

# The Relationship between Athletic Identity and Stress in Division II College Softball Players

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*Abstract:* Athletic identity (AI) is commonly defined as how an individual perceives themselves as an athlete. While there are numerous resources available for athletes to take care of their physical health, there is a significant shortage of resources addressing mental health and how to balance their athletic career with everyday life. As a result, an athlete's level of stress both in and out of their athletic career may increase. Stress that is related to high levels of AI can bring forth negative consequences, such as decreased concentration, diminished focus, and poor academic performance. The purpose of this study was to investigate stress in relation to AI in a Division II female softball team setting. Softball players ( $N = 27$ ) completed the Athletic Identity Measurement Scale (AIMS) and Perceived Stress Scale (PSS). The mean PSS score was 32.39 out of a 40-point scale. The AIMS mean showed a moderate level of AI (45.61 of a 70-point scale). Pearson correlational analysis demonstrated a minor association existed between AI and perceived stress, but this correlation was not statistically significant ( $r = .36, p = .093$ ). The findings of this study are important for the coach to understand the influence that AI has on the psychological well-being of student-athletes.

*Keywords:* Athlete identity, perceived stress, athletic experience

*Suggested citation:* Walasavage, S., Judge, L., Fox, B., Vasiloff, O., Huffman, O., Schlosser, A., & Razon, S. (2023). *Journal of Higher Education Athletics & Innovation*, 2(1), 1-12.

## Athletic Identity and Stress

Stambulova (2021) suggests that participation in athletics can provide college students with valuable life skills and psychological benefits that may aid in identity formation. The process of identity formation occurs throughout life, but substantial strides are made during one's college years (Miller & Kerr, 2003). Athletic identity (AI) is an extension of one's self-identity or self-concept and defined as "the extent to which an individual perceives himself or herself as an athlete" (Lee et al., 2017, p. 588). Out of 17 million students, nearly half a million take on the additional challenge of playing a National Collegiate Athletic Association (NCAA) sport (Born, 2017). Within that group, over 200,00 female students participate in NCAA women's athletics. These sport participants often adopt a new self-identity: their AI.

Researchers from various disciplines have begun to explore the degree of athletes' commitment to their athletic role (Miller & Kerr, 2003). Research suggests that a student-athlete will typically embrace a strong AI (Heird & Steinfeldt, 2013), in which they will label themselves exclusively as an athlete over any other identity. This tendency has positive consequences such as increased self-confidence and self-discipline, increased overall development, and more positive social interactions that have all been observed in those with high AI (Lee et al., 2017). Lally and Kerr (2005) concluded that a strong exclusive commitment to an athletic role discourages college athletes from considering the possibility of investigating non-sport career options. For freshmen female swimmers ( $n = 5$ ), high AI may negatively impact psychological well-being and lead to adverse coping methods (e.g., crying every day; Giacobbi et al., 2004). Across the board, student-athletes may face additional challenges with their mental health (Kilcullen et al., 2022). A strong AI can also be a large source of stress for the student-athlete. It is estimated that 15% of student-athletes in college experience clinical levels of psychological stress (Heird & Steinfeldt, 2013). This potential link between AI and stress can make the college experience more challenging and overwhelming. Giacobbi et al. (2004) suggested social support from parents/peers and positive reinterpretation (e.g., using humor) can mitigate the impacts of athletic-related stress. Of particular interest to this study is a deeper understanding of the relationship between AI and stress levels in student-athletes.

An individual's AI is far from dichotomous. Scales, such as the Athletic Identity Measurement Scale (AIMS), are used to conceptually understand the layers of one's AI (Lee et al., 2017). In the past few decades, society has witnessed a significant shift in recent years, with a rising emphasis on highly competitive sports and athletic lifestyles across all levels of competition. The National Collegiate Athletic Association (NCAA) transfer portal and the introduction of name, image, and likeness (NIL) have added a new level of complexity to college athletics (Petersen & Judge, 2021). This cultural transformation has led to a change in how athletes perceive themselves and how they are perceived by others. In this evolving landscape, athletes often identify themselves primarily as athletes rather than simply as students. The previously traditional notion of being a "student-athlete" is now being reevaluated as athletes increasingly dedicate themselves to their athletic pursuits. This shift has resulted in changes not only in the lives of individual athletes but also in the way sports are perceived and valued in society. The increasing emphasis on commercialization in collegiate sports, aimed at generating revenue for universities and individuals, has led to a significant shift in focus from student-athlete to athlete-student. This shift has resulted in a heightened attention towards AI, as

universities and athletes strive to maximize financial opportunities in the competitive sports industry (Ekeren, 2017).

