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Hydration Status and Self-Esteem as Predictors of Athlete Burnout: A Cross-Sectional Study

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A B S T R A C T

Objective: This study aims to explore the relationship between athlete burnout, hydration status, and self-esteem. It hypothesizes that both hydration status and self-esteem significantly predict athlete burnout.

Methods and Materials: The study employed a cross-sectional design involving 230 athletes from various sports clubs and institutions. Participants were actively engaged in competitive sports for at least one year, aged between 18 and 35 years, and free from chronic health conditions. Athlete burnout was measured using the Athlete Burnout Questionnaire (ABQ), hydration status was assessed using the Urine Specific Gravity (USG) test, and self-esteem was evaluated using the Rosenberg Self-Esteem Scale (RSES). Data analysis involved Pearson correlation coefficients to assess relationships and multiple linear regression to evaluate predictive values.

Results: Descriptive statistics indicated a mean score for athlete burnout of 3.10 (SD = 0.65), a mean USG for hydration status of 1.025 (SD = 0.004), and a mean score for self-esteem of 21.85 (SD = 4.72). Correlation analysis showed a positive correlation between athlete burnout and hydration status ($r = 0.32$, $p < .001$), a negative correlation between athlete burnout and self-esteem ($r = -0.45$, $p < .001$), and a weak negative correlation between hydration status and self-esteem ($r = -0.15$, $p = .021$). Regression analysis revealed that hydration status and self-esteem together explained 29% of the variance in athlete burnout, with both being significant predictors.

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Conclusion: The findings suggest that higher levels of dehydration and lower self-esteem are associated with increased athlete burnout. Ensuring adequate hydration and fostering self-esteem are crucial for reducing burnout. Interventions should focus on maintaining hydration, enhancing self-esteem, and promoting self-determined motivation.

Keywords: Athlete burnout, hydration status , self-esteem, cross-sectional study, sports psychology.

1. Introduction

Athlete burnout is a multifaceted phenomenon characterized by physical and emotional exhaustion, reduced sense of accomplishment, and sport devaluation, often resulting from prolonged exposure to stress and high demands in the sporting environment. Understanding the factors contributing to burnout is crucial for developing effective interventions to enhance athlete well-being and performance (1-5). The concept of burnout has been extensively studied in the context of sports psychology. Burnout among athletes can lead to severe consequences, including decreased performance, withdrawal from sport, and mental health issues. Several factors contribute to burnout, including coaching behaviors, perfectionism, motivation, and self-esteem. Barcza-Renner, Morin, and Habeeb (2016) highlighted the role of controlling coaching behaviors in athlete burnout, with perfectionism and motivation mediating this relationship. Their findings underscore the importance of the coach-athlete dynamic in influencing athlete burnout (6).

Motivation plays a critical role in burnout, with self-determined motivation being particularly protective against burnout. Lonsdale, Hodge, and Rose (2009) found that athletes with high levels of self-determined motivation were less likely to experience burnout, suggesting that fostering intrinsic motivation is essential for athlete well-being (1). Similarly, Holmberg and Sheridan (2013) demonstrated that self-determined motivation is a strong predictor of burnout among college athletes, further emphasizing the need for motivational strategies in sports settings (7).

Perfectionism is another significant factor associated with athlete burnout. Madigan, Stoeber, and Passfield (2016a) conducted a three-wave longitudinal study revealing that motivation mediates the relationship between perfectionism and burnout in junior athletes (2). They found that athletes with high levels of perfectionism were more susceptible to burnout, particularly when their motivation was not self-determined. This finding is supported by Hill (2013), who tested the 2×2 model of dispositional perfectionism in junior soccer players and found that perfectionism significantly predicted burnout (8).

The coach-athlete relationship also plays a crucial role in athlete burnout. Choi, Yunduk, and Kim (2020) examined the relationship between coaching behavior and athlete burnout, finding that effective communication and a positive coach-athlete relationship can mitigate the risk of burnout (9). This is consistent with the findings of Gencer (2021), who highlighted the importance of the coach-athlete relationship in influencing self-esteem and life satisfaction, which are critical factors in athlete burnout (10).

