belonging on campus for student-athletes. Other factors, such as sport status (i.e., team or individual sport), have only been conceptually discussed, while transfer status and gender, have only been examined in non-athlete populations, highlighting a gap in our college student understanding of sense of belonging (Fearon, Barnard-Brak, & Robinson, 2011). Therefore, the purpose of this study was to examine the relationship between student investment (i.e., academic investment and athletic investment) and sense of belonging of student-athletes. Structural modeling results indicated as both athletic and academic investment increase, the student-athlete's sense of belonging on campus decreased. Additionally, student-athletes who were transfers, in team sports, or men were more likely to have a reduced sense of belonging on campus. These findings show further attention to the need for athletic and academic support services to help student-athletes integrate into their college campus and feel welcomed within the student body. One recommendation is to create better opportunities for student-athletes to connect and socialize with non-athlete students.

Introduction

Students are faced with difficult choices on how to invest their time and effort while in college. They may believe this investment provides some form of internal satisfaction, helps feed a subconscious need to complete a task, or helps them achieve a long-term or career-related goal (Lawson & Lawson, 2013). Making their decisions all the more difficult, students enter higher education at an important developmental phase in their life as they seek to further advance their education as a means for increasing their likelihood of developing independence, increasing problem solving, securing a career, higher pay, or a more stable work environment (Renn & Reason, 2012). During this vital phase, students are also faced with opportunities to join other non-educational outlets, such as intramurals, student life, and various social events that can create invaluable, personal connections. Choosing to invest in a combination of activities will profoundly shape their college experience (Lawson & Lawson, 2013).

Student investment has been defined as the student choosing certain activities based on a cost-benefit analysis based on the individual student's identity constructions and peer group affiliations (Juvonen, Espiniza, & Knifsend, 2012; Lawson & Lawson, 2013). These decisions also require a trade-off, as spending time on one activity restricts the time that can be committed to another activity. For some students, choosing an activity hinges on four components: (a) importance (attainment value), (b) enjoyment (intrinsic value), (c) usefulness (utility value), and (d) extent to which participating in one activity may come at the expense of another (cost: Eccles et al., 1983).

Further complicating these choices are the decisions placed on student-athletes, who are tasked with committing large amounts of time towards their athletic responsibilities (Johnson, Wessel, & Pierce, 2013; Melendez, 2006). Scholars have previously reported the difficulty faced by student-athletes to find adequate time to focus on academics, athletics, and explore other opportunities on campus (Chen, Snyder, & Wagner, 2010). As student-athletes face more choices and less time, it creates an increased risk of finding an acceptable combination in order to be successful in college.

College student attrition has been identified as one of the biggest challenges faced by higher education institutions and college students (Sutter & Paulson, 2017; Tinto, 1993). Universities have begun to examine the factors affecting college students and their decision to persist towards college graduation. One such factor, sense of belonging, has been established as a critical factor for fostering a positive educational experience for college students and increasing retention (O'Keeffe, 2013). Sense of belonging tasks the institution with creating an environment for students that makes them feel connected to others, developing impactful relationships with university personnel, and creating a culture of inclusiveness and comfort for students (Heisserer & Parette,

2002; O'Keeffe, 2013). This connection can make or break a student's higher education experience and, depending on the student's sense of belonging, or lack thereof, can lead to an increase or decrease in student retention and academic success.

Therefore, the purpose of this study was to examine the relationship between student investment (i.e., academic investment and athletic investment) and sense of belonging among student-athletes. Additionally, we examined the relationship between participant demographics, such as transfer status, gender, team status, and sense of belonging. This purpose was examined from the context of student-athletes at various NCAA institutions. To analyze these data, the researchers employed a structural equation modeling approach in order to help us understand the relationship between latent concepts. There has been a call for further study into investment-related concepts for college students, believing that college-related investment has been one of the more understudied concepts in higher education (Lawson & Lawson, 2013). Student-athletes have been previously reported as being at a greater potential risk of reporting lower sense of belonging when compared to their non-athlete peers (Comeaux, 2012), but has not been studied directly. Additionally, student-athletes have been questioned for their academic commitment while in college (Foster & Huml, 2017; Kulics, Kornspan, & Kretovics, 2015). This creates a unique opportunity to examine the effect of academic and athletic investment on student-athlete sense of belonging (Fearon, Barnard-Brak, Robinson, & Harris, 2011). Better understanding the value of academic investment and athletic investment on sense of belonging would help institutions create better resources to combat student-athlete attrition. Further, there is a need to expand our application of student investment within higher education research and understand its relationship with other educational concepts (Lawson & Lawson, 2013).

Review of Literature

College students' sense of belonging has been found to be a key factor in outcomes like student retention (O'Keeffe, 2013) and student success (Freeman, Anderman, & Jensen, 2007). Strayhorn (2012) posits that sense of belonging is whether campuses understand the importance of meeting basic human needs of diverse student populations. The current study adopts a similar definition of sense of belonging used by Hoffman and colleagues (2002), who stated that sense of belonging is a "subjective sense of affiliation and identification with the university community" (p. 228). Sense of belonging has been previously researched among certain vulnerable student populations, such as first-year students (Freeman et al., 2007), first generation students (Stebleton, Soria, & Huesman, 2014), minority students (Maestas, Vaquera, & Zehr, 2007) and immigrant students (Stebleton, Huesman, & Ku-

zhabekova, 2010). For example, Freeman et al. (2007) found that student social acceptance and professors' pedagogical caring were two factors that were both positively and statistically significantly related to sense of belonging among first-year college students. Certain subgroups of student populations have unique characteristics worthy of investigation in terms of ways to increase their sense of belonging on campus.

Student engagement in purposeful educational activities has been found to be one key factor that can positively impact different student groups' sense of belonging on campus (Strayhorn, 2012). Mandernach's (2015) synthesis of the literature on student engagement concludes that student engagement can be narrowed down to the cognitive, behavioral, and affective investment in activities. Cognitive engagement is the mental effort put forth towards a certain task, behavioral engagement is the active responses to certain activities, and affective investment is the emotional responses to certain activities. All three types of student engagement activities have been explored in relation to sense of belonging. For instance, Harper and Quaye (2015) provide examples of purposeful engagement activities at universities offering culturally-based campus organizations, opportunities to connect with the community (i.e., service-learning), summer bridge programs, student advisory committees, professional development for student leadership development, student-faculty network groups, and social spaces that work to create peer networks.

