

Analysis on Current Situation of Physical Health of Contemporary College Students in China

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Abstract:

Contemporary college students are the main force for the realization of the Chinese dream of the great rejuvenation of the Chinese nation in the new era, and are the pillars of the country; having a good physical quality is essential. As representatives of the new era, college students must be civilized in their spirit and savage in their physique. The issue of college students' physical health is not only a concern for parents, but is also a topic of key concern and discussion in the community. At the same time, the importance of health is particularly important in the light of the sudden COVID-19. Enhancing the physical fitness of college students and promoting their healthy growth is a major issue concerning the future development of the whole nation and the country. Therefore, this paper analyzes the physical health condition of college students and the causes of decline from multiple angles through literature, questionnaire and mathematical statistics, and combines the guiding ideology of "health first and lifelong sports" to provide a theoretical reference to promote the requirements of physical health standards for college students, explore the ways to improve the physical health of college students and enhance their awareness of physical exercise.

Keywords: New era, Health status, Physical health, Physical exercise, Physical fitness

I. INTRODUCTION

The physical health of college students has become a global public topic at home and abroad, and has received great attention from governments and researchers. In recent years, the physical health of college students in China has been a matter of concern, with the overall trend of students' physical health declining and the rates of obesity and myopia increasing year by year. It is found that the lack of long-term regular physical exercise is the direct cause of the decline of college students' physical health, while poor lifestyle, irregular and unhealthy eating habits are also important causes of the decline of college students' physical health. Therefore, an in-depth investigation into the current situation of college students' physical health and addressing the causes of their declining physical health will certainly have a positive impact on the role they will play in society in the future.

II. RESEARCH OBJECT AND METHODOLOGIES

2.1 Research Object

A study was conducted to analyze the reasons for the decline in height, weight, BMI, lung capacity and physical fitness of students from freshman to senior year in selected universities across the country according to the research needs.

2.2 Research Methodology

2.2.1 Literature method

In this paper, through the platforms of CNKI, VIP, Wanfang and the library of China University of Mining and Technology (Beijing), we retrieved 1,083 related literatures through key words of college students' physical health, 521 on physical health status and 431 on college students' physical fitness. Based on the literature reviewed, we collated and summarized them, focusing on analyzing the current situation and reasons for the decline of college students' physical health in China in recent years, and drawing on the materials that have inspired and guided the research of this thesis, so as to form the theoretical support for the research of this paper.

2.2.2 Questionnaire method

(1) Questionnaire design: According to the needs of this study, after reviewing the relevant literature and combining the recommendations of relevant experts, a questionnaire on the current situation of physical health of college students in China was developed; (2) Questionnaire recovery: 1,000 questionnaires were distributed in this survey, 985 questionnaires were recovered, of which 972 were valid, with an efficiency rate of 98.7%. The valid questionnaires collected were statistically analyzed to understand the current situation of physical health of college students in China, so as to draw conclusions.

2.2.3 Mathematical statistics method

This paper uses Excel 2010 statistical software to collate and analyze the data obtained from the questionnaire, in order to provide data support for the study of the current situation of physical fitness of college students in China.

III. DEFINITION OF RELEVANT CONCEPTS

3.1 Physique

Physique refers to the quality of the human body, also known as endowment, temperament, disposition, form quality and ethos, i.e. the quality of the human body. Physique has inherited and acquired

characteristics, the former represents the inherent characteristics of a person at birth, while the latter is a relatively stable characteristic based on the former and developed through a series of factors. This definition, firstly, emphasizes that the formation of the human physique is based on two fundamental aspects: congenital inheritance and acquired characteristics. Secondly, it also reflects the holistic concept of Chinese medicine regarding the unity of the internal and external environment of the organism, indicating that the human physique is formed through mutual adaptation with the external environment during the process of growth and development in later life. Thirdly, it fully reflects Chinese medicine's view of the unity of form and spirit in the body.

In 1952, Mao Zedong called to "promote physical culture and build up the people's health" and stressed that physical exercise could improve the physical fitness of people, giving people the first preliminary understanding of the concept of physical fitness [1].

3.2 Health

Health means that a person is in a good state physically, mentally and socially. Health includes two aspects: Firstly, the main organs are free from disease, the body is well developed and evenly shaped, the body systems have good physiological functions, and there is a strong capacity for physical activity and work, which are the most basic requirements for health. Secondly, the body's immunity against disease is strong and it is able to adapt to changes in the external environment and to the effects of various physical and psychological stimuli and other factors on the body. The modern requirements for the concept of health differ from the traditional concept of health, which is called healthy when the body is free from disease. The modern concept of health is not only judged by the absence of disease, but also by the overall health of the body, which is diversified and includes three aspects: physical health, mental health and social adaptation. The World Health Organization has proposed that "health is not only the absence of physical illness, but also mental health, good social adjustment and morality".

