

# Research on Physical Fitness and Health Promotion for College Students in the Post-Epidemic Era

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**Abstract:** Along with the adjustment of epidemic prevention and control strategies in mainland China on January 8, 2023, people's lives will gradually return to the normal state before the epidemic. This paper focuses on the current situation of college students' physical health in China in the post epidemic era, and carries out certain analysis, reveals the main problems existing in the development process of college students' physical health on its basis, discusses the reasons behind the appearance of these phenomena at the same time, and combines the above problems to give the corresponding strategies for solving the problems of college students' physical health, with the aim of effectively improving the physical health of college students in China. The purpose of this study is to provide some reference for the effective improvement of college students' physical fitness and health in China.

**Keywords:** Post epidemic era, college students, physical health.

## 1. Introduction

The outbreak of the New Crown Pneumonia epidemic in early 2020 disrupted people's normal lives. It also had a greater impact on people's physical and mental health. The Party and the government took timely and effective preventive and control measures to effectively curb the spread of the epidemic with great efficiency. In the following two years or so, the vast majority of cities across the country were able to operate smoothly and normally, except for a very few cities that were affected by the epidemic. However, after 2022, as the spread of the Omicron mutant strain increased, people increasingly felt the difficulty of virus prevention and control, and a continuous stream of cities joined the containment team, from internationalized big cities such as Shanghai and Shenzhen to less-developed cities and towns and villages, with nearly half of the country's cities being infested by the Omicron virus at its peak. During the period of closure, a large number of university students were confined to their dormitories and homes, making it difficult to protect their health and participation in sports. For a long time, college students' physical fitness has been declining year by year due to the influence of factors such as online electronic products, diet, campus cultural environment, self-control, and family, which, coupled with the sealing and control of the epidemic, has exacerbated the decrease in the number of hours students spend exercising.

The Report on the Development of Youth Sports in China (2015) concludes that "the data on the physical fitness of secondary school students have now stopped falling and gradually rebounded, but some physical fitness indicators of college students still continue to decline." College student group is a typical representative of advanced knowledge, and is a living force of social human resources. However, the physical fitness level of college students in China is still unsatisfactory[1]. In 2020, the State General Administration of Sport conducted the fifth national physical fitness monitoring in the country. Compared with the fourth national physical fitness monitoring (2014), the "pass rate" for adults aged 20-39 was 87.2%, the lowest among the measured age groups. Adult strength qualities continue to show a downward

trend. Compared with the monitoring in 2014, the rate of overweight and obesity among adults in China continues to increase, including a significant increase in the obesity rate. 2020 overweight and obesity rates for adults were 35.0% and 14.6%, respectively, an increase of 2.3 and 4.1 percentage points compared with 2014[2]. It can be seen that the overall level of physical form and function of adult college students in China is still not optimistic.

In his report to the 20th National Congress of the Communist Party of China (CPC), Xi Jinping proposed strengthening youth sports, promoting the overall development of mass sports and competitive sports, and accelerating the building of a strong sports nation. Youth is the future of the country and the hope of the nation. College students, as the middle and late adolescent stage, have a healthy body and a sound personality, can be related to the happiness of a lifetime, related to the party and the country's cause successor. Based on the above, this paper takes the post epidemic era as the background, interprets the current situation of college students' physical health and the main problems and reasons in the process of development, and puts forward scientific and reasonable promotion strategies, so as to effectively improve the level of college students' physical health in China, which is in line with the strategic need of "Talent Strengthening the Nation".

## 2. The Current Situation of College Students' Physical Health

In recent years, the results of physical fitness monitoring conducted by the Ministry of Education and the State General Administration of Sport show that the physical fitness level of college students is on a downward trend, which is mainly manifested in three aspects, namely, physical form, physical function and physical fitness.

