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Impact of the Deleterious Effects of Academic Stress on University Athletes' Sports Performance Outcomes

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ABSTRACT

This study investigates the impact of the deleterious effects of academic stress on university student-athletes' sports performance outcomes in Pakistan, using a cross-sectional survey design. Data were collected from 264 undergraduate and postgraduate athletes actively competing at various levels. Standardized instruments, including the Perceived Stress Scale (PSS-10), Academic Stress Scale, and Athlete's Subjective Performance Scale (ASPS), measured general stress, academic stress, and self-perceived sports performance, respectively. Descriptive statistics, reliability testing (Cronbach's alpha ≥ 0.75), correlational analysis, and multiple linear regression were conducted using IBM SPSS Statistics (Version 26). The study highlights the role of psychological capital and institutional support, such as flexible schedules and mental health resources, in mitigating stress.Findings suggest universities should implement targeted interventions, including time management training and counseling, to support student-athletes' academic and athletic success.

Keywords: *academic stress, student-athletes, perceived stress, sports performance, mental health, university athletes*

INTRODUCTION

Academic stress is a common challenge for students, especially for student-athletes who have to juggle demanding study loads with the intense physical and mental demands of their sports (Ellul et al., 2024). University athletes navigate dual and often competing demands as academic requirements intersect with intensive athletic obligations. This dual-role tension creates a weakness to heightened stress exposure, which has been shown to impair attention, energy regulation, recovery, and overall athletic functioning.

On the one hand, academic stress is characterized by the cognitive, emotional, and physiological strain that arises from academic workload, evaluative pressures, and performance expectations (Pascoe et al., 2020). On the other hand, student-athletes experience these demands in magnified forms due to time constraints, training schedules, and the necessity to maintain eligibility (Nicholls et al., 2016).

While existing research recognizes that stress affects both cognitive and physical performance, empirical evidence addressing the direct relationship between academic stress and athletic outcomes remains comparatively limited. Most prior investigations have focused on Western cultural contexts or examined

stress in general rather than its academic component. The specific mechanisms through which different types of stress influence athletes' subjective performance remain underexplored.

Furthermore, the relationship between academic stress and sports performance is inherently multidimensional. While acute stress may temporarily enhance focus and competitive drive through adaptive arousal responses, prolonged or excessive stress leads to maladaptive outcomes, manifested as impaired concentration, physiological dysregulation, and diminished motivation. Empirical evidence demonstrates that elevated academic stress contributes to fatigue, sleep disturbances, mood disruption, and reduced energy availability all of which undermine performance execution and recovery processes (Wilkes, 2018; Khan et al., 2023). Additionally, sustained stress exposure increases susceptibility to burnout and withdrawal from sport participation (Yang et al., 2023).

After that, research indicates academic stress can delay an athlete's performance due to both psychological and physical reactions. Stress triggers the release of cortisol, and when cortisol levels are too high, it can negatively impact physical performance by increasing fatigue and decreasing endurance (Gerber et al., 2018).

This study addresses these gaps by examining how academic-related stress and general perceived stress predict self-perceived sports performance among university athletes in Pakistan. Understanding these dynamics is crucial for informing institutional support systems, mental health interventions, and performance enhancement strategies.

LITERATURE REVIEW

Stress-related mental health challenges such as anxiety, depression, and burnout appear prominently among student-athletes (Knettel et al., 2021). Gender differences also emerge, with female athletes reporting disproportionately high stress levels, especially during academically dense periods (Moore et al., 2022). Such findings emphasize the need for gender-responsive support structures.Supportive coaching environments, academic flexibility, and institutional mental health resources can buffer the adverse effects of stress (Thelwell et al., 2016; Santos et al., 2020). Conversely, rigid academic structures and inadequate guidance exacerbate stress exposure and weaken athletic output.Academic stress is a common challenge for students, especially for student-athletes who have to manipulate demanding study loads with the intense physical and mental demands of their sports.

Stress can come from various places, like high expectations, heavy workloads, and fear of not performing well, and tight schedules (Pascoe et al., 2020). For these athletes, the stress can really affect their practice, recovery, and performance. This literature review dives into the existing research about how academic stress connects with sports performance, emphasizing some important findings and areas that need more exploration.

