Article Classification:
Original article

REASONS COLLEGIATE ATHLETES FEEL UNWELL: SELF-REPORTED SLEEP, NUTRITION, AND STRESS

Jennifer A. Bunn[1], Andrew R. Thornton[2], Paula Parker[2]

[1] Department of Kinesiology, Sam Houston State University, Huntsville, TX, USA

[2] Department of Exercise Science, Campbell University, Buies Creek, NC, USA

ABSTRACT

Introduction: Daily assessments of wellness via short quantitative surveys are becoming a mainstay across professional and collegiate sports. The data typically provide a numerical value on a scale indicating negative and positive scores across several wellness domains. However, little has been reported on why athletes indicate negative scores in wellness. Purpose: This study evaluated reasons reported for low wellness scores in sleep quality, stress, and nutrition, as well as differences in reasons for low wellness among sports and by sex. Methodology: Collegiate athletes from women's volleyball (n=67), men's and women's soccer (n=119), men's and women's swimming (n=79), and men's and women's basketball (n=87) completed daily assessments of wellness. With a negative wellness score (≤3 on a 5-point scale), athletes were prompted to provide a reason for feeling unwell. Results: Chi-square analyses indicated a sex difference for reasons provided for poor sleep and a difference by sport for females and males (all $p < .001$). Reasons cited for poor sleep quality were late night (23.7%) and "other" (22.3%). For stress, analyses showed differences by sex and sport for females and males (all $p < .001$). Academic/work stress was the most common reason for poor stress (60.2%). For nutrition, analyses indicated differences by sex ($p < .001$) and by sport for females ($p < .001$) and males ($p = .008$). Consuming fewer than three meals/snacks per day (26.2%) and low fluid intake (21.9%) were the top two reasons for poor nutrition. Conclusions: These data shed light on reasons why athletes experience low wellness. Coaches and support staff can target specific reasons to enhance athlete wellness and the student-athlete experience.

Keywords: *team sports, athlete, wellness, sex differences*

ORCID
Jennifer A. Bunn
https://orcid.org/0000-0002-7794-083X
Andrew R. Thornton
https://orcid.org/0000-0001-6759-3662
Paula Parker
https://orcid.org/0000-0002-6542-6083

Cite this article as:
Bunn, J., Thornton, A., Parker, P. (2024). Reasons collegiate athletes feel unwell: self-reported sleep, nutrition, and stress. *Journal of Applied Sports Sciences*, Vol. 2, pp. 11 - 21.
DOI: *10.37393/JASS.2024.02.2*

INTRODUCTION

Collecting daily athlete wellness scores has become a standard method of communication between athletes and coaches. The surveys are typically short, completed in the morning, and inquire about an athlete's energy, muscle soreness, stress, sleep quality, nutrition, and fatigue (Impellizzeri et al., 2019; Saw et al., 2017). Athletes provide ratings for each specific wellness domain, and then an overall wellness score is generally tabulated. These data help athletes gauge how their bodies feel in response to training and competition and provide insight to coaches (e.g., sports coaches, sports performance coaches, mental coaches, and athletic trainers) regarding athletes' recovery and other issues that may be affecting them away from competition.

Perceptual well-being scores across several domains have been linked with athletes' external load later that day and with an athlete's subjective rating of perceived exertion across several populations, including elite male athletes and collegiate male and female athletes (Buchheit et al., 2013; Crouch et al., 2020; Gallo et al., 2016; Govus et al., 2018; Thorpe et al., 2016). Increases in overall wellness have been associated with an increase in Player Load and

total distance traveled in both professional male Australian football and collegiate American football (Gallo et al., 2016; Govus et al., 2018). High ratings of sleep quality in collegiate women have been associated with increased total distance and Athlete Load (Crouch et al., 2020), while poor sleep quality in collegiate athletes has been linked with mood alterations, increased reaction time, and increased fatigue (Kroshus et al., 2019). Collegiate athletes with high wellness tend to also have higher scores for coachability, concentration, and mental preparation (Von Guenthner & Hammermeister, 2007). These studies highlight the importance of monitoring athletes' wellness scores daily; however, little is known about what factors cause athletes to report low wellness scores.

Sex-based differences in wellness have been explored through very few studies. In collegiate athletes, females tend to have lower wellness scores than males for sense of worth, stress management, depression, anxiety, and leisure (Brown et al., 2021; LaFountaine, 2016). Von Guenthner and Hammermeister (2007) showed that male collegiate athletes had better athletic coping skills and the ability to perform under pressure. In contrast, female collegiate athletes scored higher in feeling free from worry and ability to cope with adversity. Additionally, wellness scores have been used to monitor athlete recovery between games, with elite males reporting 35-40% lower scores the first day after competition and gradually improving, while females did not follow the same pattern for both short and long recovery periods (Cabrera et al., 2023; Gallo et al., 2017; McLean et al., 2010; Thorpe et al., 2016). By specific sport, female basketball players and swimmers were shown to have higher health status scores and get more sleep, respectively, than their male counterparts. However, female soccer players were shown to experience more stress than male soccer players (Bunn & Jiroutek, 2024). Specifically for collegiate athletes, wellness scores have been shown to fluctuate according to their academic and training loads (Cooley et al., 2023; Hamlin et al., 2019), so ensuring a greater understanding of these patterns and the root of the cause would be beneficial in optimizing the student-athlete experience.

