




Relationship between social support and academic stress of student-athletes in physical education programmes: a cross-sectional study

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ABSTRACT

Background: Despite extensive research on student-athletes, limited studies have examined the relationship between social support and academic stress within physical education programmes. **Objectives:** The purpose of this study was to analyse the relationship between social support and academic stress in student-athletes in the physical education study programme. **Methods:** A cross-sectional correlational design was used with 78 student-athletes. Data was collected using a 17-item Likert-scale questionnaire measuring parental, lecturer, and coach support, as well as academic stress. This instrument consists of several indicators, including parental support (4 items), lecturer support (4 items), coach support (4 items), and academic stress (5 items). The research data were analysed quantitatively. Spearman's rank correlation was used to analyse the correlation between social support and academic stress. **Results:** The results of the quantitative analysis showed that student-athletes had very high social support, with a percentage of 46.15%, and moderate academic stress, with a percentage of 32.05%. Spearman's correlation analysis revealed a significant positive association ($\rho = 0.371$, $p = 0.001$), indicating a weak-to-moderate relationship. **Conclusion:** It was concluded that student-athletes had very high social support and moderate academic stress, with a positive correlation between variables and no differences in terms of gender. These findings provide preliminary insights into the association between social support and academic stress among student-athletes.

Keywords: Social support; academic stress; student-athletes; physical education

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INTRODUCTION

Physical education programmes in higher education have unique characteristics that distinguish them from other academic fields (Pujianto et al., 2023). Students in these programmes are not only required to understand theoretical concepts but also to engage in performance development activities, physical training, and sports activities (Agustin, 2022). Student-athletes must balance two roles simultaneously: student and competitive

athlete (O'Neil et al., 2021). Combining these two roles creates a heavy workload, leading to dual stress that may be worse than for students who focus solely on academics (Vavassori et al., 2023).

Academic and athletic stress can originate from a variety of sources. Academic stress may stem from coursework, lab schedules, presentations, and the pressure associated with grades (Madrigal & Robbins, 2020). In contrast, sports stress often arises from routine training, competition preparation, coach expectations, and performance targets (Sullivan et al., 2020). This pressure causes mental and physical fatigue, resulting in decreased motivation and difficulty focusing (Lu, 2025). Because training and competition schedules often compromise study time, many student-athletes struggle to maintain academic stability (Brecht & Burnett, 2019). Furthermore, excessive academic pressure can lead to loss of focus and failure to train or compete (Huang, 2026).

Social support serves as a powerful protective factor in such situations. Athletes believe that support from those around them can act as a stress reducer (Chartoff & Bundy, 2017). The role of family, coaches, and lecturers in supporting student-athletes' performance is a dominant factor in overcoming academic stress in student-athletes (Lee & Hung, 2024). Furthermore, support from lecturers and coaches is key and greatly needed by student-athletes (Owens & Anaza, 2024). Coaches' understanding of the importance of in-class exams provides the social support student-athletes need. Likewise, the flexibility of classroom study time provided by lecturers is crucial for student-athletes in balancing academic and athletic roles.

Various references indicate that student-athletes receive comprehensive social support from their families, coaches, and teachers (Akines et al., 2025; Liu et al., 2023; Shi et al., 2025; Tao & Yu, 2025). The social support received by student-athletes is believed to reduce academic stress (Luo et al., 2025). Although social support from family, coaches, and lecturers plays an important role in the student-athlete environment, empirical studies examining how these sources of support are related to academic stress among student-athletes in physical education programmes are still limited. This gap highlights the need for further research in this area.

Given the unique characteristics of student-athletes in physical education study programmes, this research is crucial. Student-athletes often face challenges in balancing academic responsibilities and athletic commitments, which may contribute to academic stress. Therefore, this study focuses on the levels of social support, academic stress, and their relationship. The results of this study can serve as a basis for building a more welcoming campus environment, filling empirical gaps, and providing a strategic contribution to developing a humanistic policy mentoring model at the study programme level.

METHOD

This study employed a cross-sectional correlational design to analyse the relationship between social support and academic stress among student-athletes in a physical education study programme.

Participants

The participants were selected purposively from a population of 152 students enrolled in the physical education study programme at a public university in Indonesia. Purposive sampling was employed to ensure that participants met specific criteria relevant to the objectives of the study (Etikan et al., 2016), including being actively registered in the

programme, identified as student-athletes, actively training in a sports club, having participated in at least regional-level championships, and being willing to volunteer. Based on these criteria, a total of 78 students were included in the study. Participants represented a wide range of sports, including football, basketball, volleyball, futsal, handball, swimming, athletics, pencak silat, taekwondo, hapkido, karate, and badminton.