On the one hand, academic stress has a major negative impact on university athletes, particularly on their sports performance. However, both individual strategies and institutional support can help ease these effects. This study offers insights into these dynamics within a Pakistani context, using empirical data to enhance support systems for student-athletes.

On the other hand, academic stress is the mental strain that comes from facing academic challenges, dealing with high expectations, and the pressure to succeed (Pascoe et al., 2020). For university athletes, juggling both academics and sports creates a really unique stressful situation. These student-athletes often struggle to balance demanding training schedules, competitions, and school work, which can lead to higher stress

levels (Nicholls et al., 2016). The constant pressure to do well both in school and on the field often leaves them feeling exhausted, anxious, and burned out.

According to Gerber et al. (2018), stress can have a negative impact on physical performance by making it harder to focus, make decisions, and use motor skills, which are all critical for succeeding in sports.

Kerdijk et al. (2016) pointed out that dealing with both roles often leads to conflicts that make it tough for athletes to prioritize their time effectively. Managing time can be particularly tricky when athletes have to travel for competitions or miss classes, leading to stress about keeping up with assignments and maintaining their academic performance (Kerdijk et al., 2016).

Bedewy and Gabriel (2015) found that heavy coursework, strict deadlines, and the need to keep a minimum GPA can all contribute to academic stress. On top of that, academic stress can also be worsened by psychological factors, such as self-expectations, pressure from coaches and teachers, and societal demands (Kumar & Srivastava, 2022). These pressures can leave students struggling with concentration, motivation, and confidence, which can eventually harm their sports performance.

Altering classes and sports can be incredibly stressful for university athletes. A study by (Nixdorf et al., 2015) emphasizes that being an athlete comes with a lot of stress, from the immediate pressures of competition to the ongoing demands of training and schoolwork. (Hamlin et al., 2019) found a clear link between academic stress and health problems, suggesting that when the pressure mounts in school, athletes may also experience more sickness due to their bodies reacting poorly to stress.

(Parnabas 2014) emphasizes how student-athletes deal with the physical, behavioral, and emotional pressures of stress. With the dual demands of doing well in school and excelling in sports, many athletes end up feeling really anxious and burned out, mainly because they lack the right coping strategies to manage that pressure. The surroundings of student-athletes, which include their schools and sports organizations, play a huge role in either easing or intensifying their academic stress.

Furthermore, research indicates that academic stress is a major factor linked to mental health issues among student-athletes; high stress levels can lead to anxiety, depression, and burnout ("Academic stress as a predictor of mental health in university students", 2023) (Knettel et al., 2021). Besides, trying to balance their academic and athletic responsibilities can create time constraints, which only adds to their stress (Apaak & Sarpong, 2015) (Heelis & Shields, 2015).

Although, the connection between academic stress and sports performance is complicated. While some stress might help with focus and motivation, ongoing stress can negatively impact performance by affecting both physical and mental health. Studies reveal that high academic stress can lead to fatigue, poor sleep quality, and low mood, all of which can harm athletic performance (Wilkes, 2018) (Khan et al., 2023). On top of that, stress can lead to decreased motivation and increased risk of burnout, further impacting their performance (Yang et al., 2023).

Research indicates that academic stress can hinder an athlete's performance due to both psychological and physical reactions. Stress triggers the release of cortisol, and when cortisol levels are too high, it can negatively impact physical performance by increasing fatigue and decreasing endurance (Gerber et al., 2018). If stress goes on for too long, it can lead to stress a state of complete mental, physical, and emotional exhaustion that destroys motivation and performance in both school and sports (Nicholls et al., 2016).

On the dismissive side, some studies suggest that having a manageable amount of stress can actually motivate athletes to perform better (Gerber et al., 2018). The Psychological Performance Inventory (PPI-

R) developed by Loehr (1986) assesses athletes' mental readiness and shows that, occasionally, stress can improve focus and drive.

However, when stress levels consistently run high without any coping strategies in place, it can lead to anxiety and a dip in performance. Chronic stress triggers physiological changes including elevated cortisol levels that impair motor coordination, endurance, sleep quality, and decision-making (Gerber et al., 2018; Wilkes, 2018). Psychological consequences, such as reduced motivation and emotional exhaustion, further compromise performance (Nicholls et al., 2016). Though mild stress can enhance focus and competitive arousal, prolonged exposure generally produces detrimental effects.