Purpose of the study

To date, daily wellness assessments have been informative for coaches and athletes in communicating issues and collaborating to manage training loads. If an athlete submits a low score within a specific domain of wellness, there is no context for why the score is low unless the coach and athlete engage in conversation with one another. These conversations do often occur and can be beneficial for both parties. However, having only subjective ratings to inform coaches does not provide enough context for why an athlete is experiencing low wellness and why certain sex-specific differences exist. This study aimed to 1) explore why athletes experience low wellness across several domains, 2) evaluate sex-specific differences in reasons for low wellness, and 3) evaluate sport-specific differences in reasons for low wellness.

METHODS

Study Design

This was a secondary analysis of de-identified data from an athlete monitoring system collected between 2016 and 2022. All data were de-identified and provided via convenience sampling from Metrifit (Health and Sport Technologies, Metrifit, Millgrange, Greenore, Co., Louth, Ireland). Athletes used the system as part of their collegiate team monitoring. This study was approved by the institutional review board as exempt status (IRB-2022-380). However, there was no informed consent due to the retrospective, secondary analysis, and de-identified nature of the data and analyses.

Participants

De-identified data from collegiate athletes from soccer (n = 118, 73% female), basketball (n = 86, 58% female), swimming (n = 78, 54% female), and volleyball (n = 68, 100% female) in the United States were included in the study. Participants identified their sex via a binary question; the only two responses were male or female. All athletes were participating in their teams' practices and games, but it is unknown in which leagues and divisions the athletes competed or if the athletes were in-season or off-season. No data were collected during the spring 2020 season due to COVID-19.

Measurements

Subjective wellness measurements were collected in the same format as outlined by Bunn and Jiroutek (2024). Despite limited studies for validity, subjective daily surveys of athlete wellness are commonly used to assess athletes' recovery, stress, and tolerance of their workload (Saw et al., 2016). Each wellness domain was presented to the athlete and scored on a 5-point scale, with higher numbers indicating a positive should be affect and lower numbers indicating a negative affect. If an athlete entered a three or lower for any given wellness domain, they were prompted to provide a reason for why they were low in that domain. A drop-down menu of options was provided for athletes to choose which applied to them, and they could choose as many as they liked. For sleep, the options included worried/stressed, consuming alcohol/caffeine late at night, pain/irritation, noise/disturbance during the night, overtired, consuming food/beverage late at night, late at night, and "other." The options for stress included academic/work stress, family/relationship stress, financial worries, health worries, being overwhelmed by all the demands on me, and "other." Reasons for poor nutrition on the previous day included skipping breakfast, consuming less than 3 meals/snacks, consuming fatty/junk food, low fluid intake, consuming very little fruit/vegetables, consuming alcohol, loss of appetite, and "other." It was not required to provide a reason; athletes could also provide multiple reasons for low wellness in any domain.

Data Analysis

The data set was cleaned to include only data where athletes had a low wellness score in sleep, stress, or nutrition, and a reason for the low score was provided. If an athlete provided multiple reasons for low wellness, these reasons were all counted individually. All data were analyzed in SPSS (version 27.0, IBM, Armonk, NY). Frequencies and percentages were calculated for each reason within the three wellness domains analyzed for the whole data set and by specific sport and sex of the athlete. Chi-square tests of independence were conducted to evaluate differences in reasons for low wellness in sleep, stress, and nutrition by sport and sex. Cramer's V effect sizes are interpreted from 0 (no association) to 1 (perfect association). An alpha level of 0.05 was used to determine group differences.

RESULTS

A total of 19,067 observations were made across all three aspects of wellness (90.9% from females), with 4,307 (22.6%) from volleyball, 4,301 (22.6%) from soccer, 2,468 (12.9%) from swimming, and 7,991 (41.9%) from basketball. Overall, males were less likely to provide reasons for all three dimensions of wellness assessed. Table 1 shows the overall distribution of reasons for poor sleep, distress, and poor nutritional choices. For sleep, the most frequently cited responses were late night (23.7%) and "other" (22.3%). Alcohol consumption (0.01%) and consuming food or beverages late at night (1.5%) were the least cited reasons for poor

sleep. Academic/work stress (60.2%) was the most frequently cited reason for poor stress scores, and financial worries (3.1%), health worries (4.4%), and being overwhelmed by demands (4.7%) were cited the least. For nutrition, athletes indicated consuming fewer than three meals/snacks in a day (26.2%) and consuming fatty/junk foods (18.5%) most frequently, and consuming alcohol (0.8%) and loss of appetite (6.7%) the least frequently.

