



The Role Of Physical Activity On The Mental Health Of Physical Education Students: Systematic Literature Review

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Abstract. Student mental health is an important concern, including for physical education students who are required to have a balance between physical and psychological. This study aims to systematically analyze the relationship between physical activity and mental health of physical education students based on the results of previous research. The method used is Systematic Literature Review (SLR) based on the PRISMA guidelines. Data was obtained from Google Scholar, ScienceDirect, ResearchGate, and SINTA with a publication period of 2018–2025. Of the 126 articles found, 12 met the criteria and were analyzed using CASP and JBI guidelines. The results of the study show that physical activity plays an important role in improving students' mental health, especially in reducing stress, improving psychological well-being, controlling emotions, and preventing depression. In addition, physical activity also supports the formation of character, confidence, and positive social relationships between students. These findings confirm that physical education not only focuses on learning motor skills, but also plays an important role in strengthening character and emotional balance. Thus, physical activity contributes greatly to the mental well-being of physical education students, so universities need to develop structured sports programs to support students' mental health.

Keywords: physical activity, mental health, physical education students

1 Introduction

Student mental health is currently a growing global concern. Various international research results show that the prevalence of mental disorders such as stress, anxiety, and depression among college students continues to increase from year to year. Meta-analysis studies show that between 20% to 40% of college students in different countries experience symptoms of mental disorders during their studies, with significant spikes during and after the COVID-19 pandemic (Li et al., 2021; Chu et al., 2022; Paiva et al., 2025). This condition shows that students are under high psychological pressure, especially due to increasing

academic, social, and economic demands. Therefore, it is important to find evidence-based approaches that can contribute to the continuous improvement of students' mental health.

One of the interventions that has been proven effective in maintaining psychological balance is physical activity. Physical activity not only provides physiological benefits such as improved fitness and body immunity, but also has a significant impact on mental health. According to the World Health Organization (WHO, 2024), physical activity plays an important role in lowering the risk of depression, reducing anxiety, and improving emotional well-being. Recent research even confirms that regular exercise is able to trigger the production of endorphin and serotonin hormones that play a role in improving mood and reducing stress (Pearce et al., 2022; Noetel et al., 2024; White et al., 2024). Thus, physical activity can function as one of the effective preventive and therapeutic strategies in supporting students' mental health.

Theoretically, physical education students are expected to be a group that has a high level of physical activity because their curriculum demands direct involvement in various forms of sports practice. However, the reality is that not all physical education students are able to maintain an active lifestyle outside of academic activities. Several studies in Indonesia found that some physical education students still experience high stress, anxiety, and academic pressure even though they often participate in physical activities (Karuniawati et al., 2022; Astuti, 2024). This shows that there is a mismatch between theoretical expectations and empirical conditions in the field. In other words, physical activity that is done regularly is not necessarily optimized to achieve maximum psychological benefits.

This phenomenon is increasingly relevant when associated with the global trend of declining physical activity in young age groups, including college students. The WHO (2024) and CDC (2024) reports reveal that more than 80% of adolescents and young adults in the world do not meet the recommended minimum physical activity standard of 150 minutes per week. This decrease in activity is accompanied by increased *screen time* and a heavy academic load, both of which contribute to increased psychological distress. Physical education students, despite being familiar with sports, still face the same risks if they do not have structured physical activity awareness and habits outside of their academic obligations.

In addition, there is still a fairly clear research gap in the context of the relationship between physical activity and mental health in physical education students. Most previous studies have focused more on general student populations or adolescents, while studies that specifically examine physical education students are still limited (White et al., 2024). In fact, physical education students have unique characteristics because they are in an environment that is directly related to physical activity, fitness, and sports learning. Therefore, it is important to identify how their level of physical activity really affects their mental health, both individually and socially.

From a practical perspective, the campus environment also presents its own challenges in maintaining a balance between physical activity and mental health. The dense lecture schedule, academic demands, and limited sports facilities are inhibiting factors in the implementation of an active lifestyle among students. In addition, not all higher education institutions have comprehensively integrated mental health programs into the physical education curriculum. This shows the need for a more systematic strategy in integrating physical and psychological aspects in sports education in college (Simpson, 2024).

Based on this description, it is necessary to conduct a systematic analysis of the results of existing research to understand the relationship between physical activity and mental health of physical education students more comprehensively. Systematic *literature review* is the right method because it allows the collection and synthesis of scientific evidence that has been

methodologically tested, so that it can describe the patterns, trends, and relationships between the two variables in an objective and measurable manner. Using the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) approach, this study is expected to provide a comprehensive picture of the role of physical activity on the psychological aspects of students.

The main purpose of this article is to provide an in-depth understanding of the influence of physical activity on the mental health of physical education students based on empirical findings from various previous studies. Theoretically, the results of this study are expected to enrich scientific studies in the field of physical education and sports psychology, especially in the context of promoting mental health in the academic environment. In practical terms, these findings are expected to be the basis for universities to design effective, measurable, and sustainable physical activity programs as part of strategies to improve student mental well-being. Thus, physical activity is not only a means of improving physical fitness, but also an important instrument in building character, psychological endurance, and life balance of physical education students.

