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PHYSICAL ACTIVITY CRISIS AMONG PHYSICAL EDUCATION STUDENTS: EMPIRICAL EVIDENCE FROM A SURVEY OF PHYSICAL ACTIVITY AMONG PJOK STUDENTS IN THE ERA OF SEDENTARY LIFESTYLES

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ABSTRACT

Physical activity is essential for overall health, yet it is declining among university students due to academic pressures, technological use, and sedentary lifestyles. This study aimed to describe physical activity levels among Physical Education students and examine their relationship with sedentary behavior, motivation, and perceived impacts. A quantitative cross-sectional survey was conducted with 118 students using a 17-item Likert-scale questionnaire. Data were analyzed descriptively through scoring, frequency, and percentage. The findings show that physical activity levels are generally moderate, while sedentary behavior is moderate to high. Motivation tends to be low to moderate, and many students report notable physical and psychosocial effects. These results indicate a multidimensional physical activity crisis and a gap between students' academic roles and daily practices. The study highlights the need for comprehensive and sustainable campus-based interventions to promote active lifestyles.

INTRODUCTION

Physical activity is a fundamental component in maintaining and improving the quality of an individual's holistic health, including physical, psychological, and social aspects (Wargama, 2026). Adolescence is a transitional phase of development that occurs between the ages of 14 and 24, marked by significant changes in physical, psychological, and social aspects (Farida et al., 2023). During this period, individuals are in the process of forming their identity, strengthening their independence, and developing cognitive and

emotional capacities that are not yet fully mature (Branje, 2022). From an educational and social research perspective, Creswell emphasizes that the characteristics of individual development during this transitional phase are greatly influenced by the environmental context and empirical experiences, so that the behavioral patterns that are formed, including physical activity habits and sedentary lifestyles, have long-term implications for health, fitness, and quality of life in later stages of life. Therefore, adolescence is a strategic period for promotional interventions in shaping an active and healthy lifestyle.

In the adolescent age group, physical activity plays an increasingly strategic role because this phase is characterized by high productivity and a transition to independence and professional life (Puspita et al ., 2024; Zikrur, 2020) . The activity patterns formed at this stage of life tend to be permanent and have a long-term effect on lifestyle and health status in later adulthood. (Nasution et al., 2025). Physiologically, regular participation in physical activity contributes to improved physical fitness, cardiovascular function, and endurance (Štursová et al., 2023). From a psychological perspective, physical activity has been shown to play a role in stress management, mood enhancement, and cognitive function strengthening (Martín-Rodríguez et al., 2024 ; Mahindru et al., 2023 ; Pujari, 2024). Meanwhile, in the social dimension, participation in physical activities encourages healthy social interaction, the development of cooperation skills, and increased self-confidence and social well-being (Wargama et al., 2021). In adolescence and early adulthood, academic pressures, digital use, and lifestyle changes often reduce physical activity. Thus, physical activity is not only a basic need but also a preventive strategy for maintaining health and balance, making it essential for informing effective interventions and policies in higher education (Arrojak Et al., 2024; Negeri, 2021). The World Health Organization (WHO) identifies physical inactivity as a major risk factor for non-communicable diseases, including cardiovascular disease, diabetes, and mental health issues. Paradoxically, technological advances and the digitalization of learning have increased sedentary behavior, particularly in higher education environments.

Higher education is expected to promote active lifestyles, with Physical Education students as role models. However, findings show low activity levels, prolonged sitting, and inconsistent exercise, revealing a gap between academic identity and daily behavior. This indicates that the physical activity crisis also affects future educators and, if unaddressed, may impact both individual well-being and the broader role of physical education in public health.

Previous research shows that students are prone to low physical activity due to academic pressures, high screen time, and limited supportive environments. Increased Sedentary behavior is associated with lower fitness, higher stress, and poorer quality of life. In physical education, a gap often exists between knowledge and actual behavior, showing that knowledge alone is not enough and must be supported by broader factors. However, empirical data on students' real activity patterns—especially in rural teacher training settings—are still limited, making survey-based studies important for providing baseline data for future research and campus interventions.

