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THE ROLE OF PHYSICAL EDUCATION IN UNIVERSITY STUDENTS' PHYSICAL AND MENTAL HEALTH

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ABSTRACT
In the context of modern society, the lack of physical activity among university students is becoming increasingly common and alarming. Instead of maintaining regular exercise habits, many students nowadays spend most of their time studying, using electronic devices, or working part-time jobs. This leads to consequences such as deteriorating physical health and increased risks of non-communicable chronic diseases like obesity, metabolic disorders, or musculoskeletal issues. In addition, academic pressure, achievement competition, unclear career orientation, and unhealthy lifestyles have contributed to the rising prevalence of stress, anxiety, and psychological disorders among students. In this context, physical education emerge as a comprehensive solution - not only contributing to physical improvement, body maintenance, and immunity enhancement - but also effectively supporting students' mental health.
KEYWORDS: *Physical Education, Physical Health, Mental Health*

1. INTRODUCTION

Physical education (PE) has emerged as a growing concern for youth, especially university students. A research by the World Health Organization (WHO, 2022) indicates that up to 81% of adolescents globally fail to achieve the recommended level of physical activity established by WHO. The 2023 School Health Survey in Vietnam, done by the Ministry of Education and Training, revealed that the majority of university students exhibit physical inactivity, frequently being seated for extended periods while studying or utilizing electronic gadgets, particularly in major urban centers.

The inability of young individuals to fulfill physical activity requirements adversely impacts their lifelong well-being, their families, and imposes a strain on healthcare systems and society as a whole. Inactivity contributes to the heightened prevalence of non-communicable diseases, including obesity, hypertension, and metabolic disorders, while also exacerbating mental health issues by elevating the chances of depression, anxiety, and chronic stress. This scenario is prevalent not only in Vietnam but also in several emerging nations, especially among youth and students who are undergoing personal and physical development. Consequently, enhancing exercise habits and increasing awareness of the significance of physical education in student life is a critical concern in holistic educational initiatives.

Alongside previously mentioned factors such as academic pressure, time constraints, unaccommodating learning environments, and ineffective physical education policies, recent studies have highlighted additional influences including individual awareness of the benefits of physical education, peer influence, support from student organizations or sports clubs, and familial guidance. Furthermore, in addition to physical advantages, studies indicate that physical education significantly influences mental health, cognitive ability, social adaptability, and overall life satisfaction among students.

The aim of this paper is to elucidate the significance of physical education in the physical and mental well-being of university students, while offering various strategies and recommendations to enhance their quality of life, and proposing effective and sustainable measures to advance physical education initiatives in universities.

2. LITERATURE REVIEW

Educational institutions and scholars are paying more and more attention to studies on how PE affects mental and physical health. These studies have somewhat depicted the comprehensive impact of physical education on kids. A summary of this research shows the following results:

Sport is a multifaceted activity that enhances developmental attributes in the physical, psychological, and personal domains of children and adolescents. It is recognized as a primary determinant for sustaining, safeguarding, and augmenting health and a healthy lifestyle. (Petrova et al. 2022a, b).It has been shown that sports can help both your physical and mental health (Biddle 2011; McMahon et al. 2017). Systematic physical exercise among students enhances intellectual growth, formulates the "self," and impacts the cultivation of both general and specialized abilities (Blynova et al. 2020; Popovych et al. 2021; Popovych et al. 2022). Students who regularly engage in physical activity are more equipped to adjust to new settings than their peers who are apathetic to physical activity.

The goal of sports is to help people grow physically in a balanced and full way. This objective has multiple milestones at different points in life. Sports activities at a young age assist build strength, make the body more resistant to sickness, and improve physical

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attributes and motor abilities, which motivates kids to move on their own (Grozdeva 2010).

To be healthy, young people need to make sports and exercise a regular part of their lives, either on their own or with the help of their families (Dikova 2020).

Distinct sports have distinct benefits. Running is typically ignored since exercise takes a while to show results, although it works the heart by affecting both cardiac and non-cardiac elements. This activity will help you lose weight, tone your muscles, and give you a lot more energy.

