

# A Study on the Impact of Physical Education on the Physical and Mental Health Development of Contemporary College Students

Shuang Liu

Beijing International Studies University, Sports Institute, Beijing, 100024, China

---

**Abstract:** This article studies the impact of physical education teaching on the physical and mental health development of contemporary college students. Given the physical and mental health challenges faced by modern college students, this study explores how physical activity can improve students' quality of life. By analyzing the positive effects of physical exercise on physical health indicators and mental health indicators, this article reveals the multiple benefits of physical education. Research results show that regular physical exercise can significantly improve cardiorespiratory fitness, reduce symptoms of depression and anxiety, and enhance self-esteem and social skills. These findings emphasize the need to strengthen physical education in colleges and universities to promote the overall healthy development of students.

**Keywords:** Physical education; Physical and mental health of college students

---

## Introduction

Physical education occupies a central position in the overall development of college students. With the accelerated pace of modern life, college students are facing unprecedented challenges in physical and mental health. Studies have shown that regular physical exercise can not only improve students' physical health indicators, but also help relieve psychological stress and enhance psychological well-being. However, although existing studies have revealed the positive relationship between physical activity and health, the specific impact of university physical education and its actual role in students' lives still need to be further explored. This paper aims to deeply analyze the specific impact of physical education on the physical and mental health of contemporary college students, in order to provide a scientific basis for the improvement of university physical education.

### 1. Lifestyle and health status of contemporary college students

Contemporary college students show diverse characteristics in terms of lifestyle and health status. Most students have a fast pace of life and high academic pressure, which directly affects their eating habits and sleep quality. It is common that irregular eating and excessive intake of coffee or energy drinks, coupled with lack of sufficient physical exercise, lead to health problems such as weight gain and decreased immunity. Surveys show that many students often ignore the importance of healthy eating due to busy schoolwork and social activities, and tend to choose fast food and takeout, which are often high in fat and lack necessary nutrients. Sleep problems are also quite common among contemporary college students.<sup>[1]</sup> Due to academic pressure and the influence of social media, many students go to bed late and get up late, and have insufficient sleep or poor sleep quality. Studies have shown that insufficient sleep can affect students' cognitive function and learning efficiency, and may also cause emotional problems and mental health disorders in the long run.

From the perspective of physical health, lack of regular physical exercise has become a major problem. Although most colleges and universities provide sports facilities and courses, student participation is not high. Due to long periods of sitting in life and lack of exercise, many students have experienced muscle atrophy and decreased metabolic rate, which are direct consequences of the modern lifestyle. In terms of mental health, contemporary college students face an overflow of stressors, from academic to employment uncertainties, which can easily cause anxiety and depression. The increase in mental health problems not only affects learning efficiency,

but is also likely to affect future careers and social adaptability.

## **2. The Importance of Physical Education in University Education**

Physical education occupies an irreplaceable and important position in the university education system, and its importance is reflected in many aspects. First of all, physical education helps to improve students' physical health. Regular physical exercise can effectively improve students' physical fitness, enhance immunity, and prevent a variety of lifestyle-related diseases. By organizing a variety of sports activities, students can get enough physical exercise, which plays an important role in promoting students' long-term health.<sup>[2]</sup> Secondly, physical education is equally important for improving students' mental health. In the context of increasing academic and life pressures, sports activities provide an effective way to release stress. By participating in physical exercise, students can reduce anxiety and depression and improve their ability to manage emotions, which is extremely important for maintaining mental health. Studies have shown that students who regularly engage in physical activities perform better in mental health tests and show higher self-esteem and self-efficacy. Furthermore, physical education plays a key role in cultivating students' teamwork and social skills. Team sports require students to coordinate and work together to achieve competition goals. This collective activity not only enhances the sense of teamwork among students, but also improves problem-solving skills, which will be extremely important in students' future careers. In addition, physical education can also help cultivate students' leadership and decision-making abilities. In sports activities, students often need to make decisions quickly and take on leadership roles in competitions. These experiences help students better cope with challenges and pressures in real life.<sup>[3]</sup>

## **3. Explore the impact of physical education teaching on the mental health of college students**

### **3.1 The impact of physical education teaching on physical health**

Physical education plays a vital role in improving the physical health of college students. Through systematic physical education courses and standardized exercise guidance, students can engage in regular physical exercise in campus life, thereby directly improving their physical fitness and health. Physical exercise brings a wide range of health benefits through various physiological mechanisms such as enhancing cardiopulmonary function, improving the effectiveness of the immune system, and regulating blood pressure and blood sugar levels.

Physical activity can significantly improve cardiopulmonary endurance. This is because regular aerobic exercise such as running and swimming can effectively increase the blood supply capacity of the heart and the oxygen absorption efficiency of the lungs. The enhancement of cardiopulmonary function is the cornerstone of health and can effectively prevent the occurrence of cardiovascular diseases. Strengthening of muscles and bones is also a direct benefit of physical exercise. By participating in sports such as basketball and football that require extensive physical activity, college students' muscle strength and bone density have been improved. This not only enhances the body's support capacity, but also helps prevent osteoporosis and other diseases that may occur with age. question.