This study aims to provide an empirical overview of Physical Education students' physical activity levels within a growing sedentary campus environment. It examines both daily activity patterns and accompanying sedentary behaviors, while identifying the gap between their expected role as promoters of active lifestyles and their actual practices. The findings are intended to serve as baseline data for future research, intervention design, and more adaptive physical education and health policies.

RESEARCH METHODOLOGY

Research design

This study employed a quantitative, descriptive survey with a cross-sectional design. Data were collected once through questionnaires to describe Physical Education students' activity levels in a sedentary era. The approach captures actual conditions based on structured responses without manipulating any variables.

Sampling Technique

The sampling technique used was non-probability sampling with the purposive sampling method. The criteria for respondents in this study included: Active students at STKIP Modern Ngawi Coming from one of five study programs Willing to fill out the research questionnaire via Google Form online.

Research Instrument

The research instrument used was a physical activity questionnaire consisting of closed-ended statements and distributed online using Google Forms. The questionnaire consisted of 17 statements covering four physical activity variables. Each question was measured using a five-point Likert scale, namely: **1 = Strongly disagree**, **2 = Disagree**, **3 = Undecided**, **4 = Agree**, **5 = Strongly agree.**

Scores ranged from 17 to 85, with higher values reflecting better physical activity levels. The instrument assessed physical activity, sedentary behavior, motivation and academic aspects, and perceived impacts. Items were written clearly and used a simple response scale to help respondents answer accurately according to their conditions.

Table 1. Scores and Categories

Skor	Category
17-30	Very Low
31-44	Low
45-58	Moderate
59-72	High
73-85	Very High

Validity and Reliability

Tests Before data analysis was conducted, the research instruments were tested to determine their quality. Validity tests were conducted using Corrected Item–Total Correlation, with items deemed valid if the correlation coefficient value was greater than the r table value. Reliability tests were conducted using Cronbach's Alpha, with instruments deemed reliable if the alpha value was ≥ 0.70.

Data Collection Procedure

Data were collected through an online questionnaire shared via academic channels, with voluntary participation and prior explanation of the study. Responses were then screened before analysis, and the research followed several systematic stages:

1. Development of a physical activity questionnaire instrument Distribution of questionnaires online using Google Forms
2. Data collection from respondents
3. Data processing and analysis using descriptive statistics
4. Presentation and interpretation of research results

Data Analysis Techniques

Data were analyzed using descriptive statistics based on a five-point Likert scale (1–5). Scores were calculated for four variables—physical activity, sedentary behavior, motivation and academics, and perceived impact—then summarized using mean, standard deviation, minimum–maximum values, and percentages. Results were categorized into five levels (very low to very high) and presented in tables and charts. Instrument quality was ensured through Corrected Item-Total Correlation for validity and Cronbach's Alpha ($\alpha \geq 0.70$) for reliability.

Research Ethics

This study adhered to ethical standards by ensuring voluntary participation, protecting respondent confidentiality, and using the data exclusively for academic purposes. All information collected was kept secure and used only within the scope of the research.

Figure 1. Research flow illustration (Researcher 2026)

The flowchart outlines the research process from problem identification to conclusions and recommendations. Each stage is structured to ensure valid, reliable, and relevant data, providing a basis for future studies and campus-based physical activity interventions.

RESULTS AND DISCUSSION

The pie chart shows a clear dominance of respondents from the PJKR program (83.1%), with smaller proportions from PGSD (8.5%) and other programs such as Mathematics, Natural Sciences, and PGPAUD. This indicates that the data largely reflects the characteristics of PJKR students, while responses from other programs serve only as complementary input. Consequently, the findings remain focused and more relevant to the context of Physical Education students and the study's objectives.