Varsity athletics are one purposeful engagement activity provided to student-athletes (Rettig & Hu, 2016). Student-athletes often heavily invest themselves into two distinct roles on campus as both students and athletes (Adler & Adler, 1985). The authors suggested these roles could create both physical and mental subconscious isolation from their non-student-athlete peers. Across all three NCAA Divisions, student-athletes have self-reported spending anywhere from 24-42 hours per week dedicated to their athletic roles and a range of 31-48 per week dedicated towards their academics (NCAA, 2016). These reported commitments suggest student-athletes invest a significant amount of time dedicated to both roles, with the cumulative time commitment on par with working two, full-time jobs. Given the daily schedule of a student-athlete, there is limited time to invest in other educational purposeful activities when compared to their non-athlete peers (Jolly, 2008; Paule & Gilson, 2010). This extreme time commitment to athletics and academics provides a unique context for which activity is most important for students regarding their higher education experience: Are student-athletes feeling a greater sense of belonging from their athletic activities? Or academic activities? Student-athletes have frequently reported a greater preference to their sport (Foster & Huml, 2017), but these activities are often isolated from the rest of campus and do not feel like a traditional higher education

experience (Shulman & Bowen, 2001). Academics are central to higher education, but concerns persist on the interest (i.e., prioritizing academics over athletics) and resistance (i.e., academic stereotypes against student-athletes withing higher education) faced by student-athletes within academics (Levine, Etchison, & Oppenheimer, 2014; Parsons, 2013; Wininger & White, 2015).

Current research among student-athletes' sense of belonging on campus is limited. Previous studies have examined the combined educational-athletic experience faced by student-athletes (Adler & Adler, 1985; Houle & Kluck, 2015; Lott & Turner, 2018; Miller & Kerr, 2002; Rettig & Hu, 2016), but many of these studies only indirectly speak to their impact on the participant's sense of belonging (Fearon et al., 2011). Student-athletes often prioritize their athletic commitments, creating a bond with their teammates and perceive their academic experience through the perception of their sport experience (Adler & Adler, 1991; Bell, 2009; Chen et al., 2010). This experience may fail to create a sense of belonging for the student-athlete to the traditional college experience he or she hears about from friends and peers. One goal of the current study is to extend the limited literature on sense of belonging among student-athletes. A better understanding of student-athlete sense of belonging will provide greater context to their involvement in various educational and athletic experiences, in addition to providing indirect insight into educational outcomes correlated with sense of belonging, such as student retention, graduation rates, and first-year academic performance (Lawson & Lawson, 2013). The next two sections discuss the literature on academic and athletic investment in relation to student-athletes' sense of belonging on campus.

Academic Investment and Sense of Belonging

College students' investment towards their academics has been found to be related to both pre-college characteristics (Trevino & DeFreitas, 2014) and on-campus environmental factors (Perez, Cromley, & Kaplan, 2014). Students who reported having developed a career identity in relation to their majors in the science, technology, engineering, and math (STEM) fields were more motivated academically to remain in their competitive majors when compared to those who lacked identity development (Perez et al., 2014). Additionally, students who viewed their majors as perceived costs (i.e., they could be spending less time in another major) were less likely to be academically invested and motivated to persist.

Among the student-athlete population, investing in academics has been found to be an area that is internally valued by student-athletes but with results providing conflicting stories. For example, Potuto and O'Hanlon (2007) found 93% of student-athletes in their study indicated that it was "*very important*" to them to graduate from college. Additionally, Gaston-Gayles (2004) found ac-

ademic motivation to be one of the key variables among NCAA Division I student-athletes' academic success. On the other hand, student-athletes convey prioritizing other activities, such as athletics, compared to academic responsibilities. Student-athletes have reported choosing majors that either do not conflict with athletic responsibilities or include less rigor to allow them to prioritize their sport, with teams reporting over 25% of their student-athletes declaring the same major (Foster & Huml, 2017; Fountain & Finley, 2009, 2011). Many others have reported on the high levels of athletic identity, known as the salience of an individual's identity within being an athlete (Brewer, Van Raalte, & Linder, 1993).

Another factor that may be related to student-athletes' investment in their academics is the NCAA academic eligibility requirements imposed by NCAA bylaws. For example, in order maintain athletic eligibility on the field or court, student-athletes must also succeed in the classroom and maintain academic progress toward a degree. These requirements relate to maintaining a minimum grade point average (GPA) in overall coursework and passing a certain amount of academic credits each semester for earned credit (NCAA, 2018a). Due to the immense time commitments student-athletes make toward academics and the potential lack of time to explore other interests on campus, they may be at risk for not integrating themselves into campus life, and hence may feel a lack of belongingness on campus impacted by their academic investment. Based on this reasoning, the following hypothesis was developed:

> *H1*: Academic investment will be negatively related to student-athletes' sense of belonging.

Athletic Investment and Sense of Belonging

Similar to academic-related investment, athletic-related investment is a significant time commitment for student-athletes and one of the major factors for their sense of belonging on campus. Athletic investment has been defined as the value and involvement individuals have in relation to sport (Hawkins & Mulkey, 2005). A similar topic used by sport scholars has been sport commitment, which has been defined as, "a psychological construct representing the desire and resolve to continue sport participation" (Scanlan, Carpenter, Simons, Schmidt, & Keeler, 1993, p. 6). Sport commitment has identified five, distinct factors to explain why athletes invest their time in sport: sport enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities. Sport enjoyment has been defined as "a positive affective response to the sport experience that reflect generalized feelings such as pleasure, liking, and fun" (Scanlan et al., 1993, p. 6). Involvement alternatives are defined as "the attractiveness of the most preferred alternatives to continued participation in the current endeavor" (Scanlan et al., 1993, p. 7). Personal

investments is defined as, "personal resources that are put into the activity which cannot be recovered if participation is discontinued" (Scanlan et al., 1993, p. 7). Social constraints has been defined as, "social expectations or norms which create feelings of obligation to remain in the activity" (Scanlan et al., 1993, p. 7). Lastly, involvement opportunities was defined as, "valued opportunities that are present only through continued involvement" (Scanlan et al., 1993, p. 7). Additional factors that have been found to influence an athletes' investment in sport have been the social climate (Hall, Newland, Newton, Podlog, & Baucom, 2017), age (Weiss & Weiss, 2007), gender (Wigglesworth, Young, Medic, & Grove, 2012), identity (Hagiwara & Isogai, 2014), and skill level (Casper & Andrew, 2008; Weiss & Weiss, 2007).

Regardless of whether student-athletes are interested in academics, they heavily invest in their athletic roles. Sixty percent of student-athletes feel they are more of an *athlete* than a *student* and 70% believe they miss out on university sponsored opportunities (e.g., research projects, study abroad) due to their athletic commitments (Potuto & O'Hanlon, 2007). However, most athletic departments try to compensate by sponsoring different co-curricular activities (Andrassy, Svensson, Bruening, Huml, & Chung, 2014). These activities for student-athletes help compensate for some lost opportunities, but often fall short of replicating the educational experiences faced by non-athlete students (Comeaux, Speer, Taustine, & Harrison, 2011).