### 2.1. Physical morphology of university students

Physical form is the characteristics that a person expresses through his or her body, such as height, weight, limb length, chest circumference, waist circumference, and body fat

percentage. BMI is usually used as an indicator to measure a person's morphological development. However, relevant reports from recent years found that the obesity rate of college students in China is gradually climbing, and the phenomenon of overnutrition tends to grow rapidly. The emergence of college students' obesity phenomenon and college students' life and work has a close connection, poor eating habits, insufficient exercise, lack of sleep, negative exercise behavior, low motivation for fitness, weak health consciousness, insufficient physical exercise, addicted to the network, individual genetic fitness and other phenomena are the main reasons for inducing obesity<sup>[3-4]</sup>. On the other hand, some female students are influenced by the idea that thinness is beautiful, and the control of diet and the abuse of weight-loss drugs and other medicines have led to malnutrition and over-thinness of some students, thus leading to alopecia, osteoporosis, gallstones, physiological disorders, etc. Therefore, both over-obesity and over-thinness are the main causes of obesity. Therefore, excessive obesity and thinness are not good for health.

## 2.2. Physical fitness of university students

Lung capacity is an important indicator for evaluating the physical function of college students. Generally speaking, the higher the lung capacity, the higher the maximum oxygen uptake, the stronger the exercise capacity and the stronger the body. The results of the 4th National Physical Fitness Monitoring in 2015 showed that the lung capacity index of college students still continues to rise, and although the lung capacity index of college students in China has recovered from the decline in 2012, it is still at a low level<sup>[5]</sup>. From the monitoring of spirometry index, the situation of spirometry index of college students in China is not optimistic, the overall index level is low, and many students' test scores are lower than the average score. The low level of spirometry index of college students reflects the decline of their physical function.

## 2.3. Physical fitness of university students

Physical quality is the performance of strength, speed, flexibility, endurance and sensitivity. By testing these quality components, college students' physical fitness and health can be assessed. As of 2020, the national failure rate of students' physical fitness and health is 6.5% for elementary school students, 14.5% for middle school students, 11.8% for high school students, while it is 30% for college students<sup>[6]</sup>. The results of the National Student Physical Fitness and Health Monitoring in 2014 showed that college students' physical quality indexes such as speed, endurance, and explosive strength have declined across the board<sup>[7]</sup>. Compared with 2010, speed quality (50m) in the group of 19-22 years old college students in the urban and rural male students decreased by 0.07s, 0.04s, respectively, and female students decreased by 0.04s, 0.01s<sup>[8]</sup>, compared with the previous five years although the rate of decline has slowed down, but the current college students' physical fitness and health situation is still worrying. In the test of flexibility, both male and female students showed a decline, with the decline rate of male students ranging from 0.7% to 10.8% and that of female students ranging from 1.9% to 8.8%<sup>[8]</sup>. The above data show that the overall physical quality of college students in China is worrying, and the introduction of corresponding policies and regulations, and the effective implementation of means and methods to improve the physical quality of college

students should not be delayed.

## 3. Analysis of the Main Problems and Reasons for The Decline in The Physical Fitness Level of College Students

The reasons affecting the decline of college students' physical fitness and health level are complex and multifaceted, and are influenced by society, schools, families and individuals in multiple dimensions. They include those favorable to the improvement of college students' physical health and those unfavorable to the improvement of college students' physical health. The following is a description of the prominent problems that have adversely affected the physical health of college students in recent years.

### 3.1. Traditional education concepts and systems constrain the enthusiasm of college students to participate in physical exercise

For the children who have just stepped into the university from high school, at this time, they have entered into a new stage of life, with a better learning and living environment, a less heavy burden of coursework, and no more pressure to advance to higher education. Influenced by Confucian culture and exam-oriented education, the subject of physical education has been in a weakened position. And in the current selection mechanism of various types, cultural achievements are the primary consideration, and physical education scores account for a small proportion, or even no substantial weight<sup>[9]</sup>. In China's exam-oriented education system, college students in secondary school, often facing a lot of learning pressure, and families, schools on the requirements of students more is only concerned about students' academic performance, the level of physical fitness is only a record of reference, does not play a decisive role, so for the physical education program lack of sufficient attention. Forced by the pressure of further education, schools are reluctant to devote more time to students' physical exercise and improve their physical fitness level. When it comes to the university period, students lack the awareness and habit of physical exercise due to the influence of the inertia of thinking that they have received for a long time, while the rich university life gives students more hobbies and choices, and the vast majority of students usually neglect physical exercise, which makes it always difficult to effectively improve the physical fitness and health level of college students. The three-year adverse impact of the epidemic, the repeated closure and control of some cities, and the home isolation of many students for as long as half a year have exacerbated the phenomenon of declining physical health.