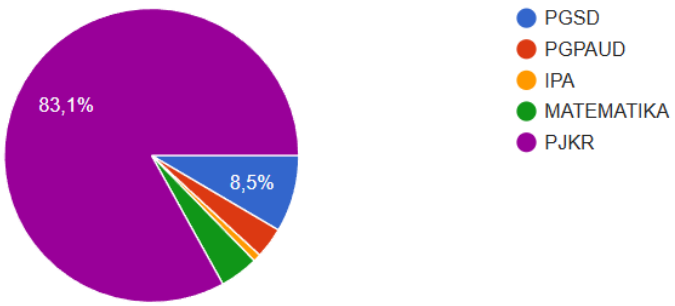

Figure 2. Students

Discussion

The dominance of PJKR respondents strengthens the findings, as this group is expected to be highly active. A decline within this cohort signals a critical issue, showing that knowledge alone does not ensure active behavior. Factors such as academic pressure, lifestyle changes, time management, motivation, and environment also play key roles. (Haible et al., 2020). The presence of students from other programs shows that physical activity is a cross-disciplinary issue. However, their limited number means the findings mainly represent PJKR students. This strengthens the study's context, revealing that even those expected to model active lifestyles can experience a physical activity crisis, underscoring the need for practical and sustainable interventions.

1. Overview of Physical Activity Levels

Table 2. Scoring Results per Physical Activity Level Indicator

Indicator	Total Score	Ideal Score	Average	Category
P1	440	590	3,73	Moderate
P2	438	590	3,71	Moderate
P3	418	590	3,54	Moderate
P4	447	590	3,79	Moderate
P5	485	590	4,11	High
Average Variable	**-**	**-**	**3,77**	**Moderat**

Score Interpretation, overall average physical activity variable = 3.77 Students' physical activity is in the moderate category, so it can be concluded that their physical activity is not yet optimal and inconsistent.

1. Physical Activity Crisis Categories per Respondent

Based on the recapitulated Google Forms data, respondents were classified into four levels of physical activity crisis: no crisis, at risk, moderate, and high. This categorization provides a clearer overview of individual activity levels and helps highlight the urgency of interventions in physical education, health promotion, and campus policy.

Table 3. Frequency Distribution and Percentage of Physical Activity Crisis Levels

Physical Activity Category	Frequency (n)	Percentage (%)
Crisis Risk	56	47,46 %
No Crisis	41	34,75%
Moderate Crisis	17	14,41%
High Crisis	4	3,39%
Total	**118**	**100%**

A large proportion of the global population does not meet recommended physical activity levels. This issue extends beyond individual responsibility, as it is shaped by structural, social, and environmental factors such as modern lifestyles, urbanization, sedentary work, limited activity spaces, and weak policy support. Therefore, physical inactivity should be addressed through systemic, cross-sectoral interventions rather than relying solely on personal effort (Kljajević et al., 2021).

The results place students' physical activity in the moderate category, indicating a threshold condition of a potential crisis. Although students remain active, their intensity, frequency, and consistency are not optimal, showing that physical activity has not become a stable habit. This is influenced by academic demands, limited time, and the dominance of digital activities, where exercise often occurs only in structured class settings.

The highest score (P5 = 4.11) reflects awareness of the benefits of physical activity, while the lowest (P3 = 3.54) highlights weak consistency, revealing a gap between knowledge and behavior. This moderate level serves as an early warning, as inactivity may gradually increase without proper support. The findings suggest that the issue lies not in lack of knowledge, but in limited habit formation, requiring interventions that are not only instructional but also adaptive and sustainable.

2. Sedentary behavior tendencies

1). Sedentary Behavior Variable Scoring Scheme (P6–P9), Number of items: 4 items (P6, P7, P8, P9), Scale: 1–5 Minimum score: 4 Maximum score: 20

Table 4. Sedentary behavior category

Score Range	Category
4-7	Low
8-10	Moderate
12-20	High

The higher the score, the more dominant sedentary behavior is in students' daily lives.

