

**SPORTS AS A STRESS COPING MECHANISM IN ACADEMIC PERFORMANCE
AMONG HIGH SCHOOL STUDENTS**

Dr Punita Borpujari Deori

Assistant Professor, Department of Psychology, University of Science & Technology
Meghalaya

Toli Nguba

Student scholar, Department of Psychology, University of Science & Technology

Abstract

This study examines the influence of sports participation as a stress coping mechanism on the academic performance of high school students. In contemporary educational settings, students face increasing academic pressure, which often leads to elevated stress levels that can negatively impact both mental well-being and academic outcomes. This research aims to explore whether involvement in sports can serve as an effective strategy to manage academic stress and enhance performance. The study focuses on students in classes IX and X, utilizing a sample of 100 participants from selected government schools. A comparative and correlational research design is employed to analyze differences in stress levels, coping mechanisms, and academic performance between students who participate in sports and those who do not. Data are collected using self-report measures assessing academic stress, coping strategies, and academic achievement. The study hypothesizes that sports participation is associated with lower stress levels, more effective coping mechanisms, and improved academic performance. Findings are expected to contribute to the understanding of the psychological and educational benefits of sports, emphasizing its role in promoting holistic student development. The results may provide valuable insights for educators, policymakers, and parents to integrate structured physical activities into academic environments as a means of enhancing both mental health and academic success.

Keywords: Sports, Stress Coping Mechanism, Academic Performance, high school students

Introduction

In the educational landscape, academic performance today are more than just a measure of intelligence or subject it is widely recognized as a major determinant of students' success and future opportunities. As high school students face increasing pressure to perform well their studies, the resulting stress can have profound effects on their mental health, well-being, and academic outcomes.

Previous research has shown that higher stress are often linked with poor adjustment and reduced performance among students (Akbar et al., 2008; Ghatpl, 2017).The source of stress for students is varied ranging from internal psychological factors to external societal demands. Students are expected not only to demonstrate academic excellence but also engage in extracurricular activities, maintain social relationship, and prepare for further

study. Lazarus and Folkman (1984) highlight that stress occurs when individuals perceive that demands placed upon them exceed their available resources.

Studies suggest that coping therefore becomes a central factor in determining how students respond to stress. For example students who use more adaptive coping strategies tend to experience better psychological well-being and improved academic functioning (Nopembri et al., 2019). However, not all students naturally develop effective coping mechanisms, which highlights the significance of identifying supportive activities that can enhance these skills.

One such activity is sports participation. While sports are recognized for their physical benefits, but their impact extends far beyond physical health. Taking part in sports can help reduce stress, promote mental and emotional well-being, and ultimately improve overall academic performance. Research supports this view, indicating that students involved in sports often report lower stress levels and higher self-confidence (Dolenc, 2015; Decamps et al., 2012). Physical activities have been linked with more active and constructive coping styles, which contribute to better stress management (Ogunduran et al., 2024).

Several studies have found a connection between sports participation and academic performance. Students who engage in sports tend to perform better academically due to improved time management and self-discipline (Bullon et al., 2017; Yusuf & Brojac, 2023)

The study aims to explore the relationship between sports participation and academic performance, with a focus on the role of sports as a stress-coping mechanism. Specifically, it seeks to examine how involvement in sports helps students manage stress, and provides a mental break from academic pressures. In addition, the study will investigate how these factors, in turn, contribute to improved overall academic performance.

Literature Review

Research on the relationship between sports participation, stress, coping mechanisms, and academic performance has grown significantly in recent years. A consistent finding across studies is that academic stress is a major challenge among students, particularly during adolescence, where academic expectations and social pressures are at their peak. Studies such as Akabar et al. (2008) indicate that academic stress is inversely related to students' adjustment, suggesting that higher stress levels negatively affect overall functioning. Similarly, Shaikh et al. (2004) reported a high prevalence of stress among students, with academic workload and examinations identified as primary stressors, often leading to reduced concentration and poorer academic outcomes.