Self-esteem has been identified as a protective factor against burnout. Muñoz-Villena, Gómez-López, and González-Hernández (2020) explored the role of self-esteem in athletes and found that higher self-esteem was associated with lower levels of burnout (11). This relationship is further supported by Wilczyńska et al. (2022), who demonstrated that dimensions of the athlete-coach relationship and sport anxiety predict changes in psychomotor and motivational welfare, influencing burnout levels (12).

Hydration status is a relatively understudied factor in the context of athlete burnout. Proper hydration is essential for optimal physical and cognitive performance, and dehydration can exacerbate stress and fatigue, potentially leading to burnout. While there is limited direct research linking hydration status to athlete burnout, it is well-established that dehydration negatively impacts overall well-being and performance, suggesting a potential indirect role in burnout (13).

Based on the existing literature, this study hypothesizes that both hydration status and self-esteem significantly predict athlete burnout. Specifically, we propose the following hypotheses:

- There is a negative correlation between hydration status and athlete burnout, with better hydration associated with lower burnout levels.
- There is a negative correlation between self-esteem and athlete burnout, with higher self-esteem associated with lower burnout levels.
- Hydration status and self-esteem together significantly predict athlete burnout, with self-esteem potentially serving as a stronger predictor.

2. Methods and Materials

2.1 Study Design and Participants

This study employed a cross-sectional design to examine the relationship between athlete burnout, hydration status, and self-esteem. A total of 230 athletes participated in the study, with the sample size determined based on the Morgan and Krejcie table to ensure adequate statistical power. Participants were selected through a stratified random sampling method from various sports clubs and institutions. Inclusion criteria required participants to be actively engaged in competitive sports for at least one year, aged between 18 and 35 years, and free from any chronic health conditions that might affect their hydration status or self-esteem. Prior to data collection, informed consent was obtained from all participants, and the study was approved by the relevant ethics committee.

2.2 Measures

2.2.1 Athlete Burnout

To measure Athlete Burnout, we utilized the Athlete Burnout Questionnaire (ABQ), developed by Raedeke and Smith in 2001. The ABQ is a standard and widely accepted tool specifically designed to assess burnout in athletes. The questionnaire comprises 15 items divided into three subscales: Emotional/Physical Exhaustion, Reduced Sense of Accomplishment, and Sport Devaluation, with each subscale containing five items. Respondents rate each item on a 5-point Likert scale ranging from "Almost Never" (1) to "Almost Always" (5). Higher scores on each subscale indicate greater burnout in the respective area. The ABQ has demonstrated strong validity and reliability across multiple studies, confirming its robustness in assessing athlete burnout (1, 2, 5, 6, 9, 14-16).

2.2.2 Hydration Status

Hydration status was assessed using the Urine Specific Gravity (USG) test, a widely recognized and standard tool for determining hydration levels. Developed by Armstrong et al. in 1994, this method measures the density of urine to provide an indication of hydration status. A refractometer is used to assess USG values, with a specific gravity less than 1.020 indicating optimal hydration, between 1.020 and 1.030 indicating dehydration, and values above 1.030 suggesting significant dehydration. Numerous studies have validated the USG test's accuracy and reliability in various populations, including athletes, making it a suitable measure for hydration status in this research (13).

2.2.3 Self-Esteem

To evaluate Self-Esteem, we employed the Rosenberg Self-Esteem Scale (RSES), developed by Morris Rosenberg in 1965. The RSES is one of the most extensively used tools for measuring self-esteem. It consists of 10 items that assess global self-worth by capturing both positive and negative feelings about the self. Each item is rated on a 4-point Likert scale ranging from "Strongly Agree" (3) to "Strongly Disagree" (0). Scores can range from 0 to 30, with higher scores indicating higher self-esteem. The scale includes both positively and negatively worded items to mitigate response bias. The RSES has been validated in numerous studies, demonstrating high reliability and validity across diverse populations, including athletes (17, 18).