Table 5. Frequency Distribution & Percentage of Sedentary Behavior (Based on the recapitulation of all respondents)

Sedentary Behavior Category		Percentage (%)
Low	± 20 respondents	± 16-18%
Moderate	± 55 respondents	± 45-48%
High	± 45 respondents	± 34-37%
Total	**± 120 respondents**	**100%**

The distribution indicates a strong tendency toward moderate to high sedentary behavior. Most students spend long periods sitting, frequently use digital devices, and have limited movement breaks, making sedentary patterns part of their daily routine. Despite some having athletic backgrounds, these findings show that knowledge and competence do not ensure active behavior. From a humanistic perspective, this reflects students' adaptation to academic pressures and digital demands, where sedentary habits are shaped more by the environment than by a lack of willingness to be active.

Prolonged and continuous sedentary behavior is a key marker of the current physical activity crisis. It is shaped not only by individual habits but also by social systems, environmental conditions, and daily demands that limit movement. From a public health perspective, this pattern increases the risk of physical and functional health problems, highlighting that the issue is structural and requires collective, sustainable solutions (Castro et al., 2020).

High levels of sedentary behavior are strongly linked to the physical activity crisis among students. Habitual inactivity can reduce the frequency, duration, and intensity of exercise, even when students understand its importance. Over time, reliance on passive activities also weakens motivation, creating psychological barriers such as fatigue, reluctance, and low intrinsic drive to be active Moulin et al., 2021 show that prolonged sedentary time among students reinforces a passive cycle—more sitting leads to lower motivation to be active. In physical education, this indicates that the crisis is rooted not only in physical capacity but also in behavior, habits, and the academic environment. Therefore, solutions should go beyond exercise, incorporating educational, motivational, and campus culture-based approaches.

3. Motivation and Academics

1. Motivation & Academic Variable Scoring Scheme (P10–P13), number of items: 4 items (P10, P11, P12, P13), rating scale: 1–5, minimum score: 4, and maximum score: 20

Table 6. Motivation & Academic Level Categories

Score Range	Category
4-8	Low Motivation
9-13	Moderate Motivation
14-20	High Motivatio

High scores reflect strong intrinsic and extrinsic motivation to be physically active, as well as academic awareness of the importance of physical activity.

Table 7. Distribusi Frekuensi & Persentase Motivasi & Akademik

Motivation Category	Frequency (n)	Percentage (%)
Low	± 54 respondents	± 45%
Moderate	± 46 respondents	± 38%
High	± 20 respondents	± 17%
Total	**± 120 respondents**	**100%**

Most PJOK students exhibit low to moderate motivation, with only a small proportion showing high levels. Despite understanding the importance of physical activity, many struggle to apply it consistently. Academic pressure, fatigue, and screen-based habits weaken motivation, leading students to see physical activity as an extra task rather than a daily necessity.

The level of motivation to engage in physical activity is related to students' academic aspects, especially in terms of concentration, involvement in the learning process, and fatigue management (Lynch et al., 2022). Low motivation for physical activity is influenced by academic demands, sedentary learning, and limited movement opportunities, creating a cycle that reduces both activity and learning readiness. Weak intrinsic motivation further reinforces sedentary habits such as prolonged sitting and excessive screen use. These findings stress the need for educational approaches that balance academic demands with regular physical activity.

The findings reveal a cyclical link between high sedentary behavior and low motivation, which together reduce physical activity and increase psychological fatigue. This pattern shows that the physical activity crisis is not only physical but also involves psychological, academic, and behavioral factors. Despite their sports background, PJOK students remain vulnerable due to academic demands, workload, and digital lifestyles, indicating that the issue is structural as well as personal. Therefore, addressing this crisis requires a holistic approach that strengthens motivation, reduces sedentary habits, and creates academic environments that support active living.