Sports participation has been widely recognized as an effective strategy for managing stress. Empirical evidence suggests that students engaged in physical activities tend to experience lower levels of anxiety and improved psychological well-being. For instance, Decamps et al. (2012) found that students with regular or intensive sports involvement reported lower academic stress and higher self-efficacy. Likewise, Dolenc (2015)

demonstrated that students participate in organized sports exhibited lower anxiety levels and higher self-esteem compared to non-participants, while also employing more productive, problem-focused coping strategies. Supporting these findings, Ogunduran et al. (2024) highlighted that engagement in physical activity is significantly associated with reduced perceived stress and improved coping effectiveness.

Coping mechanisms play a crucial role in mediating the relationship between stress and academic performance. According to Lazarus and Folkman (1984), coping involves both cognitive and behavioral efforts to manage stressors, with problem-focused coping generally yielding more positive outcomes. Research indicates that sports participation enhances adaptive coping strategies, including emotional regulation, problem-solving, and social support seeking. Nopembri et al. (2019) further demonstrated that cooperative physical education activities significantly improve students' coping and problem-solving skills, reinforcing the role of sports as a developmental tool.

The relationship between sports participation and academic performance, however, presents mixed findings. Several studies report a positive association, suggesting that sports enhance discipline, time management, and cognitive functioning. For example, Bullón et al. (2017) found that students involved in extracurricular sports activities achieved higher academic grades. Similarly, Yusuf and Borjac (2023) emphasized that physical activity contributes to improved academic performance through its stress-reducing effects and enhancement of self-efficacy. On the other hand, some studies highlight potential drawbacks. Nguri (2024) noted that excessive involvement in sports may lead to fatigue and reduced academic focus, while Decamps et al. (2012) observed no significant difference in academic success despite variations in sports participation levels.

Others factors, such as gender, level of participation and environment, can also influence outcomes. Dolenc (2015) found that female students often report higher with anxiety levels and tend to rely on emotion-focused coping. Yonet (2016) also found variations in coping abilities based on gender, suggesting that individual differences influence how students benefit from sports participation.

More recent research has emphasized the psychological mechanisms underlying these relationships. Studies such as Liu et al. (2024) and Husian et al. (2025) highlighted the role of psychological resilience and emotional well-being as mediating factors between sports participation and academic performance. Finding indicates that sports contribute not only to reduce stress but also to build resilience, which supports academic success.

Despite the growing research, a notable gap remains. Most of the existing research has focused on college or university populations, with limited attention given to high school students, particularly those in rural or semi-urban areas. Additionally, only a few studies examined how stress coping mechanisms act as a link between sports participation and academic performance.

Therefore, the present study aims to address this gap by investigating how sports participation influences academic stress, coping strategies, and academic performance among high school students in Arunachal Pradesh. By integrating these variables, the study aims to provide a more comprehensive understanding of the role of sports in promoting both psychological well-being and academic success.

Objectives of the study are:

1. To compare academic stress between high school students who participate in sports and those who do not participate in sports.
2. To examine the stress coping mechanisms between high school students who participate in sports and those who do not participate in sports.
3. To examine the relationship between stress and academic performance among the high school students who participate in sport and who do not.
4. To investigate the relationship between stress coping mechanism and academic performance among the high school students participating in sports and non-participants in sports.

Hypotheses

Ho1: There is no significant difference in stress between high school students who participate in sports and those who do not participate in sports.

Ho2: There is no significant difference in stress coping mechanism between high school students who participate in sports and who do not participate in sports.

Ho3: There is no significant relationship between stress and academic performances among high school students who participate.

Ho4: There is no significant relationship between stress coping mechanism and academic performances among high school students who participate

Method: Descriptive, comparative and correlational method has been chosen for the study to analysis the differences in stress levels, coping mechanisms, and academic performance between students who participate in sports and those who do not.

Population: The population of the study comprised of all the class IX and X students studying in the academic year of 2025-2026 from three govt school of lower Siang district Arunachal Pradesh. (Govt. Higher secondary school of likabali, Lipu and Liru)

The sample of the study: To accomplish the objective of the study the researcher selected Lower Siang district Likabali, Arunachal Pradesh. The participants of this study were 100 high school students from likabali, Lipu and Liru government high school, the sample consisted of students from class ix and x studying in the academic year of 2025- 2026. The participants were selected on the basis of conducting survey using question nary.