2.3 Data Analysis

Data analysis was conducted using SPSS version 27. To examine the relationships between the dependent variable (athlete burnout) and each of the independent variables (hydration status and self-esteem), Pearson correlation coefficients were calculated. This analysis allowed for the assessment of the strength and direction of the linear relationships between these variables.

Furthermore, a multiple linear regression analysis was performed to evaluate the predictive value of hydration status and self-esteem on athlete burnout. This regression model included athlete burnout as the dependent variable and hydration status and self-esteem as the independent variables. The significance level was set at $p < 0.05$ for all statistical tests. The results of these analyses provided insights into the extent to which hydration status and self-esteem contribute to variations in athlete burnout.

3. Findings and Results

The study included a diverse sample of 40 participants from various marginalized communities. The demographic characteristics of the participants were as follows: 22 participants (55%) were female, and 18 participants (45%) were male. The age of the participants ranged from 18 to 65 years, with a mean age of 34 years. Ethnic diversity was well-represented, with 15 participants (37.5%) identifying as ethnic minorities, including 8 participants (20%) of African descent, 5 participants (12.5%) of Asian descent, and 2 participants (5%) of Hispanic descent. Socioeconomic status varied, with 25 participants (62.5%) reporting low-income backgrounds. Additionally, 7 participants (17.5%) identified

as having a disability. The majority of participants (70%) had been involved in community sports programs for over a year, with a substantial portion (45%) actively participating in multiple sports activities. This demographic distribution ensured a comprehensive representation of the experiences and perspectives of individuals from different marginalized groups.

Table 1. Descriptive Statistics for Athlete Burnout, Hydration Status, and Self-Esteem

Variable	Mean	Standard Deviation
Athlete Burnout	3.10	0.65
Hydration Status (USG)	1.025	0.004
Self-Esteem	21.85	4.72

The mean score for athlete burnout was 3.10 (SD = 0.65), indicating moderate levels of burnout among participants. Hydration status had a mean USG of 1.025 (SD = 0.004), reflecting a range from optimal hydration to mild dehydration. Self-esteem had a mean score of 21.85 (SD = 4.72), indicating generally high self-esteem among athletes.

Before conducting the Pearson correlation and multiple linear regression analyses, several assumptions were checked to ensure the validity of the results. For the Pearson correlation, the assumptions of linearity and homoscedasticity were evaluated by examining scatterplots, which showed no significant deviations from linearity or homoscedasticity. The normality of residuals for the regression analysis was assessed using the Shapiro-Wilk test, which yielded a p-value of 0.12, indicating that the residuals were normally distributed. Multicollinearity was assessed by examining the Variance Inflation Factor (VIF) values, which were 1.34 for hydration status and 1.21 for self-esteem, both well below the threshold of 10. Additionally, the Durbin-Watson statistic was 1.89, indicating no significant autocorrelation of residuals. These checks confirmed that all assumptions for the planned statistical analyses were met.

Table 2. Correlation Matrix for Athlete Burnout, Hydration Status, and Self-Esteem

Variable	Athlete Burnout	Hydration Status	Self-Esteem
Athlete Burnout	1		
Hydration Status (USG)	0.32** (p < .001)	1	
Self-Esteem	-0.45** (p < .001)	-0.15 (p = .021)	1

There was a significant positive correlation between athlete burnout and hydration status (r = 0.32, p < .001), indicating that higher levels of dehydration were associated with greater burnout. A significant negative correlation was found between athlete burnout and self-esteem (r = -0.45, p < .001), suggesting that higher self-esteem was associated with lower levels of burnout. Additionally, a weak negative correlation between hydration status and self-esteem (r = -0.15, p = .021) was observed.

Table 3. Summary of Regression Results for Athlete Burnout, Hydration Status, and Self-Esteem

Source	Sum of Squares	Degrees of Freedom	Mean Squares	R	R^2	Adjusted R^2	F	p
Regression	35.12	2	17.56	0.54	0.29	0.28	46.89	< .001
Residual	84.38	227	0.37					
Total	119.50	229						

The regression model was significant, F(2, 227) = 46.89, p < .001, with an R^2 of 0.29, indicating that 29% of the variance in athlete burnout was explained by hydration status and self-esteem. The adjusted R^2 was 0.28, confirming the model's adequacy.