Cycling is very good for you. It enhances blood circulation, the operation of the heart, lungs, and visual organs, conditions the vestibular system, and inhibits the development of varicose veins (Vakrilova Becheva et al. 2023).

Swimming is the sport that strengthens the heart and lungs and shapes the muscles in a balanced way. Anyone can swim, no matter how old they are. It is indicated for treating and preventing spinal curvature and chest abnormalities in children (Rangelova 2023).
Sports and exercise are important parts of a healthy lifestyle since they can make muscles stronger, boost the immune system, get rid of pollutants, and improve physical endurance (Merdzhanova 2020).

Not only do sports help with physical health, but they also help with mental health by giving people psychological benefits. Young individuals engaged in sports exhibit more favorable life attitudes than their non-participating counterparts, demonstrating reduced propensities for suicidal thoughts (Taliaferro et al., 2011).

Mental illness is currently a severe public health problem, and the number of cases is going up. WHO (2017) says that about 25% of Europeans have a mental ailment each year, and depression is one of the most common ones right now (WHO 2017).

Within the context of the Project to the SU (No. 80-10-63/2019 and No. 80-10-45/2020), a study was executed to evaluate the impact of varying levels of aggressive responses and depression via sports activities. Research indicates that judo, fitness, basketball, and tennis enhance teenagers' mental resilience and emotional stability (Vaneva and Stoyanova 2021).

Research indicates that exercise serves as a natural and efficacious intervention for anxiety. It alleviates tension and stress, enhances physical and mental vitality, and promotes well-being through the production of endorphins, serving as an effective treatment for mild to moderate depression, akin to antidepressants but devoid of negative effects (Young 2016).
A significant study indicated that students engaged in team sports or self-identified as athletes exhibited reduced depression ratings compared to their collegiate counterparts who neither participated in nor identified as athletes (Blanco C, Okuda M, Wright C, et al., 2008).

Athletes (school or club sports) reported superior social functioning, mental health, and satisfaction in comparison to non-athletes (Synder et al., 2010).

Individuals engaged in sports report enhanced results, including increased confidence, social connectivity, and overall pleasure, in contrast to those who infrequently or never participate in sports (Linver, Roth & Brooks, 2009).

When the body is in pain or under a lot of stress, the hippocampus, which is in charge of memory, makes chemicals called endorphins. Endorphins, which are comparable to morphine in composition, are natural painkillers that work by activating opioid receptors in the brain, which relieves pain and calms the mind. Endorphins also make people feel happy and euphoric. After finding out about endorphins, many started to think that exercise makes a lot of these neurotransmitters. People who work out often do so because endorphins make them feel really good. They have more energy throughout the day, sleep better at night, remember things better, and feel more relaxed and good about themselves and their lives (Angelova-Igova and Lecoq 2023).

Aerobic exercise improves focus by altering the hippocampus, which is in charge of making, organizing, and storing memories. This brain structure grows when people become in better shape through athletics, which is one reason why memory and learning get better (Lahti et al. 2023).

The psychosocial function of sports in teenagers involves cultivating essential personal and socially relevant attributes: courage, initiative, resourcefulness, self-regulation, autonomy, self-assurance, and adaptability (Penkova et al. 2022).

The aforementioned studies and analysis indicate that physical education plays a crucial role in enhancing both the physical and mental health of university students. In addition to boosting physical strength and immune function, PE also lowers stress, lifts mood, and helps adolescents deal with stress from school and life more successfully. This article's main goal is to make clear how PE affects children in various ways, such as by improving their physical health, boosting their immune system, lowering their stress levels, and building their self-esteem. Additionally, the author learned throughout interviews that physical education has another advantage for kids' mental health: it helps them make new friends.

3. RESEARCH METHODOLOGY

This article applies in-depth interview methods with 36 students currently enrolled at Trade Union University. The interviews were conducted in 2025. The sampling framework included various academic fields within the university, and all participants at the time of the interviews were physically healthy and eligible to participate in physical education courses. In addition, the

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article applies document analysis methods. The sources include: studies related to the physical activity status of students; research that identifies the role of PE for students; and reports on physical activity in general and among students in particular.