Some student-athletes suffer negative consequences when prioritizing their athletic responsibilities over other activities. Athletic identity foreclosure, defined as sacrificing identities in other areas outside of athletics, has been found to have negative effects on athletes, such as increased substance abuse, decreased career development, increased burnout, and difficulties transitioning out of sport (Brewer & Peptitpas, 2017). Student-athletes who reported higher levels of athletic identity and sport commitment will report lower scores on personal adjustment to college, academic engagement, and decreased integration into their campus environment (Comeaux & Harrison, 2011; Gayles & Hu, 2009). Due to the immense time commitments student-athletes spend in sport, and the negative impacts this commitment may have on identity development and participation outside of sport or related athletic sponsored events, the following hypothesis was developed:

> *H2*: Athletic investment will be negatively related to student-athletes' sense of belonging.

Transfer Student-Athletes and Sense of Belonging

As students spend more time at school, they are more likely to increase their sense of belonging on campus. Time on campus can be an issue for student-athletes not only for the reasons

mentioned previously, but also because student-athletes transfer between higher education institutions even with long-standing NCAA restrictions designed to disincentivize transferring (Cooper & Hawkins, 2014; May & Seifried, 2012). Student-athlete transferring has increased significantly in the past ten years (NCAA, 2016). This surge of student-athlete transfers is likely to continue increasing with recent policies implemented to allow graduating student-athletes to transfer and have immediate eligibility and a recent revamping of NCAA transfer legislation to simplify the process for student-athletes (NCAA, 2018).

These trends indicate a need for more research on this particular subgroup (Cooper & Hawkins, 2014). Examining transfer student-athlete research, there is limited scholarship examining its effects on student sense of belonging. Certain transfer student research has illustrated some of the struggles faced by participants, such as difficulties of engagement with the institution, balancing academics and various career and social roles and financial barriers (Burgess & Cisneros, 2018; Kirk-Kuwaye & Kirk-Kuwaye, 2007). Additionally, psychological and mental health factors of anxiety, stress, and depression have been found to have a greater impact on transfer students compared to non-transfer students (Beiter et al., 2015). These previous findings highlight the potential of transfer student-athletes having a reduced sense of belonging on campus compared to their student-athlete peers that have stayed at one institution, indicating an area of empirical need. Based on this, the following hypothesis was created:

> *H3*: Transfer student-athletes will have a lower athletic commitment, a lower academic commitment, and a lower sense of belonging compared to non-transfer student-athletes.

Type of Sport and Sense of Belonging

Student-athletes' type of sport, such as individual or team sport, plays a significant role in student-athletes' college experience. Student-athlete differences have been examined related to their involvement in a team or individual sport, such as anxiety and confidence (Zeng, 2003), personality characteristics (Nia & Besharat, 2010), coach-athlete relationships (Rhind, Jowett, & Yang, 2012), and impact on retention (LeCrom, Warren, Clark, Marolla, & Gerber, 2009). Team sport student-athletes have been found to be more likely to view themselves as athletes rather than students and are more likely to think they are discriminated against by their professors in comparison to individual sport athletes (Potuto & O'Hanlon, 2007). Individual sport student-athletes are also more likely to participate in on-campus activities and be members of on-campus organizations in comparison to team sport student-athletes (Potuto & O'Hanlon, 2007). Some of this variance may be explained by student-athlete racial differences between team and individual sports. Individual

sports, such as golf and tennis, are more likely to have a greater concentration of White student-athletes when compared to team sports, such as football and basketball (Lapchick, 2017). For example, the most recent NCAA demographic data reports only 1.1% of NCAA Division I golfers from FBS institutions identify as Black compared to 49.2% who play football (NCAA, 2018b). These findings indirectly connect with previous studies showing that minority college students face greater challenges of acclimating to their college environment and achieving a sense of belonging on campus (Cooper & Hawkins, 2014). For these reasons, the following hypothesis was developed.

> *H4*: Individual team sport athletes will have a lower athletic investment, higher academic investment, and higher sense of belonging compared to team sport athletes.

Gender and Sense of Belonging

Finally, gender has been shown to impact the educational experience of college students and student-athletes (Laird & Niskodé-Dossett, 2010). Female student-athletes have been found to be more invested and committed to succeed academically in comparison to their male peers (Beron & Piquero, 2016; Rettig & Hu, 2016). Athletic investment has been under-studied within the field of sport, especially within college sport. While there is a lack of scholarship on the area, other studies have highlighted the greater propensity of male athletes to report higher levels of athletic identity, athletic commitment, and athlete role engulfment (Adler & Adler, 1991; Burgess & Cisneros, 2018; Gayles & Hu, 2009), all of which possess crossover characteristics with athletic investment because of the time commitment dedicated sport. A previous, non-peer-reviewed study found female student-athletes across all three NCAA Divisions have reported feeling a greater sense of belonging on campus in comparison to their male counterparts (NCAA, 2016).

Considering this dearth of literature related to gender and academic and athletic investment, it seemed even more important to include the gender factor in our analysis. Having very little to base the hypothesis on, the authors took into account the studies mentioned above, as well as an understanding that investment is a push-pull system, where investment in one area which likely results in another area of investment suffering. Thus, when comparing male and female student-athletes, the following hypothesis is presented:

> *H5*: Female student-athletes will have a higher academic investment, lower athletic investment, and a higher sense of belonging in comparison to male student-athletes.

Theoretical Framework

Expectancy value theory was used to frame our study (Eccles et al., 1983). Expectancy value theory is a theoretical model derived from theories focusing on

student motivation. The theory describes how students may choose to make an investment in a particular activity based on four components: (a) importance (attainment value), (b) enjoyment (intrinsic value), (c) usefulness (utility value), and (d) extent to which participating in one activity may come at the expense of another (cost). Therefore, the decision to make an investment is done by weighing the four factors in each of their associated benefits and costs (Lawson & Lawson, 2013). Since a student chooses what to invest in, they can choose to invest in one activity and may forgo others. Expectancy value theory has been examined within higher education research, most prominently with student motivation, achievement, and factors influencing college student decision making (Wigfield & Cambria, 2010).