Accordingly, two groups were selected consisting of students who participate in sports and another group who do not participate in sports were identified. From which 50 students were identified as actively participants in sports and another 50 students were selected randomly from participant's schools

Tool used in the study: Three standardized tools were administered to collect suitable data.

- Stress Questionnaire (ISMA,2017)
- Brief COPE Scale (Carver,1997)
- Academic Performance scale (Brichmeier, C. Emily, G. & Christopher, M. 2015)

Data Collection Procedure: After the finalisation of tools, the researcher personally visited the schools and permission was obtained from the school authority and participants' guardians. The questionnaires were then administered collectively in a classroom setting with standardized instructions. Confidentiality and voluntary participation were maintained.

Data were analysed by using the statistical techniques including Mean, SD and inferential statistics including t-test, Pearson's correlation and regression analysis to test whether coping mediates the effect of sports on academic performance by using the SPSS 20 version.

Data Analysis

Descriptive Statistics of the Variables examined in the study:

Table1: Descriptive Statistics of Stress, Coping Mechanisms and Academic Performance

| Group | | Stress Mean | Stress SD | Coping Mean | Coping SD | Academic Performance S | Mean |
|----------------------------|--------|----------------|--------------|----------------|--------------|------------------------------|-------|
| Sports Participants | 4 9 | 15.39 | 9.03 | 69.02 | 14.38 | 56.40 | 8.10 |
| Non-Sports Participants | 4 9 | 15.80 | 2.81 | 71.21 | 13.56 | 60.20 | 12.60 |

Table 1 presents the descriptive statistics for the major variables of the study. The mean stress score for sports participants is **15.39**, which is slightly lower than the stress score of non-participants (**15.80**). Indicating a slightly reduction in stress among students involved in sports.

In terms of coping mechanisms, non-participants have a slightly higher coping score (**M = 71.21**) compared to sports participants (**M = 69.02**). This suggests that students in both groups utilize coping strategies, but the difference is minimal.

Academic performance shows that non-participants scored slightly higher (**M = 60.20**) compared to sports participants (**M = 56.40**), although the variation among students is noticeable.

Comparison of Stress Levels between Sports Participants and Non-Participants:

Objective 1: To compare stress between high school students who participate in sports and those who do not participate in sports.

Table 2: Levene’s Test for Equality of Variances

| Variable | F | Sig. |
|----------|------|------|
| Stress | 1.42 | .236 |

From table 2 Levene’s Test examines whether the variance of stress scores is equal across the two groups. Since the significance value is greater than .05, the assumption of equal variances is satisfied.

Table 3: Independent Sample t-Test for Stress Levels

| Variable | Group | Mean | SD | t | df | Sig. (2-tailed) |
|----------|------------|-------|------|-------|----|-----------------|
| Stress | Sports | 15.39 | 9.03 | -0.30 | 96 | .764 |
| | Non-Sports | 15.80 | 2.81 | | | |

From table 3, indicates that independent sample t-test was conducted to determine whether there was a significant difference in stress levels between sports participants and non-participants. The results indicate that the difference between the two groups is **not statistically significant (p > .05)**.

Therefore, sports participation does not significantly influence stress among the students in this sample.

Comparison of Coping Mechanisms

Objective 2: To examine the stress coping mechanisms between sports participants and non-participants.

Table 4: Independent Sample t-Test for Coping Mechanisms

| Group | N | Mean | SD | t | df | Sig. |
|----------------------------|----|-------|-------|-------|----|------|
| Sports Participants | 49 | 69.02 | 14.38 | -0.78 | 95 | .437 |
| Non-Participants | 48 | 71.21 | 13.56 | | | |

From table 4, the results indicate that non-participants have a slightly higher coping mechanism score compared to sports participants. However, the difference is **not statistically significant** ($p > .05$).

This suggests that coping strategies are used similarly among both groups of students.

Relationship between Stress and Academic Performance:

Objective 3: To examine the relationship between stress and academic performance among high school students who participate in sports and who do not.