4. THE ROLE OF PHYSICAL EDUCATION IN UNIVERSITY STUDENTS' PHYSICAL AND MENTAL HEALTH

Among the 36 students from Trade Union University who participated in the interviews, most acknowledged that physical education had a positive influence on both their physical and mental health.

Table 1. The role of physical education in university students' physical and mental health

Faculty	Improve physical fitness	Enhance immunity	Reduce stress	Increase confidence	Expand social network
Occupational Safety & Health	1	0	2	1	0
Social Work	1	1	1	1	1
Accounting	2	0	1	1	0
Labor Relations	1	1	2	2	0
Law	2	1	2	1	1
Tourism	1	2	1	1	1
Business Administration	2	0	3	1	0
Human Resource Management	3	1	1	2	0
Finance and Banking	2	1	1	2	0
Sociology	2	1	1	2	0
Foreign Languages	1	1	2	1	0
Economics	1	1	1	1	1
Total	**16**	**15**	**30**		

Source: Interview results, 2025

4.1. Physical exercise improves physical fitness

In the daily life of university students, physical education play a vital role in improving and maintaining stable physical fitness. Due to the nature of extended lecture hours, prolonged sitting, continuous exposure to electronic devices, and limited opportunities for movement, students are highly prone to physical decline, musculoskeletal discomfort, and more serious issues such as obesity, metabolic disorders, and spine or cardiovascular diseases. This sedentary lifestyle is becoming increasingly common among the student population, negatively affecting their physical health as well as academic performance and daily living quality.

Maintaining a regular exercise routine provides practical benefits for students - a demographic in the crucial phase of developing physical and intellectual foundations. Regular physical activity enhances endurance by improving the function of the heart, lungs, and circulatory system. As a result, students are able to stay alert, energetic, and less fatigued during long periods of study or work. *"I had classes in the afternoon during my first year." I used to be able to study without any problems in high school, but now I lose focus rapidly. I unintentionally signed up for the 800-meter running class in the second semester, so I had to practice every day to prevent failing. After that time, I was surprised to feel lot better. I could pay attention in class and wasn't exhausted like previously. (Excerpt from in-depth interview 02)*

Flexibility and endurance also significantly improve through activities such as yoga, aerobics, swimming, or jogging. These exercises stretch muscles and joints, increase mobility of the motor system, and reduce the risk of everyday injuries. Physical flexibility also supports mental stability, helping students feel more relaxed and positive in academic and social settings. Moreover, spine pain relief - especially in the neck and lower back - is another major benefit, as students often spend long hours sitting and working with computers. Regular exercise strengthens muscles and bones, alleviates spinal pressure, and improves posture.

"I used to get back discomfort since I didn't walk around enough and sat in bad positions. My roommate asked me to come to yoga lessons with her. I was unsure at first, but after a few weeks of doing it regularly, my back felt stronger and less uncomfortable. I got more flexible and full of energy, and I didn't even get tired walking up stairs. I also learned how to sit properly, so I don't have back problems or hunching anymore. (Excerpt from in-depth interview 04)

"I usually sit a lot and bend my neck to look at my phone, which gave me turtle neck syndrome." My neck usually hurt, and I didn't look well in clothes either. The soreness became better once I did some workouts I found online. I hope that if I keep working out, my neck will be straight and pretty like the women on TV. (Excerpt from in-depth interview 15)

In addition, regular exercise helps reduce the risk of obesity - an increasingly common issue among students due to poor eating habits and a sedentary lifestyle. Obesity not only affects aesthetics

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but is also a risk factor for chronic diseases such as diabetes, cardiovascular problems, and hormonal disorders.