The demographic distribution of participants, including gender and sport type (team vs. individual), is presented in **Table 1**. Overall, the sample consisted of a higher proportion of male student-athletes compared to female student-athletes, with representation across both team and individual sports categories.

Table 1. Respondent Characteristics

Category	n	%
Gender		
Male	48	61.5%
Female	30	38.5%
Sport Type by Gender		
Team Sport (Male)	31	39.7%
Team Sport (Female)	16	20.5%
Individual Sport (Male)	17	21.8%
Individual Sport (Female)	14	17.9%
Total	78	100%

Instrument

A questionnaire was used as a data collection instrument. The questionnaire consisted of 17 statements. This instrument has a validity of 0.79 and a reliability of 0.87. The validity of the instrument was tested using Spearman's rank correlation coefficient. The reliability of the instrument was assessed using Cronbach's alpha. The instrument is equipped with a Likert scale, from strongly disagree (1) to agree (5) for positive statements strongly and vice versa for negative statements. This instrument consists of several indicators, including parental support (4 items), lecturer support (4 items), coach support (4 items), and academic stress (5 items).

Procedure

The research team explained the purpose of the questionnaire to the student-athletes, explaining that participants' identities would be kept confidential, that the data collected would be used solely for research purposes, and that the data would be anonymous. After agreeing to participate, participants were provided with further information regarding the instrument. Data were collected via a Google Form, and participants completed the questionnaire in approximately 10 minutes.

Data Analysis

Data were analysed quantitatively using standard deviation and ideal mean values to determine categories for each variable. Parametric data analysis using Spearman's Ranks (Yuniarti et al., 2025).

Table 2. Formula of Categories

No	Interval	Category
1	$> (Mi \pm 1.8 SD) - (Mi \pm 3 SD)$	Very High
2	$> (Mi \pm 0.6 SD) - (Mi \pm 1.8 SD)$	High
3	$> (Mi - 0.6SD) - (Mi \pm 0.6 SD)$	Moderate
4	$> (Mi - 1.8 SD) - (Mi - 0.6SD)$	Low
5	$(Mi - 3SD) - (Mi - 1.8 SD)$	Very Low

Notes: Mi = Mean Ideal, SD = Standard Deviation

RESULTS AND DISCUSSION

Results

Social Support of Student-Athletes

To provide a detailed overview of the distribution of social support among student-athletes, a frequency distribution analysis was conducted based on predefined score categories, as presented in **Table 2**. This table summarizes the classification of respondents across five levels of social support, allowing for a clear identification of dominant patterns and the relative concentration of responses within each category.

Table 2. Social Support Distribution (n = 78)

Score Range	Category	Frequency	Percentage (%)
12-21	Very Low	0	0.00
22-31	Low	1	1.28
32-41	Moderate	11	14.10
42-51	High	30	38.46
52-60	Very High	36	46.15
Total		78	100

As shown in **Table 2**, student-athletes reported varying levels of social support, ranging from low to very high. The majority of participants were categorized as having high (38.46%) and very high (46.15%) levels of social support, accounting for a combined 84.61% of the sample. In contrast, only a small proportion of student-athletes reported moderate (14.10%) and low (1.28%) levels, while no participants were classified in the very low category.

Academic Stress of Student-Athletes

To examine the distribution of academic stress levels among student-athletes, a frequency-based descriptive analysis was conducted using predefined score categories. The results are presented in **Table 3**, which provides a comprehensive overview of how participants are distributed across different levels of academic stress, enabling the identification of dominant trends and variation within the sample.

Table 3. Academic Stress Distribution (n = 78)

Score Range	Category	Frequency	Percentage (%)
5-8	Very Low	0	0.00
9-12	Low	10	12.82
13-16	Moderate	25	32.05
17-20	High	20	25.64
21-25	Very High	23	29.49
Total		78	100

Based on **Table 3**, academic stress among student-athletes was distributed across all categories except very low. The largest proportion of participants fell into the moderate category (32.05%), followed by very high (29.49%) and high (25.64%) levels of academic stress. A smaller proportion of student-athletes reported low levels (12.82%).