Because of the focus on choosing activities for investing their time, student-athletes provide a unique context for studying expectancy value theory, but there is limited scholarship combining the context with the theory. Gaston-Gayles (2005) applied the concepts of the expectancy value framework to develop the Student-Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ). Results suggested a valid measure with good internal consistency that measures three components: (1) academic motivation, (2) student athletic motivation, and (3) career athletic motivation. Since this study was focused on instrument development, it does not provide any empirical examination when examining student-athletes through this unique theoretical framework. As explained by the literature above, student-athletes have dual roles where they invest heavily in both academics and athletics. In the application of expectancy value theory, student-athletes may think competing in their sport is important, they enjoy it, it is useful, and find it more satisfying compared to others, or vice versa with their academic roles. How decisions to invest in certain roles impact sense of belonging on campus will be looked at through this lens.

Method

Participants

The initial sample consisted of 238 NCAA student-athletes. After initial review of the responses, a handful of participants were removed due to screening questions and/or incomplete responses. The final sample consisted of 207 participants. Kline (2015) recommends at least 200 responses to establish generalizable results from structural equation modeling (SEM). To increase the generalizability of the results, the authors targeted all three divisions within the NCAA governance structure, including responses from Division I (67%), Division II (22%), and Division III (11%) student-athletes. Participants were primarily female (75%), White/Caucasian (77%), and a minority of them were transfer student-athletes (15%). Our sample is slightly skewed from gender and race standards, as compared to the trends reported by the Racial and Gender Report Card (Lapchick,

2017), with the biggest difference related to responses by gender, but was consistent compared to recent NCAA trends on transfer student-athletes (NCAA, 2016). Remaining demographic and frequency data pertaining to our participants is provided in Table 1.

Instrumentation

Data were collected from participants on three concepts: (1) academic-related

Table 1

Demographic Characteristics of Participants (N = 207)

Characteristic	*n*	%
Gender		
Female	155	75
Male	52	25
Race		
American Indian/Native Alaskan	2	1
Asian	3	6
Black/African American	19	9
Hispanic/Latino/Latina	14	7
White/Caucasian	160	77
Native Hawaiian/Pacific Islander	0	0
Biracial	8	4
Other	1	<1
Year in College		
First	64	31
Second	42	20
Third	54	26
Fourth	38	18
Fifth	8	4
Sixth	1	<1
Transfer Student-Athlete		
Yes	31	15
No	176	85
NCAA Division		
Division I	138	67
Division II	46	22
Division III	23	11
Team or Individual Sport		
Team Sport	162	78
Individual Sport	45	22

Note. Totals of percentages are not 100 for every characteristic because of rounding

investment, (2) athletic-related investment, and (3) sense of belonging. Previously established scales were used to measure each of these concepts. First, we used a combination of two scales to measure academic-related and athletic-related investment. In relation to Eccles et al.'s (1983) expectancy value model, a scale was introduced by Wigfield and Eccles (2000) to help measure the subjective task values within the model. The subjective task values are, "assumed to directly influence achievement choices. They also influence performance, effort, and persistence" (Wigfield & Eccles, 2000, p. 69). Items from this scale included subconstructs on (a) ability beliefs, (b) expectancy, and (c) usefulness, importance, and interest items. To provide a more vigorous athletic-related perspective, we also used Gaston-Gayles' (2005) Student Athletes' Motivation toward Sports and Academics Questionnaire (SAMSAQ). As mentioned previously, SAMSAQ is a multi-dimensional scale, with separate constructs measuring (a) career athletic motivation, (b) academic motivation, and (c) student athletic motivation. Both of these scales have previously been established as valid and reliable (Eccles et al., 1983; Gaston-Gayles, 2005). Items from both scales were blended to fit within the four reasons outlined by Eccles et al. (1983) expectancy value theory of students investing in an activity: (a) intrinsic value, (b) attainment value, (c) utility value, and (d) costs. These reasons were invoked during the creation of both Wigfield and Eccles (2000) and Gaston-Gayles' (2005) instruments. The final version of the scale implemented for this study included 32 items across four different constructs in both academic-related (*ACAD-Investment*) and athletic-related (*ATHL-Investment*) investment.

To assess sense of belonging, Goodenow's (1993) Psychological Sense of School Membership (PSSM) scale was used. The PSSM scale was designed to measure school belonging perceived by students and to identify a lack of belonging, or alienation, experienced by students as a means of intervention (Goodenow, 1993). The scale is unidimensional and consists of 18 items in total. The PSSM was also previously established as both valid and reliable in the original study (Goodenow, 1993). The scale was originally designed for primary and secondary students but has also been frequently administered to college students (Freeman et al., 2007; Gummadam, Pittman, & Ioffe, 2016; Pittman & Richmond, 2008). With the authors' study focusing on student-athletes, certain items were removed if they focused on topics not pertinent to this study, such as social activities. This was done to isolate their educational and athletic experiences from the various other activities available to all students that would be difficult to chronicle across different institutions. The final version of PSSM used for this study included seven items and used a five-point Likert-type scale.

Data Collection & Analysis

Following IRB approval for the study, we started contacting various athletic department employees in order to identify participants. With the difficulties of collecting data from student-athletes, we used a convenience sample of seven different NCAA institutions. These institutions included NCAA Division I (Power 5 and Group of 5), Division II, and Division III member schools. Geographic locations included the Midwest, Southeast, Southwest, and Mid-Atlantic regions. They also included institutions within urban, suburban, and rural settings to provide a more diverse population and better align with the NCAA student-athlete general population. We contacted athletic department employees at these chosen NCAA institutions in order to receive permission to disburse the survey to their student-athletes. These employees had titles ranging from athletic director to assistant athletic director of academic services. We provided each prospective institution all IRB approved documentation, the informed consent, and access to the instrument for review. After we received a willingness to contact their student-athletes as participants, we sent a second email with a live link to the survey, overview of the study, and the informed consent, to the athletic department employee, who then forwarded the email to their student-athletes. After one week, a follow-up email was sent to the athletic administrator. Following the second week, the survey link was closed and a thank you email was sent to all of the participants. All data were collected anonymously using Qualtrics online surveying software.

We utilized structural equation modeling (SEM) to analyze our results. SEM is commonly used to assess relationships between variables that cannot be directly observed (Raykov & Marcoulides, 2006). Parceling was used to test the hypothesized measurement and structural models (Schreiber, Nora, Stage, Barlow, & King, 2006). A parcel is an aggregate-level indicator containing the sum of multiple items within one composite score (Little, Cunningham, Shahar, & Widaman, 2002). Parceling was used both for the academic-related and athletic-related investment constructs because of their multi-dimensionality. Exogenous variables were also added to the structural model for assessing differences related to participant independent variables.