2 Method

This study uses the Systematic Literature Review (SLR) approach to examine various studies that discuss the influence of physical activity on the mental health of physical education students. According to Kitchenham and Charters (2007), SLR is a method used to systematically collect and assess research results in order to produce objective and reliable conclusions. This research process refers to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines as explained by Page et al. (2021), in order to ensure openness and clarity of research steps. The stages of implementing SLR include four main stages, namely literature identification, article selection, quality evaluation, and data synthesis. At the identification stage, the researcher searched for articles through Google Scholar, ScienceDirect, ResearchGate, and SINTA during July–September 2025. The keywords used were *physical activity*, *mental health*, *physical education students*, *physical activity*, *mental health*, and *physical education students*. From the search results, 126 potentially relevant articles were obtained.

The next stage is the selection of articles based on inclusion and exclusion criteria. The selected article must be published between 2018–2025, be in Indonesian or English, discuss the relationship between physical activity and mental health, use empirical or systematic methods, and have a physical education student subject or age 18–25 years. Articles that are incomplete, have no clear methodology, or are irrelevant are excluded. After being selected, there are 12 articles left for further analysis. To ensure the reliability of the data, each article was assessed using the Critical Appraisal Skills Programme (CASP) and Joanna Briggs Institute (JBI) guidelines. Articles with a score of at least **70% are** considered to meet quality standards and are included in the analysis. The data synthesis stage is carried out by thematic and descriptive analysis, as explained by Braun and Clarke (2006), namely by grouping research results based on the similarity of themes. The analysis focused on four main aspects: (1) the effect of physical activity on academic stress, (2) psychological well-being, (3) emotional control, and (4) prevention of depression.

Through this approach, the research is expected to provide an accurate scientific picture of the contribution of physical activity to the mental health of physical education students, as well as the basis for the development of physical activity-based learning programs in the educational environment.

3 Results

A systematic analysis of twelve scientific articles obtained from the *Systematic Literature Review* process provides a clear picture of the relationship between physical activity and the mental health of physical education students. In general, the results of the study show that physical activity has a strong positive influence on the psychological balance of students. Exercise activities have been proven to improve physical fitness, improve mood, reduce stress levels, and strengthen the ability to adapt to academic stress. In addition, sports also function as a means of character building, increased learning motivation, and the development of social skills that play a role in students' mental health.

Table 1. Article Analysis Results

| Yes | Research Title | Purpose | Method | Key Results |
|-----|---|---|----------------------------------|---|
| 1 | Physical Activity and Psychological Wellbeing among College Students (Anderson & Brannon, 2019) | Identify the relationship between physical activity and student psychological well-being. | Quantitative – Correlation | It was found that there was a significant positive relationship between the intensity of physical activity and the level of happiness and confidence of students. |
| 2 | Exercise and Stress Reduction in Physical Education Students (Rahman et al., 2020) | Analyze the effect of aerobic exercise on the academic stress level of physical education students. | Experiment | Students who regularly exercised experienced a 27% reduction in academic stress compared to the control group. |
| 3 | Impact of Regular Exercise on Mental Health of University Students (Lee et al., 2020) | Assessing the impact of regular sports activities on the mental condition of students. | Quantitative Survey | Regular exercise activities lower the risk of mild depression and improve sleep quality. |
| 4 | Physical Education and Emotional Regulation (Sulastrri & Nugroho, 2021) | Examining the relationship between physical activity and the ability to regulate the emotions of students of social | Quantitative Descriptive | Physical activity has a significant impact on students' ability to control negative emotions. |

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| 5 | Role of Sports in Coping with Academic Pressure (Fernandez & Kumar, 2021) | Analyze the role of sports in overcoming student academic pressure. | Mixed Methods | Group sports activities have been shown to improve social skills and lower academic anxiety. |
| 6 | The Relationship between Fitness and Mental Health (Haryanto & Putri, 2021) | Knowing the relationship between physical fitness level and student mental health. | Correlation | College students with high fitness have lower levels of stress and anxiety. |
| 7 | Physical Activity and Cognitive Function in College Students (Marquez et al., 2022) | Examine the influence of exercise on cognitive function and concentration. | Experiment | Aerobic physical activity improves students' concentration and critical thinking skills. |
| 8 | Exercise as a Preventive Measure for Depression (Santoso et al., 2022) | Testing the effectiveness of physical activity as a prevention of mild depressive symptoms. | Quasi-Experiment | Physical activity three times a week lowered depression scores by 20%. |
| 9 | The Effect of Group Exercise on Social Connectedness (Ahmed & Yusof, 2023) | Examine the impact of group sports on students' sense of social connectedness. | Quantitative Survey | Group sports enhance social interaction and a sense of belonging between students. |
| 10 | Wellbeing through Physical Activity in Higher Education (Hartono, 2023) | Explain the role of sports in maintaining the life balance of college students. | Literature Review | Physical activity functions as an adaptive mechanism to the pressures of the academic environment. |
| 11 | Psychological Benefits of Exercise in Youth (Kim et al., 2024) | Identify the psychological benefits of exercise in adolescents and young college students. | Qualitative Descriptive | Physical activity increases self-esteem, social confidence, and motivation to learn. |
| 12 | Mental Health Promotion through Physical Education Programs | Evaluate the effectiveness of the social service | Quantitative Evaluative | Structured physical activity programs are able to improve |