Correlation between Social Support and Academic Stress

To examine the relationship between social support and academic stress among student-athletes, a non-parametric correlation analysis using Spearman's rank correlation was conducted. The results are presented in **Table 4**, which summarizes the strength, direction, and statistical significance of the association between the two

variables.

Table 4. Spearman’s Rank Correlation Results

Variable		Social Support	Academic Stress
Social Support	Correlation Coefficient	1.000	0.371
	Sig. (2-Tailed)		0.001
	N	78	78
Academic Stress	Correlation Coefficient	0.371	1.000
	Sig. (2-Tailed)	0.001	
	N	78	78

As presented in **Table 4**, the Spearman’s rank correlation analysis revealed a statistically significant relationship between social support and academic stress ($\rho = 0.371$, $p = 0.001$). The correlation coefficient indicates a positive association with a weak to moderate strength.

Discussion

This study aimed to examine the relationship between social support and academic stress among student-athletes in a physical education programme. Social support has been widely recognized as a critical factor influencing psychological well-being and academic adjustment among students, particularly those facing dual career demands such as student-athletes (Gao et al., 2024; Li, 2025). In the context of student-athletes, social support from parents, coaches, and lecturers plays a vital role in helping individuals manage the complex interaction between academic responsibilities and athletic commitments (Qurban et al., 2018).

Despite its generally positive role, the relationship between social support and academic stress remains inconclusive in the literature. Some studies suggest that social support functions as a buffering mechanism that reduces stress and enhances coping capacity (Luo et al., 2025). In contrast, other findings indicate that social support may also be associated with increased expectations and pressure, particularly in high-performance or competitive environments (Harahap et al., 2026). These inconsistencies highlight the importance of examining this relationship within specific contexts, such as physical education programmes that emphasize both academic and athletic achievement.

The findings of this study show that student-athletes experienced moderate levels of academic stress. This stress is reflected in various forms, including anxiety related to academic workload, examinations, limited time for study, difficulty concentrating due to sport-related thoughts, and challenges in balancing academic and training schedules, particularly during competition periods (Sun et al., 2023). These results reinforce the notion that managing dual roles as students and athletes can create significant psychological demands.

A key finding of this study is the significant positive correlation between social support and academic stress. This suggests that higher levels of social support are associated with increased academic stress among student-athletes. This finding supports the perspective that social support does not always function as a protective factor but may also carry implicit expectations for performance. In this study, student-athletes may perceive support from parents, coaches, and lecturers not only as encouragement but also as reinforcement of achievement demands in both academic and athletic domains (Li et al., 2026).

This result contrasts with studies reporting a negative relationship between social support and stress (Harahap et al., 2026; Luo et al., 2025), indicating that the effect of social support is highly context-dependent. The effectiveness of social support may be influenced by several factors, including the quality and type of support, individual perceptions, self-efficacy, and coping strategies. In some cases, controlling forms of

support or implicit pressure to achieve may reduce the protective function of social support and instead contribute to increased stress levels.

In the context of physical education programmes, high levels of social support often coexist with a strong competitive system and an achievement-oriented culture. This environment may explain the positive association found in this study, where support is intertwined with performance expectations. Therefore, social support should not only be viewed as a resource but also as a potential source of pressure depending on how it is perceived and delivered.

The findings of this study contribute to the literature by demonstrating that the relationship between social support and academic stress among student-athletes is contextual and not always linearly negative. Academic stress should be understood as a multidimensional phenomenon shaped by the dynamic interaction between academic and athletic demands rather than solely by individual or biological factors.

However, several limitations should be acknowledged. First, the sample was drawn from a single public university in Indonesia, which may limit the generalisability of the findings. Second, the cross-sectional design restricts the ability to infer causal relationships between variables. Third, the use of self-report questionnaires may introduce response bias or social desirability bias. Future research is recommended to employ longitudinal designs and examine potential moderating variables such as coping strategies, motivation, and self-efficacy.

CONCLUSION

The findings of this study demonstrate that social support is positively associated with academic stress among student-athletes in a physical education programme, with a weak-to-moderate correlation. This indicates that social support does not function solely as a protective factor but may also be linked to increased academic demands and performance expectations within dual career contexts. These results highlight the contextual nature of social support, suggesting that its impact depends on how it is perceived and experienced by student-athletes. In achievement-oriented environments, high levels of support may coexist with heightened expectations, thereby contributing to increased academic stress.

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CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest regarding the publication of this study.

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