Measurement Model. AMOS 22.0 was used to perform a confirmatory factor analysis (CFA) to assess overall model fit of the three latent constructs (academic-related investment, athletic-related investment, sense of belonging). A CFA is used to "examine patterns of interrelationships among several latent constructs" (Raykov & Marcoulides, 2006, p. 4). Performing a CFA allowed us to assess whether the measured variables were accurately portraying the expected constructs before reviewing the structural model (Jackson, Gillaspy, & Purc-Stephenson, 2009). Model fit statistics were then compared to standards established by Hu and Bentler (1999; i.e.,

Comparative Fit Index (CFI) of .90 or greater, an Adjusted Goodness-Of-Fit Index (AGFI) of .80 or greater, and a root mean square error of approximation (RMSEA) of .05 or less). Once acceptable model fit was achieved, we examined the structural model.

Structural Model. AMOS 22.0 was also used to analyze the structural model. While the structural model also reported model fit statistics, it is primarily used to analyze explanatory relationships among constructs and exogenous variables (Raykov & Marcoulides, 2006). These relationships go beyond interrelated latent variables, as particular structural paths are intended to test theoretical concepts. Each structural path within the model was associated with one of the proposed hypotheses. Bivariate correlations and psychometric properties of all constructs within the model were assessed for convergent and discriminant validity. Next, the standardized path coefficients associated with the tests performed for this study were assessed for strength and direction. The proposed model is provided in Figure 2.

Results

Bivariate Correlations

The bivariate correlations between subconstructs of athletic-related/academic-related investment and items from PSSM are provided in Table 2. Each of the bivariate correlations within constructs were significant and in the direction as expected. Additionally, the *ACAD-Investment* constructs were significantly correlated with almost all of the PSSM items, but rarely correlated with *ATHL-Investment*. The correlations

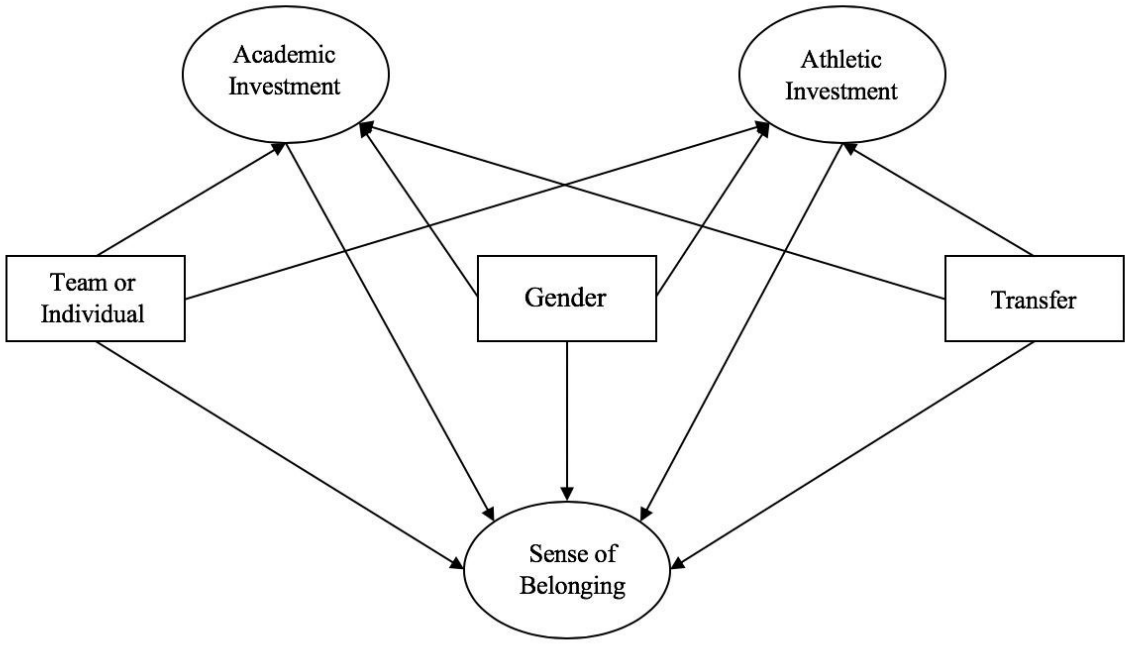

Figure 1. Proposed Model

Table 2

Intercorrelations for Subconstructs of athletic-related investment, academic-related investment, and PSSM (sense of belonging) items

Items															
Academic-Intrinsic	--														
Academic-Attainment	.51*	--													
Academic-Utility	.69*	.64*	--												
Academic-Costs	.47*	.69*	.60*	--											
Athletic-Intrinsic	.08	.11	.08	.09	--										
Athletic-Attainment	-.06	-.07	-.04	-.04	.60*	--									
Athletic-Utility	-.09	-.16*	-.09	-.09	.52*	.65*	--								
Athletic-Costs	.01	-.02	.02	.14	.60*	.70*	.52*	--							
PSSM-1	-.30*	-.23*	-.31*	-.26*	-.25*	-.12	-.11	-.19*	--						
PSSM-3R	-.23*	-.29*	-.28*	-.28*	-.17*	-.06	.-7	-.15*	.41*	--					
PSSM-5	-.36*	-.15*	-.31*	-.25*	-.04	.06	.01	.02	.32*	.21*	--				
PSSM-7	-.21*	-.21*	-.27*	-.25*	-.22*	-.13	-.05	-.17*	.46*	.37*	.35*	--			
PSSM-11	-.18*	-.26*	-.22*	-.24*	-.19*	-.03	.04	-.14*	.38*	.45*	.38*	.45*	--		
PSSM-13	-.15*	-.18*	-.20*	-.28*	-.23*	-.10	-.03	-.23*	.38*	.47*	.28*	.54*	.40*	--	
PSSM-16R	-.25*	-.24*	-.24*	-.21*	-.29*	-.11	-.06	-.19*	.50*	.43*	.25*	.38*	.42*	.40*	--

*$p < .05$. R = reverse coded item.

between athletic-related investment and PSSM were more inconsistent, with only *ATHL-Intrinsic* being significantly correlated with most of the PSSM items. One interesting note was the lack of statistical correlation between *PSSM*-5 and certain constructs within both *ACAD-Investment* and *ATHL-Investment*. This was the only item within *PSSM* that reported any lack of statistical correlation. This was further monitored in the measurement model phase.