Table 1. *Frequency distribution of reasons for low wellness across each wellness domain*

Sleep		
	N	**%**
Other	2789	22.3
Worried/stress	1557	12.5
Consumed alcohol/caffeine late at night	17	0.1
Pain/irritation	1139	9.1
Noise/disturbance during the night	1707	13.7
Overtired	2132	17.1
Consumed food/beverage late at night	190	1.5
Late night	2953	23.7
Total	12484	100.0
Stress		
	N	**%**
Other	2273	13.9
Academic/work stress	9859	60.2
Family/relationship stress	2281	13.9
Financial worries	503	3.1
Health worries	720	4.4
Overwhelmed by all the demands on me	731	4.5
Total	16367	100.0
Yesterday's Nutrition		
	N	**%**
Other	363	7.6
Skipped breakfast	394	8.2
Consumed less than 3 meals/snacks	1255	26.2
Consumed fatty/junk food	887	18.5
Fluid intake low	1050	21.9
Consumed very little veg/fruit	483	10.1
Consumed alcohol	36	0.8
Loss of appetite	321	6.7
Total	4789	100.0

Sleep

The chi-square analyses indicated a sex difference for reasons provided for poor sleep ($\chi^2 = 1118.7$, $p < .001$, $V = 0.191$, low). There was also a difference by sport for females ($\chi^2 = 873.3$, $p < .001$, $V = 0.180$, low) and males ($\chi^2 = 360.9$, $p < .001$, $V = 0.383$, moderate). Figure 1 shows the distribution of responses for females (A) and males (B). Female basketball athletes had a higher reporting frequency, and swimming had the lowest. Basketball females reported late nights, "other", and worried/stress most frequently as reasons for poor sleep. Soccer females primarily reported late nights, and volleyball reported "other" most frequently. Male swimmers reported the most common reasons for poor sleep, citing "other," noise/disturbance, and overtired most

frequently. For soccer males, the most commonly reported ailments were "other," noise/disturbance, and late night. For male basketball players, late nights were reported most frequently.

Stress

Chi-square analyses indicated differences by sex (χ^2 = 566.3, p < .001, V = 0.125, low) and by sport for females (χ^2 = 544.1, p < .001, V = 0.239, moderate) and males (χ^2 = 145.8, p < .001, V = 0.121, low). The distribution of reasons for poor stress is shown in Figure 2A for females and Figure 2B for males. Academic/work stress was cited most frequently for females regardless of sport. Female swimmers were least likely to report reasons for poor stress. Female basketball players also cited "other" and family/relationship stress but much less frequently. Males also cited academic/work stress most frequently. Male swimmers also had a high tendency to cite "other" as a reason for poor stress.

Nutrition

Chi-square analyses indicated differences by sex (χ^2 = 261.3, p < .001, V = 155, low) and by sport for females (χ^2 = 284.9, p < .001, V = 0.170, low) and males (χ^2 = 29.9, p = .008, V = 0.212, moderate). Figure 3 shows the distribution of reasons for poor nutrition for females (3A) and males (3B). Female basketball athletes had the highest frequency of ailments, citing consuming less than three meals/snacks in a day, low fluid intake, and consuming fatty junk/food most frequently. These same three reasons were also the highest for the remaining three sports, just at a lower frequency and in a different order. For males, fewer reasons for poor nutrition were cited overall, with swimming reporting the fewest. Male soccer athletes had the highest reporting frequency, citing consuming fatty/junk food, skipping breakfast, and "other" most frequently. Male basketball players cited consuming fewer than three meals/snacks daily, fatty/junk food, and low fluid intake.