Often, it is believed that when AI increases, the pressure to succeed in the athlete's sport increases, causing a shift in an individual's priorities. To that end, increased levels of AI are thought to cause an athlete to be more likely to neglect other aspects of their life (e.g., career, academics, or social development; Poucher & Tamminen, 2017). Athletes in Poucher and Tamminen's (2017) study reported sacrificing social events due to physical fatigue. The combination of increasing pressure in sport with an already highly demanding collegiate environment may potentially lead to excessive stress in student-athletes (Heird & Steinfeldt, 2013).

One must also recognize the experience of a student-athlete's cognitive appraisal of identity and stress. Lee and colleagues (2017) define stress as "the result of the interaction between an individual and his/her environment and is often viewed as a phenomenon arising when individual coping resources for environmental factors are insufficient" (p. 586). A college student is no stranger to these environmental factors; however, being a student-athlete adds a substantial number of considerations to the list. Student-athletes battle against typical early adulthood challenges that every college student faces, such as learning to live alone for the first time or balancing time more effectively (Kaiseler et al., 2017). Student-athletes face a myriad of challenges, including time constraints, physical and emotional strains, the pressure to maintain high academic performance, uncertainty in career goals, and the demanding nature of coaching (Powers et al., 2020).

Powers et al. (2020) found that strong coach-athlete relationships correspond to lower depression scores and higher psychological quality of life scores. Results of Judge and colleagues (2012) showed that the strength and conditioning coach had a significant psychosocial impact on student-athletes' overall psychological well-being during an injured student-athlete's reconditioning phase. This study provides evidence of the vital psychosocial role that coaches can play (Judge et al., 2012). However, pressure from coaches is also documented to contribute to the student-athletes' stress (Chyi et al., 2018).

Not surprisingly then, when a student-athlete claims a strong AI, they may neglect other important aspects of their lives and well-being. Resources to help athletes' cope are lacking in this highly demanding and competitive lifestyle, therefore increasing the athlete's level of stress both in and out of their athletic career (Poucher & Tamminen, 2017). This is important because elevated stress levels contribute to a decline in quality of life, as well as burnout and injury (Gustafsson et al., 2018; Lee et al., 2017; Martin & Horn, 2013). These behaviors, such as self-imposed pressure, can manifest socially through alcohol or substance use and academically through a lack of consideration for career aspirations. These behaviors may in turn affect individuals' beliefs and behaviors regarding seeking help, such as accessing counseling services (Reich et al., 2021). Furthermore, stress can lead to overall academic-related frustration, thus causing poor academic performance (Misra et al., 2000). Gaston-Gayles (2004) posits that athletes with low academic motivation perform worse academically than athletes with high academic motivation. Athletes from ethnic minority groups reported less academic motivation compared to White peers, which was negatively related to college grade point average ( $p < .01$ ; Gaston-Gayles, 2004). Certain demographic factors, such as race, ethnicity, or gender, may

increase an athlete's risk of experiencing lower motivation and poorer performance. These factors can contribute to academic and overall stress, particularly if the athlete faces additional challenges or pressures due to a strong AI (Gaston-Gayles, 2004; Misra et al., 2000). What is especially concerning is that athletes with a strong AI, where many of these detrimental behaviors and cognitions are present, may display behaviors that can be misconstrued as stereotypical norms related to being an athlete, such as being dedicated to the sport or being extremely focused on athletics (Uphill & Hemmings, 2017).

Consequently, it is not surprising that in student-athlete populations, symptoms of appearing exhausted, anxious, and troubled are normalized (Uphill & Hemmings, 2017), and help-seeking behaviors are stigmatized (Barnard, 2016). The lack of knowledge causes doctors, teammates, researchers, coaches, parents, and peers to neglect the reality of mental illnesses (Born, 2017). The result of this neglect also shows a significant gap in research regarding athletes and their state of mind (Kaiseler et al., 2017; Uphill & Hemmings, 2017). In fact, student-athletes are perceived as a high-risk population. Not only are they contending with athletic stressors, but they are also facing many challenges that college students typically encounter. This high-risk population may be vulnerable to academic-related stress that stems from the conflict and frustration that can accompany balancing sports and class assignments (Misra et al., 2000).