Measurement Model Testing

Based on recommendations from Hu and Bentler (1999; i.e., Comparative Fit Index (CFI) of .90 or greater, an Adjusted Goodness-Of-Fit Index (AGFI) of .80 or greater, and a root mean square error of approximation (RMSEA) of .05 or less), initial model fit indices of the measurement model were reasonably acceptable (x^2 = 170.468, *df* = 87, p < .01; CFI = .93; GFI = .90; AGFI = .86; RMSEA = .07). The x^2 being statistically significant was expected, as previous literature has identified that studies with participants above 200 are likely to trigger a statistically significant x^2 (Kline, 2015; Raykov & Marcoulides, 2006). Modification indices were identified and implemented in the subsequent models to improve model fit. Any modifications made to the model should be kept to a minimum and should only be included within the model if they can be theoretically justified and large enough to improve model fit (Raykov & Marcoulides, 2006). After reviewing potential modification indices, two parameters were identified: (1) Academic-Utility Value (Error) to Academic-Intrinsic Value (Error) (Chi-Square Change = 13.673), and (2) PSSM-6R (Error) to PSSM-1 (Error) (Chi-Square Change = 4.773). Both of these modification indices are understandable due to each measure being associated with the same construct and each item having similar statements. Following these modification indices, the model fit improved and reached each of the thresholds recommended by Hu and Bentler (1999; x^2 = 138.024, *df* = 85, p < .01; CFI = .96; GFI = .92; AGFI = .88; RMSEA = .05), therefore suggesting good model fit.

The factor loadings within the model ranged from .61 to .85 for *ACAD-Investment* constructs, .70 to .90 for *ATHL-Investment* constructs, and .46 to .70 for *PSSM* items. Each of these factor loadings were statistically significant and established salience between the latent variables and the observed indicator. Kline (2015) recommends removing any item that does not reach the factor loading threshold of .60 or greater. The item reporting a low factor loading score was *PSSM-5*, the same item reported as an outlier within the bivariate correlations table. Because of these concerns, *PSSM-5* was removed from the measurement model. Following this removal, the model fit statistics further improved (x^2 = 100.771, *df* = 72, p < .05; CFI = .98; GFI = .94; AGFI = .91; RMSEA = .04) and factor loadings within *PSSM* ranged from .61 to .69, above Kline's (2015) thresh-

old. Each construct was also analyzed for Cronbach's alpha (α), factor loadings (β), standard error (SE), critical ratio (CR), construct reliability (C.R.), and average variance explained (AVE). These statistics provide internally consistent reliability, convergent validity, and correlation scores between constructs, and are provided in Table 3. The AVE score for the PSSM scale does fall below Fornell and Larcker's (1981) recommended criterion of .50, but other literature has recommended keeping constructs that are fairly close to their criterion threshold (Ping, 2009).

Structural Model Testing

To examine the structural model, we added exogenous variables, (a) team or individual sport, (b) transfer or no transfer, and (c) gender to the model and re-tested model fit to ensure we were still meeting Hu and Bentler's (1999) recommendations. Model fit statistics were

Table 3

Cronbach's alpha (α), Means, Factor Loadings (β), Standard Error (SE), Critical Ratio (CR), Construct Reliability (C.R.) and Average Variance Explained (AVE)

Factor	Mean	α	β	SE	CR	C.R.	AVE
ACAD-Investment						.84	.57
Intrinsic	4.92	.87	.60	.12	8.33		
Attainment	6.32	.80	.84	.07	11.63		
Utility	5.63	.79	.76	.09	10.82		
Costs	5.77	.69	.80	-	-		
ATHL-Investment						.87	.62
Intrinsic	6.26	.81	.77	.08	11.23		
Attainment	6.19	.77	.90	.08	12.76		
Utility	5.21	.79	.70	.12	10.08		
Costs	6.00	.72	.77	-	-		
PSSM						.82	.43
PSSM-1	2.13	.82	.62	.12	7.51		
PSSM-3R	4.00	--	.65	.13	7.87		
PSSM-7	1.76	--	.69	-	-		
PSSM-11	1.77	--	.69	.11	8.23		
PSSM-13	4.18	--	.61	.14	7.41		
PSSM-16R	2.07	--	.64	.12	7.73		

Note. ACAD-Investment and *ATHL-Investment* are 7-point likert scales. *PSSM* is measured on a 5-point likert scale. The .82 cronbach's alpha score within PSSM-1 is representative of the entire PSSM scale.

still above the threshold, (x^2 = 42.528, df = 109, p < .05; CFI = .97; GFI = .93; AGFI = .90; RMSEA = .04), so we began examining the hypothesized relationships between our latent constructs and exogenous variables. The final model is provided in Figure 3.

The first set of hypotheses looked at the relationship between the latent constructs of both academic-related investment (*ACAD-Investment*) (H1) and athletic-related investment (*ATHL-Investment*) (H2) with sense of belonging on campus (*PSSM*). Respondents' academic- related investment had a significant negative relationship with sense of belonging (β = -.43, p < .001). This finding means that as student-athletes are more academically-invested, they are more likely to report reduced feelings of sense of belonging on campus. This finding confirmed hypothesis 1, which stated that academic investment will be negatively related to student-athletes' sense of belonging.

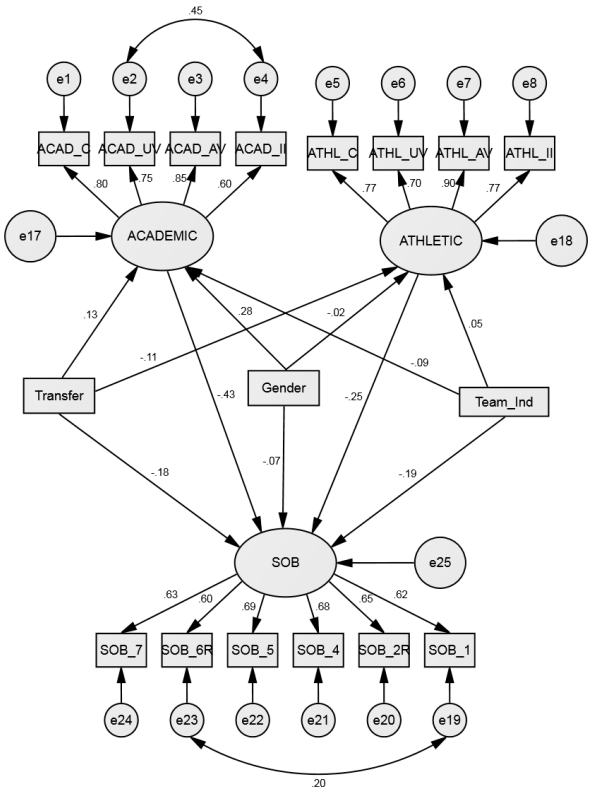

Figure 2. Structural model with standardized direct effects.