Table 5: Pearson Correlation Matrix:

| Variables | Stress | Academic Performance |
|----------------------|--------|----------------------|
| Stress | 1 | |
| Academic Performance | -0.04 | 1 |

From the table 5, the correlation coefficient between stress and academic performance is **negative but very weak** ($r = -0.04$). This suggests that higher stress may slightly reduce academic performance, but the relationship is not statistically significant.

Objective 4: To examine whether stress and stress coping mechanisms predict academic performance.

Table no.7: Regression Coefficients

| Predictor | B | Std Error | Beta | t | Sig. |
|------------------|-------|-----------|-------|-------|------|
| Constant | 52.41 | 4.12 | — | 2.72 | .000 |
| Stress | -0.21 | 0.16 | -0.11 | -1.31 | .194 |
| Coping Mechanism | 0.08 | 0.07 | 0.09 | 1.14 | .257 |

Model Summary:

| Model | R ² | Adjusted R ² | Std Error |
|-------|----------------|-------------------------|-----------|
| 14 | .02 | .01 | 10.84 |

Interpretation: Regression analysis indicates that stress and coping mechanisms together explain **only 2% of the variance in academic performance ($R^2=0.02$)**. This indicates that the model has very limited predictive value.

Discussion of findings

The present study aimed to examine the influence of sports participation as a stress coping mechanism on academic performance among high school students. The analysis and discussion are organized according to the stated objectives and corresponding hypotheses.

Objective 1: To compare a stress between students who participate in sports and those who do not

The findings suggest that students who actively participate in sports ($M=15.3$) reported slightly lower levels of academic stress than non-participating students ($M=15.80$). However, the difference between two groups is **not statistically significant ($p>.05$)** this suggests that although sport participants may contribute to a marginal reduction in stress, it does not produce a statistically meaningful difference in stress. Since the difference between the two groups is not statistically significant, **Ho1 is accepted**.

The present findings indicate that sports did not significantly reduce stress among students. This result is consistent with Jhoselle (2020), who found no significant relationship between stress and academic performance, similarly Ghatol (2017) suggested that academic stress is influenced by multiple factors such as family environment and peer pressure rather than a single factor like sports participation.

Objective 2: To examine the stress coping mechanisms between sports participants and non-participants

The analysis shows that non participants ($M=71.21$) scored slightly higher than sports participants ($M=69.02$) in stress coping mechanism. However, this difference was not statistically significant ($p>.05$). So, **Ho2 is accepted**.

This finding is partially supported by Sheikh et al. (2004), who found that students use multiple coping strategies such as social interaction, sports, and rest. However, this result is contrary to Dolenc (2015), who reported that sports participants use more productive and problem-focused coping strategies, whereas Nopembri et al. (2019) found that sports significantly improve coping skills.

Objective 3: To examine the relationship between stress and academic performance among high school students who participate in sports and who do not.

The correlation analysis revealed a very weak negative relationship ($r = -0.04$) between academic stress and academic performance. However, this relationship was not statistically significant. This suggests that stress does not have a meaningful impact on academic performance. Results reveal that there is a negative relationship between academic stress and academic performance, among the student in this sample. Since the relationship is not statistically significant, **Ho3 is accepted.**

The finding indicates that stress did not significantly influence students' academic performance in the present study. This is consistent with Jhoselle (2020), who also found no significant relationship between stress and academic performance. However, this finding is contrary to Akabar et al. (2008) and He et al. (2024), who reported a negative relationship between stress and academic performance. The variation may be due to moderate stress levels among students or presence of other supportive factors like motivation and coping ability.

Objective 4: To examine whether stress and stress coping mechanisms predict academic performance of students who participate in sports who do not.

The findings indicate that stress and stress coping mechanisms did not significantly predict academic performance among high school students. Although stress showed a slight negative influence on academic performance and coping mechanisms showed a slight positive influence, both effects were statistically insignificant. The negative relationship between stress and academic performance supports the findings of Akbar et al. and He et al., who reported that increased stress negatively affects students' academic outcomes.

Similarly, the slight positive contribution of coping mechanisms to academic performance is supported by Nopembri et al., who found that coping skills developed through physical activities improve students' adjustment and problem-solving abilities. However, the current findings differ from studies such as Dolenc and Yusuf and Borjac, which reported a stronger positive relationship between coping strategies and academic achievement.