When an athlete's mental toughness exceeds its capacity to cope, the result is unfamiliar vulnerability (Stamatis et al., 2020). Coaches, teammates, athletic trainers, professors, parents, and the athletes themselves often neglect this vulnerability and ignore the warning signs of mental health issues (Barnard, 2016; Kaiseler et al., 2017). To this end, there is evidence that strong relationships exist between AI, stress, and depression. Furthermore, researchers have suggested that overidentification with AI can lead to destructive behaviors such as anxiety when not exercising, disordered eating, and substance use (Heird & Steinfeldt, 2013). Yet, interventions (e.g., mental skills training and/or clinical mental health counseling) for addressing mental health concerns in student-athlete populations are effective in managing symptoms of anxiety (Fogaca, 2021), burnout and sport satisfaction (Gabana et al., 2017), and overall mental health (Kilcullen et al., 2022).

These behaviors and illnesses are often not addressed by anyone but the athletes themselves, leaving potentially damaging mental cognitions untreated (Barnard, 2016). Additional research findings suggest that up to 20% of collegiate athletes suffer from clinically relevant psychological distress, a number that is believed to be much higher because of the underreporting due to the negative stigma often associated with mental health issues (Barnard, 2016). The experience of seeking help can be difficult for collegiate student-athletes due to expectations that stem from adopting a high AI and perceived stigmas associated with mental health issues, such that student-athletes may be seen as physically weak and lack mental toughness by their coaches or peers (Poucher & Tamminen, 2017; Stamatis et al., 2020).

In response to calls for additional studies in AI and student-athlete mental well-being (Judge et al., 2012), this study was designed to investigate stress in relation to AI in a Division II female softball team. Specifically, this study investigated whether AI is linked to stress in a Division II female softball team. It was hypothesized that high AI levels would correlate with

elevated stress levels. As Heird and Steinfeldt (2013) suggested in previous works, the sole focus on AI may lead to a lack of attention to nonathletic realms, such as participation in school clubs and socialization with peers outside of sports. Consequently, it was expected that as AI increased, the student-athletes' lack of commitment to other responsibilities would cause them to experience negative consequences due to the absence of full effort, thus raising stress levels in athletic or non-athletic domains (e.g., academics; Heird & Steinfeldt, 2013).

This research effort is important for breaking the stigma of mental illness within collegiate athletic settings. Even the most successful, tough, and ambitious athletes need help in understanding that it is normal to be vulnerable (Uphill & Hemmings, 2017). The present effort attempted to further clarify to what extent AI influences stress and related mental health issues. Results from this study expand on the knowledge of those who are the most influential individuals to student-athletes such as coaches, professors, family members, peers, therapists, doctors, and teammates to optimize student-athlete mental well-being (Kaiseler et al., 2017).

## Methodology

### Participants

Twenty-seven ( $N = 27$ ) female Division II collegiate softball players partook in this study. All participants met the following inclusion criteria: (a) enrolled in the specific academic year, (b) at least 18 years old, and (c) enrolled as student-athlete within the specific college's NCAA collegiate softball team. This population was ideal for the study based on previous research, which has found that over half of female student-athletes experience sport-related stress (Pritchard & Wilson, 2005). The athletes were informed of the study by the teams' head coach. Interested athletes were then contacted by the principal investigator and received an email with the hyperlink to complete the pre-screening questions, consent form, and surveys. A hyperlink was distributed through Qualtrics to volunteering participants. Upon clicking on the hyperlink, volunteering athletes were directed to an informed consent form, two pre-screening demographic questions, Athletic Identity Measurement Scale (AIMS), and Perceived Stress Scale (PSS) questionnaires (see below). Twenty-three participants ( $21.12 \pm 2.22$  years of age) met these inclusion criteria and responded to the survey. This study received university Institutional Review Board approval for exempt research prior to initiation of the study. The subjects were informed of the benefits and risks of the investigation, and no data collection occurred prior to IRB approval.

### Instruments

**Athletic Identity Measurement Scale.** The Athletic Identity Measurement Scale was developed by Brewer et al. (1993). The scale gauges the athletes' perceptions of themselves as an athlete. It includes 10 questions, each rated on a Likert scale ranging from 1 "strongly disagree" to 7 "strongly agree." By adding the sum of the answers to all questions, a composite score of 10-70 helps determine the strength of an individual's AI.