### 3.2. Shortage of Teaching Staff and Facilities Affects the Effectiveness of University Physical Education Classes

The number of physical education teachers is insufficient, and there is a lack of teaching force. China's colleges and universities have been expanding continuously, and in 2022, a total of 9,674,500 students will be enrolled in colleges and universities across the country, and the surge in the number of students has led to the inability of physical education teachers and sports facilities to meet the demand for teaching. In

addition, the phenomenon of "retirement wave" of teachers is gradually expanding, and the threshold of colleges and universities for new teachers has been raised, which makes it difficult for newcomers to replenish the physical education teacher team in colleges and universities. Physical education teachers' heavy teaching tasks, long teaching content, high teaching pressure and other realities seriously restrict the normal development of physical education teaching. Take an undergraduate college in East China as an example, the maximum number of students in a normal class of physical education is 30, while in the actual teaching process, the number of students in a class often exceeds 40. The increase in the number of students directly leads to a decline in teaching effectiveness, the dispersion of teachers' energy and the extrusion of teaching venues, such as rain, snow and other climatic influences, physical education classroom learning can not be carried out, the student learning time can not be guaranteed.

The original plan of 32 hours of physical education classes per semester will be affected again. According to the results of the Sixth National Sports Ground Census Data Bulletin, the total area of sports ground in China is 1.992 billion square meters, but the per capita area of sports ground is only 1.46 square meters. The lack of sports venues to a certain extent restricts students' physical exercise inside and outside the classroom, reduces their time for physical exercise, and is an unfavorable factor in promoting students' physical fitness[10].

### **3.3. Inadequate evaluation system for physical education courses and imperfect monitoring mechanism for after-school physical exercise**

The current college physical education class set up for freshman and sophomore physical education for compulsory, 2 credit hours per week a total of 1.5 hours of time. The junior and senior students participate in the national college student physical fitness test every year in order to consciously participate in physical exercise. Physical education class is supposed to be a physical exercise with a certain sports load, but due to the students' innate genetic or acquired factors, resulting in some students' physical weakness, sports injuries and sudden deaths occur from time to time in physical education class. In order to avoid its negative impact, schools and physical education teachers have canceled sports that are confrontational, intense, and have a certain degree of danger to avoid the risk. In regular physical education classes, for the higher coefficient of danger of equipment, overload long-distance running and other courses, there is a phenomenon that can be reduced or avoided. The effect of college students' physical fitness and health promotion is worrying when it is only the learning of sports techniques without the basis of sports load and intensity. In the process of students' physical fitness test, most of the students also adopted a more negative attitude to the test, in the long-distance running and other high requirements for physical fitness program frequently appeared "substitution", "absence", "jogging" and other phenomena. "The reason for this may be the fact that the test is not a good one, but it is a good one. The reason for this may be the lack of a certain policy constraints on the students of colleges and universities physical testing, fear of students out of the responsibility of a "lazy" behavior. Some schools also carry out extracurricular sports activities throughout the school, leaving students time for extracurricular physical exercise, but due to the lack of corresponding supervisory

measures, the content of the physical exercise, the requirements are not made detailed provisions, resulting in extracurricular physical exercise in a formality, it is difficult to ensure the quality of students' physical exercise, and can not play a role in improving the physical health of students.