The student-athletes' athletic-related investment (*ATHL-Investment*) also had a significant negative relationship with their sense of belonging (β = -.25, p < .001). For athletes, this means that as they increase their athletic-related investment by one standard deviation, their sense of belonging on campus will decrease by .25 standard deviations. This finding confirmed hypothesis 2. The respondents' transfer status (being a former transfer student-athlete or not) was found to have a significant relationship with sense of belonging (β = -.18, p < .05), meaning that transfer student-athletes were less likely to feel a sense of belonging on campus compared to student-athletes who have stayed at the same college throughout their athletic career, which partially confirmed hypothesis 3. The respondents' transfer status was not statistically significant in comparison to academic-related investment (β = .13, p = .07) or athletic-related investment (β = -.11 p = .12). Therefore, there was no statistical difference between transfer and non-transfer student-athletes for academic or athletic commitment, therefore the other components of hypothesis 3 were denied.

The structural model results indicated the respondents' sport (team or individual) also had a statistically significant

relationship with sense of belonging on campus (β = -.19, p < .01), therefore individual sport athletes are more likely to have a greater sense of belonging on campus compared to team sport athletes. This confirmed hypothesis 4. The respondents' sport was not statistically significant in comparison to academic-related investment (β = -.09, p = .23) or athletic-related investment (β = .05 p = .48), which indicates that individual sport athletes are no more or less academically or athletically invested on campus than team sport athletes, and vice versa, therefore the other components of hypothesis 4 were denied.

Hypothesis 5 noted that female student-athletes would have higher academic investment, lower athletic investment, and a higher sense of belonging on campus than their male counterparts. The structural model results indicated that respondents' gender had a statistically significant relationship with their academic-related investment (β = .28, p < .001), but gender did not have a significant relationship with athletic-related investment (β = -.02, p = .76) or sense of belonging (β = -.07, p = .32). The statistical significance means that female student-athletes were more likely to have a higher level of academic investment compared to male student-athletes, but that the other components of the hypothesis did not hold true, as there are no statistically significant differences between male and female student-athletes in terms of athletic investment or sense of belonging.

Discussion

In summary, the results of the study indicated that for both academics and athletics, the more student-athletes are invested in these activities on campus, the lower their sense of belonging on campus. Transfer student-athletes were found to feel a lower sense of belonging on campus than non-transfer student-athletes, though the two groups do not differ in terms of academic and athletic investment. Individual sport athletes were found to have a greater sense of belonging on campus than team sport athletes, but the two groups do not differ in terms of academic and athletic investment. Finally, female student-athletes were found to be more academically invested than their male counterparts, but the two groups did not differ in terms of their athletic investment or sense of belonging on campus. These findings from our study provide some unique contributions for both expectancy value theory and from the context of student-athletes.

Academic and Athletic Investment and Sense of Belonging

The NCAA GOALS Survey (2016) reports that student-athletes have a high sense of belonging on campus. However, in looking at the current study, overall sense of belonging on campus among the sample was only a mean of 2.31 on a 5-point Likert-type scale, which is considerably lower than NCAA's internal results. This indicates that student-athletes in our sample do not feel a particularly strong sense of belonging on campus.

Both academic investment (RQ1) and athletic investment (RQ2) emerged as negatively correlated with sense of belonging on campus, which is a unique finding that has not been reported in previous research. It leads one to question what might be contributing to these feelings.

In one of the earliest in-depth, qualitative studies on the student-athlete experience, Adler and Adler (1985) found that student-athletes are often isolated from the rest of the student body. The authors noted that this isolation may result due to geographic and temporal separation, or physical and cultural differences from the non-athlete student body. They note:

> By being part of, but not like, the larger student body, athletes experience the tension between nearness and distance. This heightens their sensitivity to the strangeness and focuses their attention on those elements they do not share with other students. As a result, the internal cohesion of their peer subculture becomes strengthened and their self-identities become more firmly anchored within it. (Adler & Adler, 1985, p. 248)

These feelings may be causing a low sense of belonging on campus. Additionally, if student-athletes view sense of belonging as what they might picture as the 'typical' college experience, being able to be engaged in activities outside of academics and athletics alone, then this lower sense of belonging may start to come into clearer focus. It is likely that because student-athletes have to invest heavily in terms of time and resources into both athletics and academics, they may not be able to integrate themselves on campus in other activities that would contribute to their sense of belonging.

Further supporting this, Potuto and O'Hanlon (2007) reported that student-athletes miss out on co-curricular events on campus that they wish they could attend, while Paule and Gilson (2010) add that student-athletes feel they are missing out on things in college. Potuto and O'Hanlon (2007) further note of the 84% of their survey respondents who say that athletics has gotten in the way of their engagement on campus, 40% of those reported having "regrets about this." A survey published by the NCAA in 2016 indicated that Division I student-athletes self-report spending between 32-42 hours per week on athletic related activities, and between 34-41 hours on academics per week. If these numbers are accurate, then there truly is very little time left in the week for student-athletes to engage on campus in other ways outside of school and sport.

Because this study focused solely on quantitative data, the reasons for the low sense of belonging on campus can only be inferred. Regardless, this finding may be alarming for college athletics holistically. There is a belief among many that college athletics is an extension of the educational experience. In fact, college athletics have shown time and again to positively impact the overall college experience of non-student-athletes, even

increasing their sense of belonging on campus through attending games, tailgating, and other related activities. Football specifically creates community bonds among university students and the broader local community, shapes the image of the institution, and can drive applications to the institution (Beyer & Hannah, 2000; Roy, Graeff, & Harmon, 2008). However, could it possibly be that while college athletics increases engagement of the non-student-athlete student body, it decreases sense of belonging for the student-athletes themselves? The results of our study, coupled with what others have found in regard to the connection between college athletics and student body engagement, indicates this may be the case. This would certainly be a topic worthy of further exploration.

Specific to student-athletes as a unique population on campus, the NCAA advertises numerous advantages to participation in college athletics, including access to quality education, financial assistance, healthy living, and preparation for life, among other things ("The value of college sports", n.d.). While the current study did not measure these variables, it would be interesting to couple these positive factors with the low sense of belonging on campus found in the current study to get a holistic look at the student-athlete experience. Clearly, there are positives and negatives to participating in a NCAA sport, but how are these different factors weighted in the mind of a student-athlete that can more accurately depict the life of student-athletes?

Student-Athlete Sub-Populations and Sense of Belonging

In regard to sub-groups within the student-athlete population studied here, differences among transfer athletes (RQ3), individual and team sport athletes (RQ4), and male and female student-athletes (RQ5) are also worthy of discussion. Transfer student-athletes have been gaining more and more attention recently due to changes in NCAA policies and a consistently higher-than-desired overall transfer rate. With the existence of a systemic issue that has shown no steady decline in decades, even noting an increase in numbers of transfer student-athletes (a tenfold increase since 2011; NCAA, 2016), it is important to focus on integrating them into the team and the campus as smoothly as possible. The findings of the current study suggest that transfer students have a lower sense of belonging on campus than non-transfer student-athletes.