**Perceived Stress Scale.** The Perceived Stress Scale (Cohen et al., 1983) is a 4-point scale with 10 questions related to stress. Each question is rated on a Likert scale ranging from 0 "never"

to 4 “very often.” By adding the sum of the answers to all questions, a composite score of 0-40 helps determine how much stress an individual may have experienced in the past month.

### Statistical Analysis

The data were collectively gathered and descriptive statistics were used to determine the frequencies and measures of central tendency when applicable. Statistical analyses were performed using SPSS version 26.0 and the criterion for significance for all analyses was set at  $\alpha < .05$ . Additionally, a Pearson Correlation was conducted between stress and AI to compute a potential relationship and its strength.

### Results

The overwhelming majority of participants in this study reported high levels of stress. Table 1, pictured below, depicts descriptive statistics for both the Athletic Identity Measurement Scale (AIMS) and Perceived Stress Scale (PSS). The most significant findings were the means of the AIMS and PSS. As shown by the table, the mean PSS score was 32.39 out of a 40-point scale. This shows high stress levels in these athletes during this time. On the other hand, the AIMS mean only showed a 45.61 out of a 70-point scale i.e., only a moderate level of AI. Pearson correlational analysis (see Table 2) demonstrated that only a minor association existed between AI and perceived stress, but this correlation was not statistically significant ( $r = .36, n = 23, p = .093$ ). Thus, our hypothesis was not supported.

**Table 1**

*Descriptive Statistics of AIMS and PSS (n = 23)*

	<b>Athletic Identity</b>	<b>Perceived Stress</b>
Mean	45.61	32.39
Median	47.00	32.00
Standard Deviation	5.05	2.68
Variance	25.43	7.15
Maximum	53.00	38.00
Minimum	37.00	27.00

**Table 2***Pearson Correlation Statistics AIMS and PSS (n = 23)*

		<b>AI total</b>	<b>PSS total</b>
AI total	Pearson Correlation	1	.359
	Sig. (2-tailed)		.093
PSS total	Pearson Correlation	.359	1
	Sig. (2-tailed)	.093	

### Discussion

The purpose of this study was to determine if high levels of Athletic Identity (AI) correlated with high-stress levels in female collegiate athletes. Overall, the results from this study indicate that high levels of AI may not always correlate with high levels of stress in Division II female college softball players. Within the present study stress levels were high in athletes, scoring an average 32.39 score out of a possible 40 points. On a general note, female collegiate athletes across different sports are reported to experience high levels of perceived stress, depressive symptoms, and low levels of quality of life (Sullivan et al., 2020; Vannuccini et al., 2020). Further research could investigate stress, its antecedents, precursors, as well as prevention and management strategies.

It is well established that athletes across different divisions live their collegiate athletic experience differently (Sturm et al., 2011). To that end, Division II athletes are different from Division I athletes with regard to competition, media attention, funding, and potential career opportunities in sport. Due to the different levels of competition and post-collegiate opportunities, there have been significant differences in the AI of Division I and Division II student-athletes (Heird & Steinfeldt, 2013). Consequently, even though the present data indicate a strong pull towards high AI, the differing nature of the athletic experiences in Division II relative to Division I indicates that these high scores may not have necessarily correlated with high levels of stress within this sample. While there were no significant relationships between high AI and high stress in this sample, that is not to say this relationship does not exist. Therefore, it could be beneficial to further study the correlation between stress and AI within differing divisions of athletes while considering their subjective experiences.

Reasons for potential relationships between AI and stress may include years in school (e.g., adjustment to freshman year; Giacobbi et al., 2004) and the coach-athlete relationship (Powers et al., 2020). Coaches' expectations may considerably increase as players develop, which can cause an athlete to divest in their AI (i.e., lowering their athletic self-concept) when their coaches' expectations are not met (Powers et al., 2020). Such a situation may also simultaneously increase the stress levels of an athlete (Chyi et al., 2018; Poucher & Tamminen, 2017). Additional work looking into the variations of AI as measured by coaches' expectations and transitional issues from high school to college could further aid in the understanding of AI and its dynamics. There is limited research to access AI; AI is a personal vision of oneself. Therefore, the definition of having a strong AI can change from player to player at any point in time. Hence, one can argue that conducting multiple testing sessions, over a one-year time span,

with the same population could be beneficial in gaining valuable insights on how AI can evolve over time.