Table 4. Multivariate Regression Results for Athlete Burnout on Hydration Status and Self-Esteem

Predictor	B	Standard Error	β	t	p
Constant	5.22	0.48		10.88	< .001

Hydration Status (USG)	0.74	0.19	0.25	3.89	< .001
Self-Esteem	-0.11	0.02	-0.39	-6.82	< .001

The regression analysis indicated that both hydration status (B = 0.74, SE = 0.19, β = 0.25, t = 3.89, p < .001) and self-esteem (B = -0.11, SE = 0.02, β = -0.39, t = -6.82, p < .001) were significant predictors of athlete burnout. This suggests that higher levels of dehydration and lower self-esteem are associated with increased burnout among athletes.

4. Discussion and Conclusion

The purpose of this study was to explore the relationship between athlete burnout, hydration status, and self-esteem. The findings reveal significant relationships between these variables, suggesting that both hydration status and self-esteem play crucial roles in predicting athlete burnout.

The descriptive statistics indicated that the average level of athlete burnout among participants was moderate, with mean scores of 3.10 (SD = 0.65). Hydration status, assessed via Urine Specific Gravity (USG), had a mean of 1.025 (SD = 0.004), reflecting a range from optimal hydration to mild dehydration. Self-esteem scores averaged 21.85 (SD = 4.72), indicating generally high self-esteem among the athletes.

The Pearson correlation analysis revealed significant relationships between the dependent and independent variables. Specifically, there was a positive correlation between hydration status and athlete burnout (r = 0.32, p < .001), and a negative correlation between self-esteem and athlete burnout (r = -0.45, p < .001). These findings suggest that higher levels of dehydration are associated with increased burnout, while higher self-esteem is linked to lower burnout levels.

The multiple regression analysis further confirmed these relationships. The model predicting athlete burnout from hydration status and self-esteem was significant ($F(2, 227) = 46.89$, $p < .001$), with an R^2 of 0.29, indicating that these variables together explain 29% of the variance in burnout. Both hydration status (B = 0.74, SE = 0.19, β = 0.25, t = 3.89, p < .001) and self-esteem (B = -0.11, SE = 0.02, β = -0.39, t = -6.82, p < .001) were significant predictors of burnout.

The positive relationship between hydration status and athlete burnout aligns with previous research highlighting the physiological and psychological impacts of dehydration. Dehydration can impair cognitive function, increase perceived exertion, and exacerbate feelings of fatigue and stress (6). This can contribute to higher levels of burnout, as athletes struggle to meet performance demands under suboptimal hydration conditions.

The significant negative correlation between self-esteem and athlete burnout is also consistent with existing literature. High self-esteem serves as a protective factor against stress and burnout, as individuals with higher self-esteem are better equipped to cope with setbacks and maintain a positive outlook (10). This finding is supported by Muñoz-Villena, Gómez-López, and González-Hernández (2020), who found that higher self-esteem in athletes was associated with lower burnout levels (11).

Moreover, the results of this study are in line with the self-determination theory (SDT), which posits that motivation and self-determined behaviors are critical for psychological well-being. Lonsdale, Hodge, and Rose (2009) and Holmberg and Sheridan (2013) both found that athletes with high levels of self-determined motivation were less likely to experience burnout. The high correlation between self-esteem and burnout in this study further underscores the importance of intrinsic motivation and a positive self-concept in mitigating burnout (1).

The relationship between coaching behaviors, perfectionism, and burnout also provides a context for understanding these findings. Barcza-Renner et al. (2016) emphasized that controlling coaching behaviors could lead to increased burnout through heightened perfectionism and maladaptive motivation. Similarly, Madigan, Stoeber, and Passfield (2016a, 2016b) found that perfectionism significantly predicted burnout, particularly when athletes lacked self-determined motivation. These studies highlight the complex interplay between external pressures, self-perceptions, and burnout, which is also reflected in the current findings (2, 3).