This could be impacted by a number of things. For instance, non-transfer student-athletes stay at one school longer, giving them more opportunity to find ways to integrate into the campus community. Additionally, many colleges and universities provide extensive on-boarding for incoming freshmen to not only introduce them to campus opportunities, but also to smooth their transition. While there are similar programs for transfer students, they may be less extensive and inclusive, and certainly include fewer students. It is likewise difficult to come in to an already formed 'team,' and find

ones place there, so these feelings of lack of belonging could extend beyond the athletic domain. While we cannot know the reasons for this lower sense of belonging for transfer students from the current study, the topic would be worthy of further exploration.

Results from our study indicate that individual sport student-athletes feel a greater sense of belonging than team sport athletes. This finding may align with Potuto and O'Hanlon's (2007) work, in which they found that individual sport athletes are more likely to participate in on-campus activities and organizations. This participation may lead to a greater sense of belonging on campus, since they feel more engaged in activities beyond athletics. There is also the possibility that individual sport athletes do not feel the same level of in-group cohesion or community with their team as team sport athletes do. The close bond of teammates among men's basketball players has been identified as a barrier to fully integrating on campus outside of athletics (Adler & Adler, 1985), so perhaps this community that creates isolation from non-athletes is not felt as strongly in an individual sport setting. In addition, other factors not addressed in the current study could be at work here, including Division (I, II, III), high profile versus low profile sports on campus, or even coaching factors. These of course are assumptions, but they speak to the importance of a qualitative follow-up to this study to try to identify the reasons behind some of the differences that emerged.

Finally, specific to gender differences, we found that female student-athletes have significantly higher levels of academic investment than male student-athletes. This was not a surprising finding, as it is consistent with other authors who have found female student-athletes to be more academically committed than male student-athletes (Beron & Piquero, 2016; Rettig & Hu, 2016). However, the more interesting finding, as it runs contrary to previous research, was there was no significant difference between male and female student-athletes in terms of athletic investment. Beron and Piquero (2016) reported that males have higher athletic identity than females, but the current study does not support this finding. It is possible that female athletes having equally high levels of athletic investment to their male counterparts demonstrates the progress that has come over time as a result of Title IX. Women's sports are gradually being taken as seriously as men's sports, as can be seen through demands for equal pay (e.g., Iati, 2019) and professional sport opportunities for women that were not present in the past. Women taking their athletic investment as seriously as their male counterparts should not come as a surprise as the equity gap between men's and women's sports continues to close. This would be worth looking into further, as few studies have compared level of athletic investment between male and female athletes.

Theoretical Implications

Theoretically, an interesting discussion emerges when considering the findings in light of Eccles and colleague's expectancy value theory (1983). The theory states that individuals make choices among different options based upon (1) importance, (2) enjoyment, (3) usefulness, and the (4) extent to which participating in one activity may come at the expense of another (Eccles et al., 1983). In short, there is a cost/benefit analysis that a person does when choosing between activities. Because the current study's findings indicate that sense of belonging on campus decreases, regardless of whether student-athletes invest in academics or athletics, this creates a bleak picture for how institutions can try to create a positive environment for student-athletes. The lack of a positive relationship implies a need for institutions to improve their athlete's environment while participating as a student and an athlete. One recommendation is to create better opportunities for student-athletes to connect and socialize with non-athlete students (Paule & Gilson, 2010). The current build-up of athletic facilities that separate student-athletes from the general population is further exacerbating the situation (Huml, Pifer, Towle, & Rode, 2019). This separation can create an environment that implies varsity athletics is separate from their educational experience by having separate facilities and personnel from those used by other non-athlete students. Second, indoctrinating incoming student-athletes to the importance of their education and career options can help reinforce the importance of education for their long-term goals. Athletic departments have made strides to incorporate more academic personnel in their office to reinforce the importance of academics, but there are still concerns about the freedom of student-athletes to choose their own majors to align with their career goals, possibly due to eligibility concerns (Fountain & Finley, 2011).

Limitations and Future Directions

Limitations certainly exist within this study, starting with the sample. As surveying collegiate student-athletes is always a challenge, due to the many gatekeepers one has to go through, a convenience sample was utilized. While it did include several NCAA schools from all three divisions, because of the sampling method, it is not representative of all NCAA schools. In addition, the purely quantitative nature of this study left questions unanswered. While the structural equation model created was able to indicate how factors work together and impact one another, it is difficult to fully understand the student-athlete experience without qualitative data on how and why student-athletes behave the way they do. Also, 14% of participants were removed from the study following data analysis. While we considered the reasons and percentage of removals within the normal range, it is noteworthy for the loss of potential data. Additionally, empirical support for our examina-

tion of gender was not as robust as was presentation for our remaining hypotheses. The authors decided to maintain this hypothesis because the empirical evidence provided enough support to raise its question from research question to hypothesis, and the further need to examine athletic/academic investment within gender.

Both of these limitations open up clear future directions. In order to further explore the topic of athletic and academic involvement among student-athletes, follow up interviews with the same sample would be interesting. The authors, understanding the quantitative findings, could specifically explore some of the most interesting trends in an open-ended way, allowing the student-athletes to explain their views in their own words. There were additionally some unique findings in this study that are worthy of further exploration. For instance, finding that male and female student-athletes did not differ on athletic investment is contrary to previous research that noted male student-athletes were more athletically invested than their female counterparts (Beron & Piquero, 2016). It is an under-researched area. Finally, expanding the sample overall would be advisable in the future, as there is still an overall dearth of information on the balance of a student-athlete's life in college.

Conclusion

The results of our study suggest that student-athletes face challenges with creating a sense of belonging on their college campus. With both academic- and athletic-related investment leading to reduced feelings of sense of belonging, these findings call further attention to the need for athletic and academic support services to help student-athletes integrate into their college campus and feel welcome within the student body. The concerns about academic commitment and retention until graduation for student-athletes further heightens these concerns. Furthermore, student characteristics that have been reported to hinder sense of belonging for traditional college students, such as transfer status and gender, were also found to reduce sense of belonging for student-athletes. Additionally, team sport student-athletes have a reduced sense of belonging compared to individual sport student-athletes. Thus, athletic departments need to focus on new and alternative forms of creating a sense of belonging on campus for their student-athletes in order to further increase their academic performance.

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