### **3.4. Lack of personal health concepts and serious addiction to electronic devices among university students**

Nowadays, college students know that exercise is good for health, but the proportion of students who can really make exercise into their lives and insist on long-term exercise is very small, and they do not pay enough attention to their own physical health, i.e., college students' physical health self-consciousness is fuzzy, and they do not have a deep understanding of the importance of physical health to their future lives and personal development, and they do not have a clear understanding of the relationship between physical exercise and physical health[11]. The key reason is that contemporary college students do not have a good self-control, do not have the awareness of physical exercise, relatively easy college life makes them feel very satisfied at the moment, so they ignore the requirements of physical health quality. At the same time, college students also lack of scientific knowledge and ability to implement how to carry out physical health improvement exercise, how to carry out physical health monitoring and evaluation, etc. This also seriously affects the physical health of college students. This also seriously affects the practice and efficiency of college students' physical health improvement.

Many college students think they are young and strong and neglect their health problems. Coupled with poor living habits, drinking and staying up late abound. In today's modern society with the rapid development of information technology, many students like to sit and lie down to participate in a variety of learning and recreational activities, for example, sitting in the Internet class, playing cell phones, playing computers, brushing dramas, etc., and seldom spend time to participate in various types of physical activities, which leads to a gradual decline in the level of physical health of the students, the phenomenon of myopia, obesity and so on is becoming more and more common and more and more serious, which is not only detrimental to the formation of good physical fitness of college students, but also to the development of students' mental health. This is not only unfavorable to the formation of good physical quality of college students, but also unfavorable to the development of students' mental health. During the epidemic sealing and control, in the case of restricting out of the neighborhood or even out of the house, it intensifies the frequency of students using electronic products at home. Some studies show that Internet addiction is negatively correlated with students' physical fitness, and the higher the degree of Internet addiction, the higher the failure rate of students' physical form, function and physical fitness level tests, and the lower the level of students' physical fitness.

## **4. Physical Fitness and Health Improvement Strategies for College Students**

Want to improve the physical health level of college students, colleges and universities in the operation process should first start from their own situation, through the reform

of physical education teaching mode, strengthen the supervision of students' after-school physical exercise, but also pay attention to sports culture propaganda work, increase the financial investment in sports infrastructure construction, to create a good exercise environment for the students, so that the students can ideologically recognize the importance of physical exercise, and lay a foundation for the realization of the overall development of the students. Lay the foundation for students to realize all-round development.

#### **4.1. Continuously improve the school sports work system and increase the investment in school sports funding**

Colleges and universities in the development process must pay attention to the supervision and evaluation of the work carried out, with a strict supervision system to urge the implementation of relevant sports policies in an orderly manner. In this process, schools should incorporate students' physical fitness and health status into the teaching evaluation system when conducting physical education programs, and ensure the effective implementation of physical education policies based on appropriate rewards and penalties. Positive policies can be used to guide the attitude of teachers, schools, society and students towards physical education and health, the implementation of the school responsibility system, combining the students' health test rate with the evaluation of the positions of principals and teachers, performance assessment, etc., and supervising the implementation of physical fitness and health policies for teachers and schools, with the Physical Education Department, the Academic Affairs Office, and the Medical Department of the school as the main departments, and with the active cooperation of other departments, to form a linkage mechanism for the implementation of the "National Physical Fitness and Health Standards", the physical fitness test results, and the implementation of the "National Health Standards". The Physical Fitness Standard for National Students is implemented, and the results of the physical fitness test are combined with the students' sports performance, evaluation of merits and graduation, etc., to further stimulate their initiative and motivation for physical exercise. At the same time, a third-party monitoring organization was introduced to review the physical health of students in colleges and universities from time to time and supervise the physical health tests of students, so as to implement a mechanism for the normalized implementation of the physical health policy for students and to eliminate any slowness, inaction or perfunctory performance in the implementation of the policy, thus constituting a "supervision-feedback-implementation" model. The model of "monitoring - feedback - implementation", strengthening the accountability, not only to the school, but also to combine it with the school's financial investment, evaluation of excellence, etc., in order to provide a guarantee for the smooth implementation of the physical fitness policy for students[12].