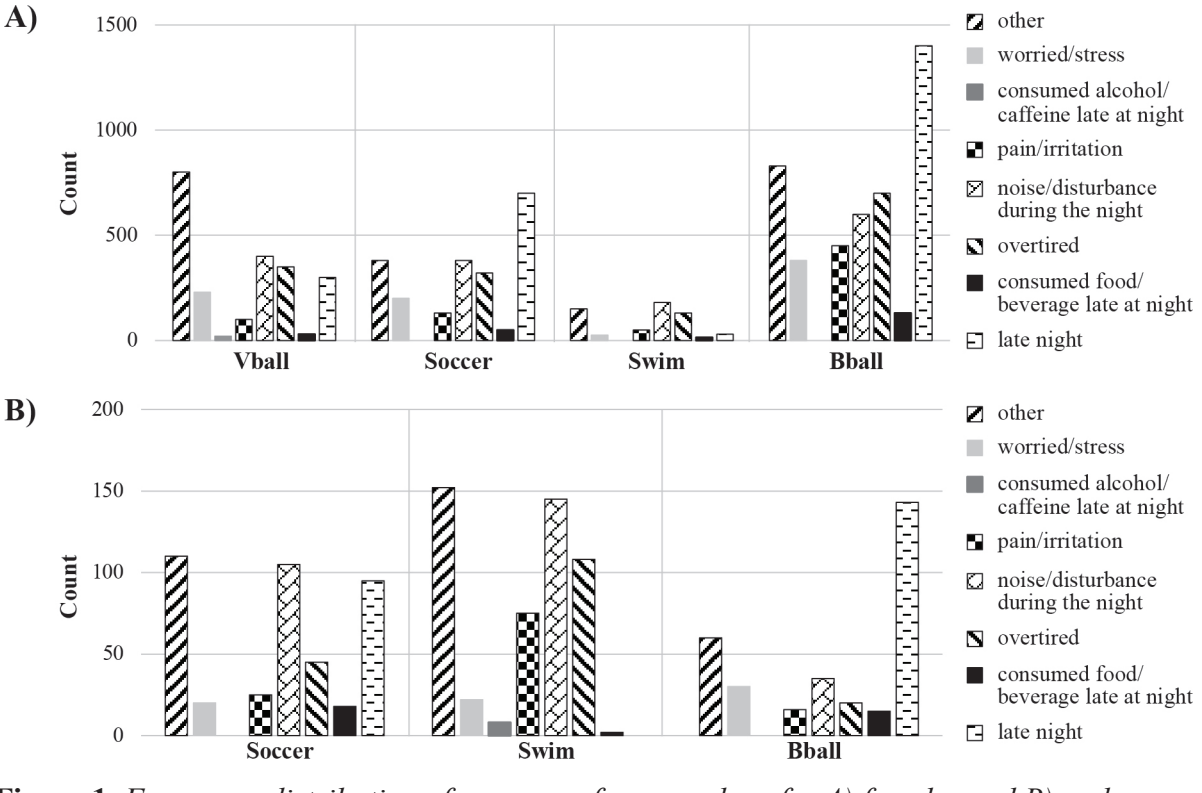

Figure 1. *Frequency distribution of responses for poor sleep for A) females and B) males*

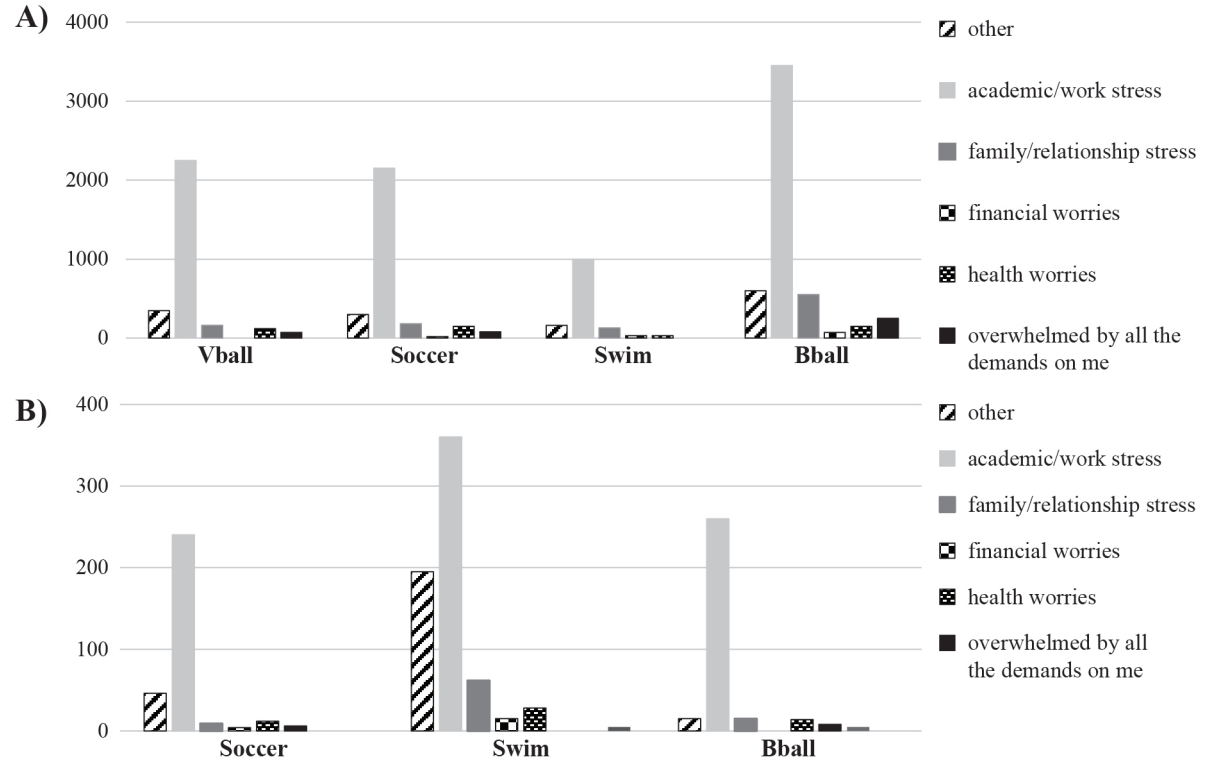

Figure 2. *Frequency distribution of responses for poor stress for A) females and B) males*