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| (Nugraha & Dewi, 2024) | program in improving students' mental health. | psychological well-being by up to 35%. |
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4 Discussion

The findings from the twelve studies consistently show that physical activity is closely related to improving the mental health of physical education students. These results reinforce the theory that engagement in physical activity routinely contributes to an individual's psychological balance through physiological, psychological, and social mechanisms. Physical activity triggers the release of endorphins, dopamine, and serotonin hormones that function to reduce stress, improve mood, and foster positive and calm feelings (Fox, 1999; Weinberg & Gould, 2019).

1. Physical Activity as a Reduction of Academic Stress

Several studies (Rahman et al., 2020; Fernandez & Kumar, 2021) show that regular exercise, especially aerobic activities such as running, swimming, or gymnastics, is effective in lowering stress levels due to academic stress. These activities are able to reduce levels of cortisol the hormone that causes stress, as well as increase the body's ability to adapt to psychological stress. In the context of physical education students, sports are a positive medium to channel energy, shift the burden of the mind, and improve the focus of learning. Students who are physically active have been shown to have more stable academic performance and lower levels of exam anxiety than passive students.

2. Physical Activity and Improved Psychological Well-Being

Physical activity also has a significant impact on improving psychological well-being. Research results (Anderson & Brannon, 2019; Hartono, 2023) shows that students who do regular physical activity have higher levels of happiness, life satisfaction, and confidence. Physical activity not only serves as a means of fitness, but also as a form of self-actualization and a feeling of accomplishment. Psychologically, sports create positive experiences that increase self-esteem and give meaning to the identity of physical education students as healthy and productive individuals.

3. Physical Activity, Emotion Regulation, and Social Relationships

Research conducted by Sulastri & Nugroho (2021) and Ahmed & Yusof (2023) confirms that physical activity plays an important role in developing students' emotional regulation skills and social skills. Through group sports activities, students learn to work together, appreciate differences, and control emotions in competitive situations. The social interactions that are established during training or matches create a sense of community and social support that has a great effect on mental health. Thus, physical education plays a role not only in the mastery of motor skills, but also in the formation of students' character and emotional intelligence.

1. Physical Activity as a Mental Disorder Prevention Strategy

The results of research by Santoso et al. (2022) and Kim et al. (2024) show that regular exercise activities have a preventive effect on mental disorders such as depression and anxiety. Students who regularly exercise experience a decrease in mild depression symptoms and an improvement in sleep quality. Physical activity helps maintain the body's biological rhythm, improve central nervous function, and optimize the immune system. In addition, sports activities also provide opportunities for students to interact socially, which can

strengthen a sense of belonging and reduce feelings of isolation, two important factors in the prevention of mental disorders.

2. Implications for Physical Education in Higher Education

Overall, the findings of this study show that physical education in college has a strategic responsibility in promoting students' mental health. Physical activity is not only part of the curriculum, but it is also a means of character building and life balance. Therefore, lecturers and educational institutions need to integrate structured physical exercise programs with counseling support and social activities. This integrative approach will create a healthier, inclusive, and more productive academic environment. In addition, the implementation of sports-based programs can also be a long-term solution in increasing students' mental resilience to academic and social pressures.

Thus, physical activity serves as an important instrument in supporting the success of physical education in college. In addition to contributing to improving physical fitness, this activity also builds psychological well-being which is the foundation for the creation of resilient, adaptive, and highly competitive students in the modern era.

5 Conclusion

The results of a systematic review of twelve articles show that physical activity plays an important role in improving the mental health of physical education students. Regular and measurable exercise activities have been proven to reduce levels of stress, anxiety, and depression, while improving mood, confidence, and psychological well-being. Student involvement in physical activities also contributes to the development of emotion regulation skills, positive social interactions, and mental resilience in the face of academic pressure. These findings confirm that physical education in college not only serves as a forum for learning motor skills, but also has a strategic role in character building, emotional balance, and strengthening students' mental health. Therefore, physical education in college needs to integrate a physical activity program that is oriented towards a balance between physical fitness and mental health. Students are expected to make physical activity part of a healthy lifestyle that can support psychological well-being and academic achievement. Further research is recommended to empirically explore the factors that moderate the relationship between physical activity and mental health so that the results can be applied more broadly and sustainably.

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