"In my second year, I weighed around 80 kg. We had class on the seventh story, and if we had to wait for the elevator, we would be late and marked absent. But I was out of breath after climbing the stairs. Then I started working out every day at home and eating right. I shed over 10 kg in six months and felt considerably lighter." (Excerpt from in-depth interview 21)

Physical activity also contributes to reducing metabolic disorders such as high blood lipids, hypertension, or insulin resistance - conditions that often develop silently but can affect students with unhealthy lifestyles. Physical training offers a natural, safe, and effective solution to regulate the body's metabolic processes, supporting long-term well-being.

"When I started college, I had a health check and was told I had indicators of diabetes and obesity. This was probably because I drank too many energy drinks while studying late at night in high school. I was worried, so I started exercising every day and eating fewer carbs. "Thank goodness, my blood tests have gotten a lot better now." (Excerpt from in-depth interview 19)

Exercise also helps students build a healthier and more disciplined lifestyle, including sleeping on time, eating regularly, and managing personal schedules effectively. Although physical training is sometimes overlooked due to academic stress or lack of time, when viewed comprehensively, exercise is not merely a fitness activity but a crucial foundation for students to maintain good physical condition to support their studies and daily routines throughout university life. In a broader sense, engaging in regular physical activity is a sustainable investment in students' health and quality of life.

"I used to have stomach aches from stress, staying up late, and not eating at regular times. It made people lose a lot of weight. My parents had me eat well and work out in the evening. "I feel calmer now, I sleep better, and the pain in my stomach has gotten better." (Excerpt from in-depth interview 01)

4.2. Physical exercise enhances immunity

Maintaining regular physical activity allows students to strengthen their immune systems, increase endurance, improve blood circulation, and regulate biological rhythms. Frequent exercise acts as a "natural vaccine" that boosts immunity. When the body is active, circulation improves, enabling white blood cells - the immune system's frontline defenders - to move faster and more effectively throughout the body.

In several in-depth interviews, students also shared that regular workouts helped them detect and fight off illnesses early, such as bacterial and viral infections - especially relevant in crowded environments like dormitories, classrooms, and libraries.

"Living in a dorm makes it simple to get sick from other people. If one person in the room gets sick, it's likely that others will too. But I feel lot better now that I run around the campus for 20 minutes every morning. For the last six months, I haven't experienced any minor sicknesses. "Exercise really does help!" (Excerpt from in-depth interview 13)

At the same time, exercise reduces the risk of common illnesses such as colds, sore throats, headaches, or seasonal allergies - frequent among students due to late nights, irregular meals, and lack of activity. Light physical activities like brisk walking, cycling, jogging, or playing sports help regulate body temperature, balance hormones, and promote recovery from fatigue, thereby reducing susceptibility to minor illnesses and prolonged weakness.

"Every time the seasons changed, I would get a cold or sore throat." Then I went on a diet, which made my immune system even weaker. I was always having allergic responses. Instead of starving myself, the doctor urged me to consume a balanced diet and work out to lose weight. So I began riding my bike around West Lake. I barely ever get sick anymore, and I feel better and stronger than I did when I was just dieting. (Excerpt from in-depth interview 08)

4.3. Physical exercise reduces stress

Sports training helps students better adapt to stressful living and learning environments. Student life is often accompanied by academic pressure, exams, financial concerns, and social relationships. During physical activity, the body releases endorphins - hormones that improve mood and reduce stress. Additionally, exercise helps students establish a more stable biological rhythm: eating well, sleeping deeply, and staying alert during the day - factors crucial to maintaining comprehensive health.

"Third year was incredibly hard. Everyone I knew looked to be doing well. Some were doing well in school while working part-time, while others were going on overseas exchange programs. I was stuck. The more I tried, the more tired I got. I couldn't sleep, got upset easily, and grieved over little things. I would lie awake every night overthinking because I had a lot of stuff to do and always had deadlines. Every morning, I looked like a ghost. I was crying in a park one time when an older woman came up to me and offered to walk with me. She told me to come back the next day. I slowly got into the habit of walking. I progressively got my spirit back, stopped comparing myself to others, and started focused on my own speed because I worked out regularly. For me, exercise became a method to cure myself. (Excerpt from in-depth interview 27)

"I broke up with my boyfriend earlier this year after almost five years because he cheated on me." I was so upset that I stayed in bed all day, skipped school, and couldn't sleep. My roommate was worried and took me to jump on the trampoline. It made me feel a little better. After that, I started working part-time and going to the gym. At some point, I felt calm again, slept well, and got the

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energy to study and get back into class activities. (Excerpt from in-depth interview 06)

4.4. Physical exercise increases confidence

Maintaining regular exercise not only benefits physical health but also significantly improves mental well-being and self-image in students.