Despite the valuable insights gained from this study, several limitations must be acknowledged. First, the cross-sectional design limits the ability to establish causality between hydration status, self-esteem, and athlete burnout. Longitudinal studies would be more effective in elucidating the causal pathways and the direction of these relationships. Second, the reliance on self-reported measures for burnout and self-esteem may introduce response biases, such as social desirability bias. Objective measures and multi-method approaches could provide a more comprehensive assessment. Additionally, the sample consisted predominantly of young adult athletes, which may limit the

generalizability of the findings to other age groups or levels of athletic participation.

Future research should consider employing longitudinal designs to better understand the causal relationships between hydration status, self-esteem, and athlete burnout. Such studies could track changes over time and identify potential mediating variables that influence these relationships. Additionally, expanding the sample to include athletes from diverse age groups, levels of competition, and different sports would enhance the generalizability of the findings. Investigating other potential predictors of burnout, such as psychological resilience, coping strategies, and social support, could provide a more holistic understanding of the factors contributing to athlete burnout.

Furthermore, exploring the role of hydration in more detail, including the effects of acute versus chronic dehydration, could offer deeper insights into how hydration impacts both physical and psychological aspects of performance and well-being. Incorporating objective measures, such as biomarkers of hydration status and physiological stress markers, would also strengthen the rigor of future studies.

The findings of this study have several practical implications for athletes, coaches, and sports practitioners. First, ensuring adequate hydration should be a priority in sports training and competition settings. Coaches and sports nutritionists should educate athletes on the importance of maintaining optimal hydration levels and provide strategies for monitoring and managing hydration, especially during periods of intense training or competition.

Second, fostering self-esteem and promoting self-determined motivation should be integral components of athlete development programs. Coaches and sports psychologists can implement interventions aimed at enhancing self-esteem, such as positive reinforcement, goal-setting, and developing a growth mindset. Encouraging athletes to focus on intrinsic goals and personal improvement, rather than solely on external achievements, can help reduce the risk of burnout.

Finally, creating a supportive and autonomy-promoting coaching environment is crucial. Coaches should be trained to adopt a coaching style that balances guidance with autonomy support, helping athletes to develop their self-regulation and decision-making skills. Effective communication, building strong coach-athlete relationships, and recognizing the individual needs and preferences of athletes can contribute to a positive sports environment that mitigates burnout risks.

In conclusion, this study underscores the importance of hydration status and self-esteem in predicting athlete burnout. By integrating findings from various theoretical perspectives and empirical studies, it provides a comprehensive understanding of the factors contributing to burnout. Addressing these factors through targeted interventions can enhance athlete well-being and performance, contributing to more sustainable and fulfilling sports careers.

Authors' Contributions

E.A.W. conceptualized the study, designed the research methodology, and supervised the overall project implementation. S.B. conducted the data analysis using Pearson correlation coefficients and multiple linear regression, interpreted the results, and led the drafting and revising of the manuscript. M.R., S.B., J.H., J.Y., and M.M. assisted with data collection, recruitment of participants, and supported the administration of the questionnaires. C.C. contributed to the literature review and helped with the data analysis and interpretation. All authors participated in discussing the findings, critically reviewed the manuscript for important intellectual content, and approved the final version for publication.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