The introduction of the NCAA transfer portal and the implementation of name, image, and likeness (NIL) policies have brought about significant changes and complexities in college athletics. These developments are expected to have a profound impact on collegiate athletics, as highlighted by Petersen and Judge (2021). The ability to transfer more freely and the newfound opportunity to profit from their name, image, and likeness may reshape how athletes perceive themselves and their role in collegiate sports, potentially altering their sense of identity and priorities. As college athletics continue to evolve, it will be essential to monitor how these changes shape the landscape and influence the experiences of student-athletes.

### **Limitations**

It is important to acknowledge the limitations of the current study. There are several factors to consider that may have affected the results. While the current sample is satisfactory to present the findings of the present study, a larger sample with multiple teams may have revealed additional findings of importance. Specifically, there may be differences in stress, AI, or academic factors for athletes playing sports that bring money into the university (i.e., revenue vs. non-revenue sports; Gaston-Gayles, 2004) or at different division levels (Heird & Steinfeldt, 2013; Sturm et al., 2011). On the perception scale, participants may have attempted to present themselves and their perceptions in a more positive light. Additionally, for data collection purposes, an email had to be sent out with the survey hyperlink that could have been easily overlooked by some players on the team who did not complete the survey. Finally, this study could have included demographic items, survey instruments, and scales to further strengthen its findings. The principal investigator chose not to lengthen the amount of time to complete the survey in order to increase the response rates. This decision resulted in impacting the study's comparability of and applicability to specific populations within the Division II level.

Moving forward, future studies would benefit from larger samples of single or possibly multiple teams from different divisions of the NCAA. It is important to explore AI among a wide spectrum of college athletes and utilize such independent variables as ethnicity, academic grade, sport, and parents' socioeconomic class and educational attainment. By being aware of these limitations, we can aim for more robust and valid findings in future studies.

### **Conclusion**

The Division II college athletes in this study reported high volumes of stress and moderate levels of AI. The findings from this study may help the coach understand the vital psychosocial impact that AI has on a student-athletes' psychological well-being. While there was no significant relationship between AI and stress in this study, athletes reported high levels of stress. Lowering stress may reduce injury and burnout while increasing the quality of life and well-being of athletes (Gustafsson et al., 2018; Lee et al., 2017; Martin & Horn, 2013). Thus, investigating the factors that influence athletes' stress, including AI is important. In addition, the information provided by this study can help increase a coach's knowledge of the student-athlete's stress and the type of social support that is expected and needed, which may be especially important for females (Powers



et al., 2020). Research indicates that unhelpful social support can be problematic; furthermore, it may benefit coaches to participate in training that helps them acquire necessary social support skills and the ability to match types of support with athlete stressors (Chyi et al., 2018; Powers et al., 2020). Normalizing stereotypes and having a non-judgmental approach when interacting with athletes can also help to promote positive help-seeking behaviors, which may reduce overall stress (Barnard, 2016; Kaiseler et al., 2017). Educators may want to consider including social support concepts in curriculum requirements for aspiring counselors and coaches (Reich et al., 2021).

Finally, it is important for counselors working with student-athletes to be knowledgeable about the various stressors related to athletics. By doing so, they can effectively support student-athletes as they navigate through different stages of their athletic careers, ultimately maximizing future opportunities for each individual (Heird & Steinfeidt, 2013). It is a critical role that requires no real athletic knowledge but demands a full understanding of the day-to-day stress of being a student-athlete. Universities may consider hiring in-house counselors specifically for athletes to reduce stigmas around seeking mental health services (Barnard, 2016; Reich et al., 2021). Furthermore, the utilization of certified mental performance consultants or sport psychology practitioners may be beneficial in supporting athletes as they address performance-related stressors (Fogaca, 2021). Building student-athlete's abilities to utilize mental skills appropriately can be useful for coping within sport or transferable to other areas of their lives. Recommendations for counselors and coaches alike include having competency around the different types of athletes (i.e., high or low AI) to properly intervene and mitigate maladaptive behaviors (Lally & Kerr, 2005). Due to the limited research in this area, this study aids as a precursor for researchers to expand on. Further research will be needed to understand whether the high levels of stress are due to sport or other areas in athletes' lives.

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