In addition, physical education teaching helps students establish long-term healthy habits by promoting healthy lifestyles. Regular physical activity has been shown to reduce the effects of chronic stress and anxiety by regulating hormone levels in the body and reducing stress responses. This kind of psychological relaxation effect achieved through exercise is particularly important for modern college students, because they often face pressure from academic studies and future career planning.<sup>[4]</sup> Physical activity can also significantly improve sleep quality. Regular physical exercise helps regulate the biological clock and promotes the occurrence of deep sleep, which has a direct positive impact on college students' learning efficiency and daily energy level. Good sleep can further promote the body's recovery and regeneration, forming a virtuous cycle.

### **3.2 The correlation between physical exercise and physical health indicators**

The correlation between physical exercise and physical health indicators is an important area of modern medical research. Physical exercise has a significant effect on improving various physical health indicators of college students, including cardiopulmonary function, muscle strength, body composition, and metabolic health.

Cardiopulmonary function is one of the key indicators for evaluating individual health. Physical exercise, especially aerobic exercise such as running, swimming, and cycling, can significantly improve the pumping efficiency of the heart and the oxygenation capacity of the lungs. College students who regularly participate in aerobic exercise exhibit lower resting heart rates and higher maximum oxygen uptake (VO<sub>2</sub> max), direct markers of cardiorespiratory fitness. Muscular strength and endurance are also closely related to physical exercise. Through resistance training and weight training, students build muscle mass and strength. Strengthened muscles not only support daily activities and reduce the risk of injury, but also increase basal metabolic rate, aiding in energy expenditure and

weight management. Body composition, the ratio of fat to non-fat tissue in the body, is another important measure of physical health. Physical exercise helps adjust body composition and lower body fat percentage by promoting the breakdown of fat and increasing muscle tissue, thereby reducing the risk of chronic diseases such as cardiovascular disease and diabetes.

The impact of physical exercise on metabolic health cannot be ignored. Regular physical activity can improve insulin sensitivity, regulate blood sugar levels, and fight diabetes. In addition, exercise can also regulate blood lipid levels, reduce total cholesterol and low-density lipoprotein (LDL) in the blood, and increase high-density lipoprotein (HDL) levels.

### **3.3 The correlation between physical exercise and mental health indicators**

The correlation between physical exercise and mental health indicators is a hot research topic in the fields of contemporary psychology and sports science. Through extensive research, it has been confirmed that regular physical exercise can significantly improve the psychological state of college students, specifically by reducing symptoms of anxiety and depression, improving self-efficacy and overall well-being. Physical exercise can effectively reduce anxiety and depression levels in college students. Students who regularly participate in physical activities have higher levels of endorphins released by their brains. This natural compound has the effect of relieving pain and increasing happiness. At the same time, increased heart rate during exercise is associated with increased levels of serotonin in the brain, a key neurotransmitter that regulates mood, sleep, and appetite.

Physical exercise improves college students' self-esteem and self-efficacy. Through physical activities, students can feel a sense of accomplishment and control in the process of overcoming physical challenges and achieving exercise goals. These experiences enhance their self-confidence and self-worth. Increased self-esteem and self-efficacy are crucial to promoting an individual's overall mental health. Physical activity is also closely related to social interaction. During team sports or fitness activities, students have the opportunity to communicate and collaborate with others. This social interaction helps build a support network and alleviate feelings of loneliness and social anxiety. Good social relationships are an important component of mental health and can significantly improve an individual's happiness and life satisfaction.

## **4. Conclusion**

Physical education plays a vital role in university education. It can not only significantly improve students' physical health, but also have a profound positive impact on mental health. By participating in physical activities, college students can effectively improve their self-efficacy and self-esteem, reduce levels of anxiety and depression, enhance social skills, and improve sleep quality. These positive changes not only enhance the quality of students' daily lives but also provide a solid foundation for their studies and future careers. Therefore, colleges and universities should increase their support and attention to physical education to ensure that every student can benefit from it.

## **References:**

- [1] Yang Shenglin. Research on psychological quality training methods for junior high school students in physical education [J]. *Sports World*, 2024, (06): 160-162.
- [2] Ma Baoguo. Research on the intervention of frustration education in physical education on college students' psychological resilience - taking table tennis teaching as an example [J]. *Sports World*, 2024, (05): 142-144.
- [3] Liu Tong, Jiang Jingke. The influence of happy physical education teaching on college students' physical education learning burnout, body shape and mental health [J]. *Chinese School Health*, 2024, 45 (03): 379-383.
- [4] Wei Wei. Experimental study on the influence of traditional national physical education teaching on college students' mental health [J]. *Chinese Wushu*, 2024, (03): 95-97.