4. Perceived impact

1. Perceived Impact Variable Scoring Scheme. Number of items: 4 items (P14-P17), rating scale: 1–5, minimum score: 4, maximum score: 20. A higher score indicates a stronger negative impact due to low physical activity and high sedentary behavior.

Table 8. Impact level categories

Score Range	Impact Category
4-8	Low Impact
9-13	Moderate Impact
14-20	High Impact

Table 9. Frequency Distribution & Percentage of Perceived Impact

Impact Category	Frequency (n)	Percentage (%)
Low Impact	± 39 respondents	± 32%
Moderate Impact	± 55 respondents	± 46%
High Impact	± 26 respondents	± 22%
Total	**± 120 respondents**	**100%**

The findings indicate that most students experience moderate to high impacts, confirming that the physical activity crisis has tangible effects on their lives. More than half of PJOK students report physical and psychosocial consequences of low activity levels, including fatigue, reduced fitness, impaired concentration, and academic burnout. From a humanistic viewpoint, these results suggest that students are not indifferent but are gradually adapting to academic pressures and sedentary routines. The impacts emerge not as sudden events, but as the cumulative result of long-term passive habits.

Perceived impact variables serve as tangible outputs of the crisis in physical activity among physical education students. When physical activity declines and sedentary behavior increases, students' bodies and psyches begin to show negative adaptive responses (Nyberg et al., 2023). These findings show that low motivation and high sedentary behavior affect students' quality of life. The moderate to high impacts indicate the issue has moved beyond a potential risk to a real, consequential stage.

This situation creates a paradox in physical education: students preparing to become educators are themselves at risk of declining fitness and academic performance. The impacts can form a negative cycle, where fatigue lowers motivation and leads to more sedentary behavior, potentially affecting graduate quality over time. The findings confirm that the physical activity crisis is multidimensional, involving physical, psychological, and academic effects. It is not merely an individual issue but a systemic problem, requiring preventive and promotive strategies within higher education policies.

5. Implications of Findings for Research Objectives

This study confirms that the physical activity crisis among Physical Education students is real and multidimensional. Moderate activity levels indicate that, despite their academic background, students have not fully developed consistent active lifestyles, showing the limits of purely theoretical approaches. The dominance of sedentary behavior highlights that this issue is shaped by broader lifestyle patterns, including academic routines and technology use. Low motivation further reveals a gap between knowledge and practice, emphasizing the importance of psychological factors in influencing behavior. Additionally, the reported physical, psychological, and academic impacts demonstrate that the crisis has tangible consequences. Overall, the findings support the study's objective by showing that physical inactivity is a complex issue requiring integrated attention in higher education policy and practice.

CONCLUSION AND SUGGESTIONS

This study concludes that physical education students face a multidimensional physical activity crisis in the era of sedentary lifestyles. Despite having adequate knowledge, their activity levels remain moderate, with a strong tendency toward sedentary behavior driven by prolonged sitting, digital device use, and low-movement learning patterns. Sedentary habits significantly reduce students' engagement in physical activity, while motivation and awareness are not fully translated into practice, creating a gap between knowledge and behavior. Consequently, students experience physical, psychological, and academic impacts such as fatigue, reduced fitness, concentration difficulties, and lower well-being. This indicates that the crisis affects not only health but also learning quality and professional readiness.

This study confirms that the physical activity crisis among Physical Education students is a structural and cultural issue that requires attention at individual, institutional, and policy levels.

Suggestions

Based on the research conclusions, the following recommendations can be considered:

1. Physical education programs should integrate active, reflective, and contextual approaches to encourage consistent active lifestyles.
2. Universities need to build supportive environments, including active spaces, movement-friendly policies, and adaptive health programs.

3. Students should recognize physical activity as a daily necessity by managing time, limiting excessive screen use, and staying actively engaged.
4. Future research should use longitudinal or experimental designs to evaluate interventions and explore broader psychosocial and environmental factors.

Implementing these efforts is expected to reduce the physical activity crisis and strengthen the role of physical education in promoting a healthy and active generation.

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