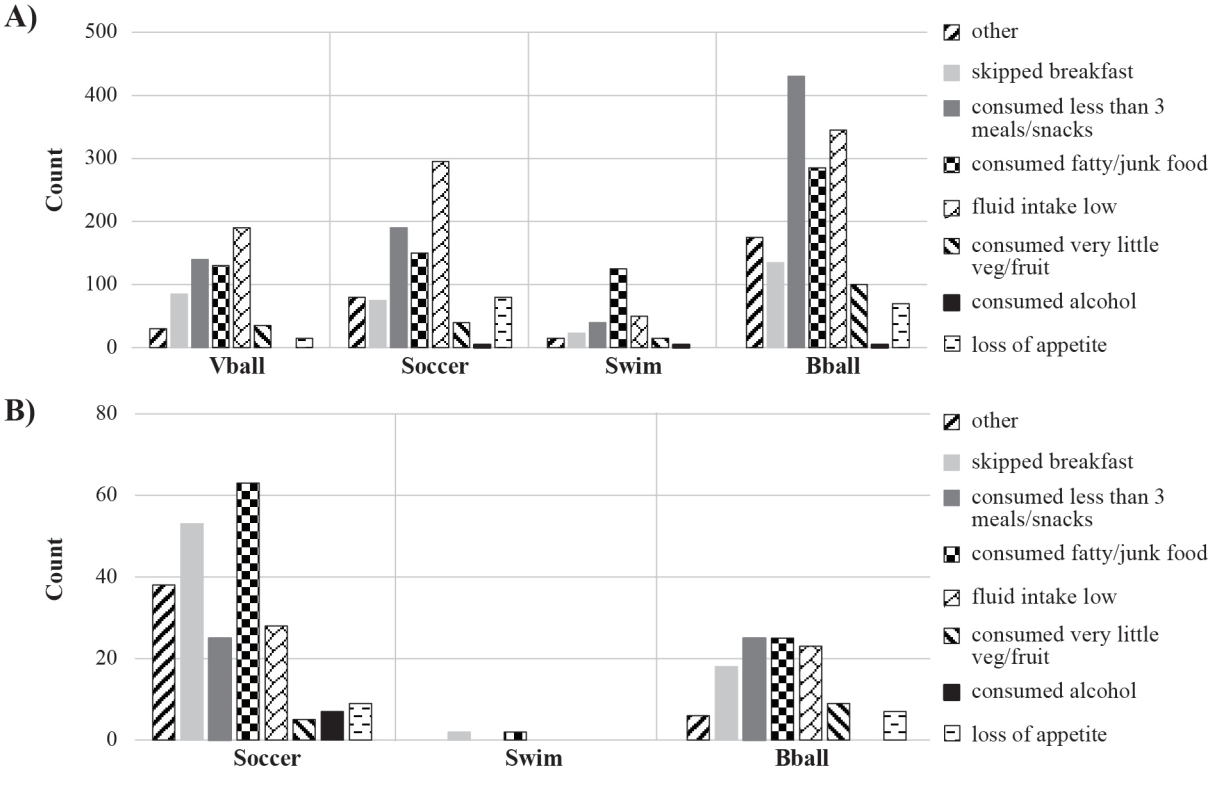

Figure 3. *Frequency distribution of responses for poor nutrition for A) females and B) males*

DISCUSSION

This study explored why athletes experience low wellness across the domains of sleep quality, stress, and poor nutrition and evaluated sex-specific and sport-specific differences in reasons for low wellness. Overall, results revealed that

college athletes were stressed mostly because of academic/work stress, experienced poor sleep quality mostly due to late nights, and poor nutrition was mostly due to underconsumption of meals and snacks. Results also revealed that reasons for poor wellness in the domains of sleep, stress, and nutrition were similar between sports and sexes, with some nuances including female athletes being more likely to report reasons for poor wellness and male swimmers being less likely to report reasons for poor nutrition. Previous research findings show that female student-athletes report higher percentages of mental health and wellness concerns when compared to male athletes (NCAA, 2021).