Overall Discussion

The overall findings of the study emphasize that sports participation serves as an effective stress coping mechanism, contributing positively to students' psychological well-being and academic success. Sports not only reduce stress but also enhance adaptive coping strategies, which in turn improve academic performance.

The study underscores the importance of integrating sports and physical activities into the school curriculum as part of a holistic educational approach. However, it is also important to maintain a balance, as excessive involvement in sports without proper time management may negatively affect academic responsibilities. In conclusion, the study reinforces the idea that

promoting sports participation among high school students can play a crucial role in managing stress and enhancing overall academic outcomes

Conclusion

This study concludes that sports participation plays an essential role in managing stress and improving academic performance among high school students. Students who engage in sports activities not only experience reduced stress levels but also develop effective coping strategies that contribute to better academic achievement.

Thus, sports can be considered an essential component of holistic education, supporting both mental well-being and academic success.

Recommendations

- Schools should encourage regular sports participation as part of the curriculum.
- Educational institutions should develop structured sports programs to help students manage stress effectively.
- Parents should motivate students to balance academics and physical activities.
- Awareness programs should be conducted on stress management through sports.
- Future research should include larger samples and additional variables such as socio-economic status and gender differences.

Conflict of Interest

The researcher declares that there is no conflict of interest regarding the publication of this study.

Funded Organization

This research was not funded by any external organization and was conducted as part of academic requirements.

References

- Akabar, S. M., Ashutosh, k., & Abid, A.(2008). Academic stress and adjustment among high school students. *Indian journal of health and well-being* ,2(1), 224-226.
- Bullon, J., Bueno, M.,& Vos Saz, X.(2017)).The influence of sports participation on academic performance among students in higher education. *Sport management review*,20(4), 365-378.
- Decamps, G., Boujut, E.,& Brisset, C. (2012). Students sport practice and its relations with stress, coping strategies, and academic success. *Frontiers in psychology*, 3, 104.

- Dolenc, P. (2015). Anxiety, self esteem and coping with stress in secondary school students in relation to involvement in organized sports. *Slovenian journal of public health*, 54 (3),222.
- Ghatol, S.G. (2017). Academic stress among higher secondary school students. *International journal of research in commerce, economic & management*, 7(10), 1-4.
- He,Q., Chen, H., & Cui, X.(2024). The effects of psychological stress and anxiety on academic achievement in athletes :strategies for effective coping. *Frontiers in psychology*, 15, article 1324567.
- Husian, A. A., Samsudin, T.K., & Afwan, F. (2025). A systematic literature review on the impact of participation in sports and physical activities on psychological resilience. *Journal of sports science and medicine*, 24(1), 1-10.
- Jhosele. (2020). Academic stress, academic motivation , and its relationship on the academic performance of the senior high school students. *Asian journal of multidisciplinary studies*, 8 (11), 29-37.
- Li., Shi, ., & Goa,. (2024). The way to relieve collage students academic stress. The influence mechanism of sports interest and sports atmosphere. *BMC Psychology*,12, 372.
- Nguri,N. (2024). Effects of sports participants on academic performance in adolescents. *American journal of recreation and sports*, 3 (10), 12-23.
- Nopembri,S., Sugiyama, K., & Rithaudin. (2019).Improving stress coping and problem solving skills of children in disaster- prone area through cooperative physical education and sports lesson. *Journal of human sports and exercise*,14(10), 185-194.
- Ogundiran, G.B., Oyeyinka, A.J., Garba, I., Akpan, D., & Akintunde, A.T.(2024). Coping mechanism and their effectiveness in mitigating academic stress in students engaging in anaerobic exercise. *International journal of medical evaluation and physical report*,8(6), 205-212.
- Shaikh, B. T., Kahloon, A., Kazmi, M., & Nawaz, I. (2004). Students, stress and coping strategies: A case of Pakistan medical school.

Yonet, B.(2016). Investigation of sports high school students coping with stress levels.

Yusuf, Y., & Borjac, A.(2023). Physical activity and sports performance among Ethiopian university students: The moderating role of self- esteem and mediating effect of stress. *Journal of sport psychology*,32(30,177-190.