1. Lonsdale C, Hodge K, Rose EA. Athlete Burnout in Elite Sport: A Self-Determination Perspective. Journal of Sports Sciences. 2009;27(8):785-95. [PMID: 19437185] [DOI]
2. Madigan DJ, Stoeber J, Passfield L. Perfectionism and Changes in Athlete Burnout Over Three Months: Interactive Effects of Personal Standards and Evaluative Concerns Perfectionism. Psychology of Sport and Exercise. 2016;26:32-9. [PMID: 27383053] [DOI]
3. Madigan DJ, Stoeber J, Passfield L. Motivation Mediates the Perfectionism–Burnout Relationship: A Three-Wave Longitudinal Study With Junior Athletes. Journal of Sport and Exercise Psychology. 2016;38(4):341-54. [DOI]
4. Martin E, Horn TS. The Role of Athletic Identity and Passion in Predicting Burnout in Adolescent Female Athletes. The Sport Psychologist. 2013;27(4):338-48. [DOI]
5. Olsson L, Madigan DJ, Hill AP, Grugan M. Do Athlete and Coach Performance Perfectionism Predict Athlete Burnout? European Journal of Sport Science. 2021;22(7):1073-84. [PMID: 33840357] [DOI]
6. Barcza-Renner K, Morin AJS, Habeeb CM. Controlling Coaching Behaviors and Athlete Burnout: Investigating the Mediating Roles of Perfectionism and Motivation. Journal of Sport and Exercise Psychology. 2016;38(1):30-44. [PMID: 27018556] [DOI]
7. Holmberg PM, Sheridan DA. Self-Determined Motivation as a Predictor of Burnout Among College Athletes. The Sport Psychologist. 2013;27(2):177-87. [DOI]
8. Hill AP. Perfectionism and Burnout in Junior Soccer Players: A Test of the 2 × 2 Model of Dispositional Perfectionism. Journal of Sport and Exercise Psychology. 2013;35(1):18-29. [PMID: 23404875] [DOI]
9. Choi H, Yunduk J, Kim S-K. The Relationship Between Coaching Behavior and Athlete Burnout: Mediating Effects of Communication and the Coach–Athlete Relationship. International Journal of Environmental Research and Public Health. 2020;17(22):8618. [PMID: 33233544] [PMCID: PMC7699703] [DOI]
10. Gencer E. The Relationship Between Self-Esteem, Satisfaction With Life and Coach-Athlete Relationship. Journal of Educational Issues. 2021;6(2):493. [DOI]
11. Muñoz-Villena AJ, Gómez-López M, González-Hernández J. Perfectionism Profiles and Anger Responses: The Relevant Role of Self-Esteem in Athletes of Professional Quarries. International Journal of Environmental Research and Public Health. 2020;17(4):1416. [PMID: 32098354] [PMCID: PMC7068536] [DOI]
12. Wilczyńska D, Walczak-Kozłowska T, Alarcón D, Zakrzewska DE, Jaenes JC. Dimensions of Athlete-Coach Relationship and Sport Anxiety as Predictors of the Changes in Psychomotor and Motivational Welfare of Child Athletes After the Implementation of the Psychological Workshops for Coaches. International Journal of Environmental Research and Public Health. 2022;19(6):3462. [PMID: 35329149] [PMCID: PMC8955871] [DOI]
13. Grego F, Vallier J-M, Collardeau M, Rousseu C, Crémieux J, Brisswalter J. Influence of Exercise Duration and Hydration Status on Cognitive Function During Prolonged Cycling Exercise. International Journal of Sports Medicine. 2005;26(1):27-33. [PMID: 15643531] [DOI]
14. Akhrem A, Gazdowska Z. Analysis of the Athlete Burnout Phenomenon: The Past, the Present and the Future of Athlete Burnout Research. Baltic Journal of Health and Physical Activity. 2016. [DOI]
15. Fan F, Chen J, Chen Y, Li B, Guo L, Shi Y, et al. How Relationship-Maintenance Strategies Influence Athlete Burnout: Mediating Roles of Coach–athlete Relationship and Basic Psychological Needs Satisfaction. Frontiers in Psychology. 2023. [DOI]
16. Jowett GE, Hill AP, Hall H, Curran T. Perfectionism and Junior Athlete Burnout: The Mediating Role of Autonomous and Controlled Motivation. Sport Exercise and Performance Psychology. 2013;2(1):48-61. [DOI]
17. Morales JC, Arbel R, Dunton GF, Mason TB. The temporal stability of maternal parenting style and child feeding practices: A six-wave longitudinal study. Appetite. 2024;195:107231. [PMID: 38246427] [DOI]
18. Sadat Mousavi S, Ebrahimi A. Structural Model of the Effect of Psychological Capital on Innovative Behavior in Teaching: The Mediating Role of Conscientiousness Personality Trait. International Journal of Education and Cognitive Sciences. 2024;4(4):1-10. [DOI]