In solving the problem of insufficient school sports infrastructure, we should start from the situation of their own operation, increase the financial investment in this area, earmarked special construction of stadium facilities, the rational use of school stadium facilities for income generation, for the community to organize all kinds of sports activities, to create a good sports atmosphere for students to create a good environment for physical exercise, and at the same time to strengthen the management of the venues, maintenance work

for the students to participate in the At the same time, the management and maintenance of the stadiums are strengthened to provide a good hardware facility for students to participate in physical exercise and continuously improve the physical quality of students.

#### **4.2. Developing a sound physical fitness promotion program and rationally constructing a college physical education curriculum**

In physical education in colleges and universities, appropriate physical education syllabus should be formulated according to the physical and mental development characteristics of college students, and at the same time, emphasis should be placed on the improvement of the professional level and teaching ability of physical education teachers, so as to ensure that in the physical education courses in colleges and universities, the physical education teachers are able to teach different sports according to the physiological characteristics of college students effectively. Regularly carry out physical education teaching effect assessment work, mainly on the teachers' teaching situation and students' learning situation evaluation. In addition, the school should also actively carry out a variety of extracurricular sports activities to realize the effective extension of intracurricular sports, so as to further promote the development of sports activities for college students, pay attention to the differences in physical fitness level of the students, and achieve differentiated treatment, tailored to the needs of the students. Extracurricular should seize the students' sports interests, and widely carry out all kinds of sports programs. Construct various kinds of sports clubs, conduct technical guidance and amateur training, and incorporate teachers' guidance of the clubs into the assessment, adopting the student scoring mechanism. The development of extracurricular sports monitoring APP, the use of positioning systems and Internet technology for real-time monitoring, in urging students to participate in extracurricular exercises at the same time to stimulate students to self-internal exercise willingness, to develop good sports habits. Schools should organize students to actively participate in extracurricular physical exercise through various forms, and use sports lectures, sports star activities, sports events and other forms to cultivate students' sports awareness and interest, and ultimately achieve the improvement of college students' physical fitness and health level.

#### **4.3. Strengthening the promotion of sports culture to enhance students' internal motivation to exercise consciously**

Culture is the product of spiritual activities of human society, and the influence of sports cultural environment on college students' participation in sports activities is crucial. The construction of a good sports culture environment is the result of the joint efforts of the State, society, schools and families. The government should vigorously carry out the construction of sports infrastructure, give sufficient support to schools in terms of sports venues, equipment and other resources, and also introduce relevant policies to limit online games and other addictive network behavior, and impose necessary sanctions and penalties on online game companies or network platforms that do not comply with the regulations.

All sectors of society should supervise and correct the online phenomenon and publicize more sports culture. Schools should strengthen the construction of campus sports culture, actively carry out various types of sports activities, give full play to the propaganda role of sports associations, clubs and other sports organizations, tap the sports interests of college students and promote their participation in extracurricular sports. Parents should also learn about sports, maintain good exercise habits, form role models, establish a good family style, and urge their children to participate in more sports activities. In the three years of the new crown epidemic, new media such as web applications, public numbers at all levels, sports and fitness, jitterbugs and other apps have played a role in promoting fitness to a certain extent. Schools should also make good use of such new media, regularly release knowledge about physical fitness and health, subtle influence on students, and broaden the radiation surface to a wider area, and also reasonably guide students to use the network, regularly carry out all kinds of lectures, class meetings and other forms, strengthen the communication link between counselors and students, pay attention to student dynamics, rationally arrange their own learning and life, and cultivate good habits, which is gradually transformed to Students take the initiative to engage in physical exercise and promote the internal drive of physical health.

## 5. Conclusion

To sum up, in the post epidemic era, the issue of students' physical health will be placed at an important height for scholars to study and explore, colleges and universities in the process of development, we must start from our own situation, recognize the importance of physical exercise, reform the physical education teaching mode, constantly improve the physical education system, and strengthen the infrastructure of relevant physical education facilities, thus creating a good environment for students to play sports. Finally, the school should increase the promotion of sports, stimulate students to take the initiative to participate in sports and exercise interest, in order to improve students' sports literacy, promote the overall development of students to lay the foundation, but also for the construction of the socialist modernization of the country to dedicate their own strength.

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