Findings from this study revealed that late nights, "other", and noise disturbances were the predominant reasons reported for poor sleep, with these varying between sex and sport. Interestingly, while research has shown female student-athletes report poor wellness more frequently, that was not the case for female swimmers regarding sleep in this study, as they reported the fewest. Existing literature has found that swimmers' sleep quality and duration are influenced by their training schedule, as swimmers typically have more early morning training sessions with no adjustments to their "going to bed" time the night before (Surda et al., 2019). These data support previous literature showing that female swimmers get 0.40 hours more sleep per night than their male counterparts (Bunn & Jiroutek, 2024). For males in this study, swimmers had the highest reporting rate citing "other," noise disturbance, and overtiredness, which aligns with previous research (Watson, 2017). There are other factors that likely interplay with one another to affect sleep, such as nutrition, travel, and stress, but exploring these interactions was beyond the scope of this study. Future research should consider examining other wellness factors and how they affect sleep.

This study showed that collegiate athletes, regardless of sex or sport, were primarily stressed about their academic/work success. The current data also support previous research that shows female student-athletes cite more academic stress than their male counterparts (Lassiter et al., 2022; NCAA, 2021). These data align with previous literature (Adler & Adler, 1991; Lassiter et al., 2022) indicating that student-athletes have a difficult time fulfilling both roles as students and athletes. This is particularly difficult during the competitive season with travel for games. Recently, several collegiate conferences in the USA have expanded well beyond their regional roots, extending to areas of the country that require cross-country flights (*College Football Realignment Tracker*, 2024). These changes primarily provide a financial benefit to sports that play one time on the weekends but are damaging to the multitude of sports that play twice weekly, requiring athletes to miss more classes due to travel requirements. While many schools have increased their academic support services for athletes, these services are not generally improved for all sports across all genders, often favoring male athletes in revenue sports only (Otto et al., n.d.). Further, many schools have also increased the volunteer and extra requirements of athletes (e.g., community service, watching film) that are not counted within the eight-hour (out of season) and 20-hour (in season) maximum allowances by the National Collegiate Athletic Association. The results of this study suggest that athletic programs need more academic support for non-revenue sports, such as the ones studied here.

Male swimmers were the only group to have a high frequency of citing "other" as a reason for poor stress. Previous literature suggests that this population is experiencing stress related to their physique and body composition (Urdapilleta et al., 2010). Also, Howarth et al. (2023) found that 14% of elite swimmers expe-

rience depression, and when swimmers experience stress, this also affects their sleep. Correlating sleep and stress was beyond the scope of this study, but corroborating these studies could be done in future research. Further research should also be conducted to investigate what "other" could mean for this population related to both sleep and stress.

Consuming fewer than three meals/snacks per day was the most cited reason for poor nutrition overall for male and female basketball athletes. Consuming too few calories or meals may be a result of not having the means to purchase the food or not having the time to consume the meals between classes, practices, and games. In 2020, Mayeux and colleagues (2020) found that 39.6% of the student-athletes in their study reported food insecurity, with limited money and time as their top barriers. Varying dining hall hours, particularly during university-wide breaks while sports are still in season, could also result in poor nutritional intake. These data align with previous literature noting that several female athletes had low energy intake, skipped breakfast often, and only a small percentage monitored their hydration status (Hoogenboom et al., 2009; Shriver et al., 2013). Male and female collegiate athletes have been shown to have a low intake of fiber, fruits, and vegetables but a sufficient intake of calcium, iron, and vitamin C (Webber et al., 2015). Male swimmers were least likely to report a reason for poor nutrition, which may link back to the concept of fear and needing to conceal their concerns for their physique and body composition (Urdapilleta et al., 2010).

Limitations of this study include no knowledge of the research participants' collegiate competitive level (e.g., Division I, II, or III). While the dataset analyzed included a large number of participants, the frequency and percentage analysis for the specific wellness domains could be skewed by athletes who reported low wellness more frequently than others. Athletes in this study had a low frequency of reporting that alcohol intake influenced their sleep or nutrition. This does not align with literature suggesting that 80% of college students have engaged in consuming alcohol within the previous 12 months (Martens et al., 2006). Athletes from this study may have been hesitant to report alcohol consumption due to fear of repercussions from their coaches, as many coaches request their athletes to prohibit alcohol consumption during training and competition seasons. The majority of the athletes from this study were female, which could have affected the sex-based comparisons with specific sports.

CONCLUSIONS

In the Fall 2021 NCAA Student-Athlete Well-Being survey of 9800 student-athletes showed that "rates of reported mental health concerns experienced within the last month were 1.5 to 2 times higher than have been historically reported by NCAA student-athletes prior to 2020" (NCAA, 2021). These concerns were highest among "women, student-athletes of color, those identifying on the queer-spectrum and those reporting family economic hardship" (NCAA, 2021). The following year, the NCAA constitution required each member school across all divisions to provide resources and "open engagement concerning physical and mental health" (NCAA, 2021).