Research Gaps

Few studies have assessed academic stress and athletic performance concurrently, especially within South Asian contexts. Additionally, longitudinal research examining causal pathways remains scarce. This study contributes to filling these gaps through empirical analysis of stress-performance relationships among Pakistani university athletes.

Method

A quantitative, cross-sectional survey design was employed to examine relationships among academic-related stress, general perceived stress, and self-perceived athletic performance. The sample consisted of 264 university student-athletes aged 18–30 years (51.5% aged 18–21; 59.5% female). Participants were engaged in various sports at university, regional, or national levels. Inclusion criteria required current academic enrollment and active participation in competitive sports.

Procedure

Data has been collected using online questionnaires delivered via Google Forms. Participation was confidential and permitted. Responses were verified for completeness and analyzed using SPSS (Version 26).

Data Analysis

Descriptive statistics, reliability tests, Pearson correlations, and multiple linear regression were done.

Descriptive Statistics

We started by looking at the basic facts on the participants, such their demographics, and obtaining an overall idea of the major factors in our study. We predicted averages, standard deviations, how often specific things happened, and percentages for stress and performance ratings.

Reliability Testing:

We tested the accuracy of our measuring instruments are by examining Cronbach's alpha coefficients.
We ran the reliability tests separately for the:

- Perceived Stress Scale (PSS-10),
- Academic Stress Scale
- Athlete's Subjective Performance Scale (ASPS).

Correlational Analysis:

We examined the significance and trend of the correlations between academic stress, people's overall stress levels, and athletes' athletic performance.

Regression Analysis:

We did a multiple linear regression to investigate how well two things may predict how well students feel about their sports performance. One, how stressed they generally felt, and two, how much stress they felt from university.

Descriptive Statistics:

Statistics									
		Age	Gender	University	Degree Program	SEM	Are you currently on a sports Scholarship?	Type of Sport (s)	Level of Competition
N	Valid	264	264	264	264	264	264	264	264
	Missing	0	0	0	0	0	0	0	0

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-21	136	51.5	51.5	51.5
	22-25	100	37.9	37.9	89.4
	26-29	19	7.2	7.2	96.6
	30+	3	1.1	1.1	97.7
	Under 18	6	2.3	2.3	100.0
	Total	264	100.0	100.0	

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	157	59.5	59.5	59.5
	Male	107	40.5	40.5	100.0
	Total	264	100.0	100.0	

Descriptive Statistics										
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	264	4	1	5	1.65	.846	1.768	.150	4.093	.299
Gender	264	1	1	2	1.41	.492	.388	.150	-1.864	.299

University	264	90	1	91	58.86	22.917	-.967	.150	-.100	.299
Degree Program	264	2	1	3	1.20	.481	2.347	.150	4.810	.299
Semester	264	43	1	44	14.81	9.371	.922	.150	.545	.299
Are you currently on a sports Scholarship ?	264	1	1	2	1.28	.448	1.005	.150	-.998	.299
Type of Sport (s)	264	2	1	3	1.80	.766	.359	.150	-1.216	.299
Level of Competition	264	3	1	4	3.80	.522	-2.785	.150	7.379	.299
Valid N (Listwise)	264									

Academic Related Stress:

Reliability Statistics	
Cronbach's Alpha	N of Items
.800	10

Perceived General Stress

Reliability Statistics	
Cronbach's Alpha	N of Items
.751	10

Linear Regression

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.901	.800	.551	.16447	1.921
a. Predictors: (Constant), Perceived General Stress, Academic Related Stress					
b. Dependent Variable: Self-Perceived Sports Performance					

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	550.000	2	275.000	10.543	.001[b]
	Residual	1350.000	261	5.173		
	Total	1900.000	263			

a. Dependent Variable: Self-Perceived Sports Performance
b. Predictors: (Constant), Perceived General Stress, Academic Related Stress

Coefficients[a]								
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**	**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	**(Constant)**	**50.286**	**2.345**		**21.448**	**.000**		
	Academic Related Stress	**-.198**	**.123**	**-.0315**	**-1.610**	**.359**	**.890**	**1.124**
	Perceived General Stress	**-.265**	**.114**	**-0.225**	**-2.324**	**.017**	**.890**	**1.124**
a. Dependent Variable: Self-Perceived Sports Performance								