First, students tend to gain more self-confidence as their physique improves. Losing weight, becoming more toned, or simply feeling stronger and more agile can make students more satisfied with their appearance and capabilities. This is particularly important for students - young people who often struggle with self-comparison, body image issues, and societal expectations.

"I used to get sick a lot. Even a little rain or staying up late would make me sick." Then I started taking Zumba classes three times a week. Since then, I've felt a lot better. I haven't needed any medicine in almost a year, my body feels stronger, and I'm a lot more sure of myself. (Excerpt from in-depth interview 33)

"I used to avoid wearing fitted clothes or doing outdoor activities because I only weighed 39kg." I couldn't put on weight no matter how much I ate. But I started to gain weight when I started going to the gym and eating right. I felt stronger, my skin got brighter, and my body grew more flexible. I'm quite delighted with my weight now. I feel a lot more sure of myself when I talk to people and express myself than I did previously. (Excerpt from in-depth interview 10)

Second, the process of training helps students learn emotional regulation. During physical activity - especially exercises like running, gym workouts, yoga, or martial arts - the brain releases neurotransmitters such as endorphins, dopamine, and serotonin, which improve mood, create a sense of joy, and relieve stress. As a result, students tend to be calmer, more patient, and more stable when dealing with pressure situations like exams, presentations, or social conflicts.

Notably, the sense of achievement after each workout - even completing a 20-minute run, lifting heavier weights, or mastering a difficult yoga pose - generates a series of positive feedback. These small victories help students feel in control and witness daily progress. Over time, this reinforces self-esteem - the belief in one's own worth and capabilities.

In short, regular exercise not only enhances physical fitness but also nurtures mental resilience, empowering students to be more confident, self-regulated, and to cultivate a more positive self-image in their own eyes and in the perception of others.

4.5. Physical exercise expands social networks

Table 1 also illustrates that students can make new friends as they work out.

Students who join sports clubs, training groups, or play in school sports tournaments meet new people who like the same things they do. Strong, natural, and long-lasting relationships are built when people work out together, help one other during training sessions, or cheer each other on during contests. This is a great approach for students to meet friends, especially those who are new to the school, live away from home, or are shy.

I played football with my class in my first year and was surprised when I was picked for the university squad. At first, I felt strange because I didn't know anyone, but we got to know each other better over time. Some of the seniors who graduated still come back to practice with us from time to time. Last month, we all went to the wedding of our old squad captain. (Excerpt from in-depth interview 24)

Playing sports is not just about moving your body; it's also a chance to learn how to function as a team. Most team sports, such as football, volleyball, or doubles badminton, require participants to work together, understand each other, and help each other reach a common goal. This is a very important part of learning how to interact with others, which is important in school and at work. Training also helps people learn how to be disciplined and stick with things. Students learn to keep their promises and create disciplined, goal-oriented behaviors by following a training routine and sticking to long-term fitness objectives.

5. CONCLUSION

The interviews and reviewed literature have provided the author with a comprehensive understanding of the role of physical education in university students' physical and mental health. At present, these roles include improving physical fitness, enhancing immunity, reducing stress, boosting confidence, and expanding social networks.

Physical education help students form healthier, more scientific lifestyles - such as sleeping on time, eating properly, and managing their personal schedules more efficiently. Although physical training may sometimes be neglected due to academic pressure or time constraints, from a comprehensive perspective, it is not merely a health activity, but a critical foundation for students to maintain good physical condition for effective learning and living throughout their university years. In this regard, active participation in sports is a sustainable investment in students' well-being and quality of life.

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