Even with the increased awareness of mental health and well-being in recent years, student-athletes are still hesitant to seek support, with less than half reporting they would be willing to reach out to a mental health provider on campus (NCAA, 2021). One possible way to help student-athletes more openly discuss wellness is through daily wellness

assessments. Self-monitoring their personal wellness and ailments may not only allow sport and strength and performance coaches to adjust training schedules; however, it may also open lines of discussion with other athletic support staff (e.g., athletic training staff, athletic mental health counselors, administrators). Daily wellness assessments may also help these young adults learn how to manage their own wellness, a necessary lifelong skill. Coaches and athletes can also implement sleep education sessions to improve the sleep hygiene of the athletes (Vitale et al., 2023). Future research should examine how daily assessment relates to the athlete's own self-awareness of their wellness and any antecedents to that wellness.

REFERENCES

Adler, P. A., & Adler, P. (1991). *Blackboards & Blackboards: College Athletes and Role Engulfment*. Columbia University Press.

Brown, B., Aller, T., Lyons, L. K., Jensen, J. F., & Hodgson, J. L. (2021). NCAA student-athlete mental health and wellness: A biopsychosocial examination. *Journal of Student Affairs Research and Practice*.

Buchheit, M., Racinais, S., Bilsborough, J. C., Bourdon, P. C., Voss, S. C., Hocking, J., Cordy, J., Mendez-Villanueva, A., & Coutts, A. J. (2013). Monitoring fitness, fatigue, and running performance during a pre-season training camp in elite football players. *Journal of Science and Medicine in Sport*, *16*(6), 550–555. https://doi.org/10.1016/j.jsams.2012.12.003

Bunn, J. A., & Jiroutek, M. R. (2024). Sex differences in wellness scores in collegiate athletes. *Journal of Coaching and Sports Science*, *3*(2), 90–98.

Cabrera, A., Jiroutek, M., Thornton, A., & Bunn, J. (2023). Wellness responses during different length match microcycles in collegiate women's lacrosse. *Research in Sport Education and Sciences*, *25*(3), 74–81. https://doi.org/10.5152/JPESS.2023.23080

College Football Realignment Tracker. (2024, June 10). ESPN.com.

Cooley, A. P., Grace, S. L., Parker, P., & Bunn, J. A. (2023). Difference in perceived wellness and training by varying psychological hardiness in Division I female lacrosse athletes. *Journal of Sport Behavior*, *46*(3), 18–29.

Crouch, A. K., Jiroutek, M. R., Snarr, R. L., & Bunn, J. A. (2020). Relationship between pre-training wellness scores and internal and external training loads in a Division I women's lacrosse team. *Journal of Sports Sciences*, *39*(9), 1070–1076. https://doi.org/10.1080/02640414.2020.1857106

Gallo, T. F., Cormack, S. J., Gabbett, T. J., & Lorenzen, C. H. (2016). Pre-training perceived wellness impacts training output in Australian football players. *Journal of Sports Sciences*, *34*(15), 1445–1451. https://doi.org/10.1080/02640414.2015.1119295

Gallo, T. F., Cormack, S. J., Gabbett, T. J., & Lorenzen, C. H. (2017). Self-reported wellness profiles of professional Australian football players during the competition phase of the season. *Journal of Strength and Conditioning Research*, *31*(2), 495–502. https://doi.org/10.1519/JSC.0000000000001515

Govus, A. D., Coutts, A., Duffield, R., Murray, A., & Fullagar, H. (2018). Relationship between pretraining subjective wellness measures, player load, and rating-of-perceived-exertion training load in American college football. *International Journal of Sports Physiology and Performance*, *13*(1), 95–101. https://doi.org/10.1123/ijspp.2016-0714

Hamlin, M. J., Wilkes, D., Elliot, C. A., Lizamore, C. A., & Kathiravel, Y. (2019). Monitoring training loads and perceived stress in young elite university athletes. *Frontiers in Physiology*, *10*(JAN). https://doi.org/10.3389/FPHYS.2019.00034

Hoogenboom, B. J., Morris, J., Morris, C., & Schaefer, K. (2009). Nutritional knowledge and eating behaviors of female, collegiate swimmers. *North American Journal of Sports Physical Therapy*, *4*(3), 139–148.

Howarth, H., Evans, G., Kruger, P., Dilkes, E., Bell, G., & Kipps, C. (2023). The prevalence of common mental health problems and associated psychosocial issues in elite swimmers. *Sports Psychiatry*, *2*(3), 83–88.

Impellizzeri, F. M., Marcora, S. M., & Coutts, A. J. (2019). Internal and external training load: 15 years on. *International Journal of Sports Physiology and Performance*, *14*(2), 270–273. https://doi.org/10.1123/IJSPP.2018-0935

Kroshus, E., Wagner, J., Wyrick, D., Athey, A., Bell, L., Benjamin, H. J., Grandner, M. A., Kline, C. E., Mohler, J. M., Prichard, J. R., Watson, N. F., & Hainline, B. (2019). Wake up call for collegiate athlete sleep: Narrative review and consensus recommendations from the NCAA Interassociation Task Force on Sleep and Wellness. *British Journal of Sports Medicine*, *53*(12), 731–736. https://doi.org/10.1136/BJSPORTS-2019-100590