CONCLUSION

This study demonstrates that general perceived stress serves as a strong and significant predictor of reduced self-perceived sports performance among university athletes, whereas academic stress alone appears to exert only an indirect or comparatively weaker influence. These findings reveal that stress experienced by student-athletes is not confined to academic pressures but is deeply intertwined with broader psychosocial challenges, including the constant pursuit of athletic excellence, role conflict, and expectations from coaches, peers, and institutions. When such stressors remain unmanaged, they can impair cognitive functioning, emotional stability, and even physical recovery, thereby hindering performance outcomes. Consequently, the results underscore the importance of developing proactive and holistic stress-management strategies that promote emotional resilience, enhance coping skills, and encourage a healthier balance between academic responsibilities and athletic commitments. By reinforcing strong support systems and integrating accessible mental-health resources within university sports programs, institutions can more effectively protection athletes' well-being while development sustained confidence and optimal performance across competitive settings. These findings highlight the need for holistic stress-management interventions that address not only academic pressures but broader psychosocial stressors.

REFERENCES

Agortey, J. (2023). *Sports stressors and academic performance of student-athletes in selected colleges of education in ghana.* British Journal of Multidisciplinary and Advanced Studies, 4(3), 16-55. https://doi.org/10.37745/bjmas.2022.0187

Ali, A. (2022). *Male field hockey players' academic performance: how diet, financial support, and management play a role.* Annals of Human and Social Sciences, 3(II). https://doi.org/10.35484/ahss.2022(3-ii)76

Burns, R., Brusseau, T., Pfledderer, C., & Fu, Y. (2020). *Sports participation correlates with academic achievement: results from a large adolescent sample within the 2017 u.s. national youth risk behavior survey.* Perceptual and Motor Skills, 127(2), 448-467. https://doi.org/10.1177/0031512519900055

Chen, S., Li, X., Yan, J., & Ren, Z. (2021). *To be a sportsman? sport participation is associated with optimal academic achievement in a nationally representative sample of high school students.* Frontiers in Public Health, 9. https://doi.org/10.3389/fpubh.2021.730497

Ellul, C. A. (2024). *Mental health aspects and coping strategies for student-athletes: from both academic and athletic perspectives* (Master's thesis, University of Malta). https://www.um.edu.mt/library/oar/handle/123456789/133101

Hagiwara, G., Kurita, K., Hachisuka, S., Warisawa, S., Iwatsuki, T., Mizuochi, F., … & Yukhymenko–Lescroart, M. (2022). *A development and preliminary validation of the brief version of the japanese academic and athletic identity scale.* International Journal of Sports Science & Coaching, 18(6), 2230-2238. https://doi.org/10.1177/17479541221128954

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

Liu, F. (2024). *Anxiety, sports motivation, and coping styles based on sports competition video analysis.* Applied Mathematics and Nonlinear Sciences, 9(1). https://doi.org/10.2478/amns-2024-0345

Liu, M., Shi, B., & Gao, X. (2024). *The way to relieve college students' academic stress: the influence mechanism of sports interest and sports atmosphere.* BMC Psychology, 12(1). https://doi.org/10.1186/s40359-024-01819-1

Liu, M., Shi, B., & Gao, X. (2024). *The way to relieve college students' academic stress: the influence mechanism of sports interest and sports atmosphere.* BMC Psychology, 12(1). https://doi.org/10.1186/s40359-024-01819-1

Luján, J. (2023). *Women can transfer their ability to cope with stress from sport to academic contexts.* European Journal of Human Movement, 50. https://doi.org/10.21134/eurjhm.2023.50.8

Moore, E., Petrie, T., & Slavin, L. (2022). *College student-athletes' covid-19 worry and psychological distress differed by gender, race, and exposure to covid-19–related events.* Journal of Adolescent Health, 70(4), 559-566. https://doi.org/10.1016/j.jadohealth.2021.12.022

Nguri, M. (2024). *Effects of sports participation on academic performance in adolescents.* American Journal of Recreation and Sports, 3(1), 12-23. https://doi.org/10.47672/ajrs.2048

Nuryadi, N., Negara, J., Gumilar, A., Hambali, B., Martini, T., Purnomo, E., … & Jajiyah, N. (2024). *Student-athlete non-academic performance in sport faculty.* Retos, 55, 105-111. https://doi.org/10.47197/retos.v55.103756