LaFountaine, J. (2016). Student athlete wellness: Gender perspectives. *Journal of Coaching Education*. https://doi.org/10.1123/jce.2.2.24

Lassiter, J. W., Campbell, A. L., Lecrom, C. W., Dwyer, B., Lassiter, J. W., Campbell, A. L., & Lecrom, C. W. (2022). The impact of academic disruption on stress among college athletes. *Journal of Issues in Intercollegiate Athletics*, *15*, 26. http://csri-jiia.org

Martens, M. P., Dams-O'Connor, K., & Beck, N. C. (2006). A systematic review of college student-athlete drinking: Prevalence rates, sport-related factors, and interventions. *Journal of Substance Abuse Treatment*, *31*(3), 305–316. https://doi.org/10.1016/J.JSAT.2006.05.004

Mayeux, W., Camel, S., & Douglas, C. (2020). Prevalence of food insecurity in collegiate athletes warrants unique solutions. *Current Developments in Nutrition*, *4*(Suppl 2), 239.

McLean, B. D., Coutts, A. J., Kelly, V., McGuigan, M. R., & Cormack, S. J. (2010). Neuromuscular, endocrine, and perceptual fatigue responses during different length between-match microcycles in professional rugby league players. *International Journal of Sports Physiology and Performance*, *5*(3), 367–383. https://doi.org/10.1123/IJSPP.5.3.367

NCAA. (2021). *NCAA Student-Athlete Well-Being Study (Fall 2021)*.

Otto, M., Martinez, M., & Barnhill, C. (n.d.). *Academic Services Play a Critical Role in the Experience of First-Year Athletes*. ADU.

Saw, A. E., Main, L. C., & Gastin, P. B. (2016). Monitoring the athlete training response: Subjective self-reported measures trump commonly used objective measures: A systematic review. *British Journal of Sports Medicine*, *50*(5), 281–291. https://doi.org/10.1136/BJSPORTS-2015-094758/-/DC1

Saw, A. E., Main, L. C., Robertson, S., & Gastin, P. B. (2017). Athlete self-report measure use and associated psychological alterations. *Sports (Basel, Switzerland)*, *5*(3). https://doi.org/10.3390/SPORTS5030054

Shriver, L. H., Betts, N. M., & Wollenberg, G. (2013). Dietary intakes and eating habits of college athletes: Are female college athletes following the current sports nutrition standards? *Journal of American College Health*, *61*(1), 10–16. https://doi.org/10.1080/07448481.2012.747526

Surda, P., Putala, M., Siarnik, P., Walker, A., De Rome, K., Amin, N., Sangha, M. S., & Fokkens, W. (2019). Sleep in elite swimmers: prevalence of sleepiness, obstructive sleep apnoea and poor sleep quality. *BMJ Open Sport & Exercise Medicine*, *5*(1), e000673.

https://doi.org/10.1136/bmjsem-2019-000673

Thorpe, R. T., Strudwick, A. J., Buchheit, M., Atkinson, G., Drust, B., & Gregson, W. (2016). Tracking morning fatigue status across in-season training weeks in elite soccer players. *International Journal of Sports Physiology and Performance*, *11*(7), 947–952. https://doi.org/10.1123/ijspp.2015-0490

Urdapilleta, I., Aspavlo, D., Masse, L., & Docteur, A. (2010). Use of a picture distortion technique to examine perceptive and ideal body image in male and female competitive swimmers. *Psychology of Sport and Exercise*, *11*(6), 568–573. https://doi.org/10.1016/J.PSYCHSPORT.2010.06.006

Vitale, J. A., Borghi, S., Piacentini, M. F., Banfi, G., & Torre, A. La. (2023). To sleep dreaming medals: Sleep characteristics, napping behavior, and sleep-hygiene strategies in elite track-and-field athletes facing the Olympic Games of Tokyo 2021. *International Journal of Sports Physiology and Performance*, *18*(12), 1412–1419. https://doi.org/10.1123/IJSPP.2023-0144

Von Guenthner, S., & Hammermeister, J. (2007). Exploring relations of wellness and athletic coping skills of collegiate athletes: Implications for sport performance. *Psychological Reports*, *101*(3_suppl), 1043–1049. https://doi.org/10.2466/pr0.101.4.1043-1049

Watson, A. M. (2017). Sleep and athletic performance. *Current Sports Medicine Reports*, *16*(6), 413–418. https://doi.org/10.1249/JSR.0000000000000418

Webber, K., Stoess, A. I., Forsythe, H., Kurzynske, J., Vaught, J. A., & Adams, B. (2015). Diet quality of collegiate athletes. *College Student Journal*, *49*(2), 251–256.

Corresponding author:
Jennifer A. Bunn
Department of Kinesiology
Sam Houston State University
1900 Avenue I, Box 2301
Huntsville, TX 77341, USA
Email: jab229@shsu.edu