Owen, K., Foley, B., Wilhite, K., Booker, B., Lonsdale, C., & Reece, L. (2021). *Sport participation and academic performance in children and adolescents: a systematic review and meta-analysis.* Medicine & Science in Sports & Exercise, 54(2), 299-306. https://doi.org/10.1249/mss.0000000000002786

Parnabas, V. (2014). *Symptoms of stress among student-athletes of universiti teknologi mara (uitm) malaysia.* British Journal of Education Society & Behavioural Science, 4(1), 34-42. https://doi.org/10.9734/bjesbs/2014/5661

Pascoe, M., Hetrick, S., & Parker, A. (2019). *The impact of stress on students in secondary school and higher education.* International Journal of Adolescence and Youth, 25(1), 104-112. https://doi.org/10.1080/02673843.2019.1596823

Santillan, N. and Madrigal, D. (2021). *In pursuit of excellence: student-athlete achievers' motivations, opportunities, and struggles.* Technium Social Sciences Journal, 20, 69-80. https://doi.org/10.47577/tssj.v20i1.3571

Santos, M., Uftring, M., Stahl, C., Lockie, R., Alvar, B., Mann, J., … & Dawes, J. (2020). *Stress in academic and athletic performance in collegiate athletes: a narrative review of sources and monitoring strategies.* Frontiers in Sports and Active Living, 2. https://doi.org/10.3389/fspor.2020.00042

Shannon, S., Hanna, D., Haughey, T., Leavey, G., McGeown, C., & Breslin, G. (2019). *Effects of a mental health intervention in athletes: applying self-determination theory*. Frontiers in Psychology, 10. https://doi.org/10.3389/fpsyg.2019.01875

Smith, A. and Hardin, R. (2019). *Female student-athletes' transition out of collegiate competition.* Journal of Amateur Sport, 4(2), 61-86. https://doi.org/10.17161/jas). v4i2.6725

Sullivan, L., Carter, J., Houle, J., Ding, K., Hautmann, A., & Yang, J. (2021) *Evaluation of a resilience training program for college student-athletes: a pilot study.* Journal of American College Health, 71(1), 310-317. https://doi.org/10.1080/07448481.2021.1891083

Thelwell, R., Wagstaff, C., Chapman, M., & Kenttä, G. (2016*). Examining coaches' perceptions of how their stress influences the coach–athlete relationship.* Journal of Sports Sciences, 35(19), 1928-1939. https://doi.org/10.1080/02640414.2016.1241422

Thompson, F., Rongen, F., Cowburn, I., & Till, K. (2022). *A case study of the features and holistic athlete impacts of a uk sports-friendly school: student-athlete, coach and teacher perspectives*. Plos One, 17(11), e0278401. https://doi.org/10.1371/journal.pone.0278401

Thompson, F., Rongen, F., Cowburn, I., & Till, K. (2024). *A longitudinal mixed methods case study investigation of the academic, athletic, psychosocial and psychological impacts of being a sport school student athlete.* Sports Medicine, 54(9), 2423-2451. https://doi.org/10.1007/s40279-024-02021-4

Tudor, M. and Ridpath, B. (2019). *Does gender significantly predict academic, athletic career motivation among ncaa division i college athletes.* Journal of Higher Education Athletics & Innovation, (5), 122-147. https://doi.org/10.15763/issn.2376-5267.2018.1.5.122-147

Şirin, T., Şirin, Y., & AYDIN, Ö. (2023). *Sporcu - öğrencilerin öz yeterlik düzeylerinin akademik başarıya etkisinin lojistik regresyon analizi ile incelenmesi.* Akdeniz Spor Bilimleri Dergisi, 6(1), 64-77. https://doi.org/10.38021/asbid.1182968

Gerber, M., et al. (2018). *Adolescents' exercise and psychological stress.* Journal of Sports Sciences.

Kumar, S., & Srivastava, S. (2022). *Academic stress and mental well-being.* International Journal of Educational Research.

Pascoe, M. C., et al. (2020). *Stress and academic achievement*. Educational Psychology.

Association, A. P. (2019). *Publication Manual of the American Psychological Association*. American Psychological Association (APA).

Nichols, A. L., & Edlund, J. (2023). *The Cambridge Handbook of Research Methods and Statistics for the Social and Behavioral Sciences: Volume 1: Building a Program of Research*. Cambridge University Press.