3.3 Physical Health

There is currently no single concept for the interpretation of physical health. Some scholars believe that physical health is derived from the combination of physical fitness and health, with the two influencing and promoting each other. Factors that affect physical health include physiology, psychology, diet, sleep, living environment, work environment and learning environment. Both physical fitness and health are related to the human body's morphological development, physiological functions, exercise capacity and psychological condition, as well as its ability to adapt to society (including interpersonal relationships), indicating that they are both different and related [2]. Physical health is the most fundamental element and material basis of the human body's life activities.

IV. CURRENT SITUATION OF PHYSICAL FITNESS OF CONTEMPORARY COLLEGE STUDENTS AND THE REASONS FOR ITS DECLINE

4.1 Current Situation of Physical Fitness of Contemporary College Students

4.1.1 Body shape

Body shape refers to the external form and characteristics of the human body. Body shape generally consists of length, circumference, weight and their relationship to each other to express the overall characteristics of the external body, and is also a symbol of the even distribution of the human body shape. Today, the body shape of college students is generally in an unbalanced state, the most prominent manifestation of which is excessive obesity. The formula for calculating body mass index (BMI) = body weight (KG) ÷ height squared (M) is generally considered to be more reasonable to calculate whether one is obese. It has been found that a relatively small number of university students in China have a BMI above or below this standard, with the majority in the normal range, averaging 23.2 for males and 22.5 for females. However, there is a risk that the BMI non-compliance rate will increase as college students are still growing. Due to gender and physiological differences between male and female students, the obesity rate is slightly higher among male students than among female students. Although the overall failure rate of physical fitness among college students in China is decreasing, the figures related to myopia and obesity are increasing, with the obesity rate among college students in China being 5.5% in 2020 [3].

Table I. BMI China Standards

Body shape	BMI Range
Lean	≤ 18.4
Normal	18.5~23.9
Overweight	24.0~27.9
Obese	≥ 28.0

As can be seen from Table I, the BMI of college students in China is generally in the normal value range, but the proportion of substandard BMI rate is still increasing year by year in colleges and universities due to the increase in grade in college and accompanied by a long period of time without developing a good lifestyle habit.

4.1.2 Functional status

Functional status is the ability to respond to the vital activity between the various organs of the body, and is also a comprehensive expression of the internal level of the body, which can be improved by appropriate exercise. Firstly, it is expressed in the increased muscular strength of the respiratory muscles, the most common indicator of which is an increase in lung capacity. Secondly, there is an increase in aerobic and anaerobic capacity. The increase in aerobic capacity is mainly manifested in the increased

ability of the body to take in oxygen and to sustain exercise for longer periods of time. The anaerobic capacity, on the other hand, increases in short bursts of exercise in a hypoxic state. Finally, there is an increased capacity for blood supply to the thoracic cavity due to an enlarged heart silhouette, thickened heart muscle and increased cardiac output. The most common indicator of a student's functional status during university is lung capacity. Spirometry requirements differ between male and female students due to gender differences. According to experts, the lung capacity of adult men should be between 3,500-4,000 ml and that of adult women between 2,500-3,000 ml, while the average lung capacity of male students in China is 3,750 ml, with the highest reaching 4,900 ml and the lowest 3,200 ml. The average for girls was 2,550 ml. The highest reached 3,450 ml and the lowest 2,000 ml. The data shows that the overall level of lung capacity for both male and female college students in China is within the normal range, but there are also individual students who have low lung capacity values and have not yet reached the normal standard. Only a relatively small number of students are able to reach a higher standard.

4.2 Reasons for the Decline of Physical Fitness of Contemporary College Students

4.2.1 Excessive study pressure and weak awareness of health education among parents

China is a exam-oriented education where grades are the only assessment criteria for students. Schools and parents alike place more emphasis on the study of cultural courses and take exam results as the motivation and goal of learning, which leads to the neglect of health education while emphasizing the study of cultural courses. Before many students set foot on university campuses, the issue of student health education was not given a high priority due to the over-emphasis on exam results and cultural curriculum studies in school education during high school. With heavy study loads, more homework in and out of class, higher expectations from teachers and parents, and their own desire to achieve high marks, parents and students are more concerned with exam results than with their health. When they enter university, they do not form the habit of participating in physical exercise because they did not pay enough attention to the management of their health during high school and their parents lack awareness of health education. At the same time, they are overloaded with studies in order to obtain high scholarships or to qualify for graduate school, and are unable to arrange their study and rest time in a reasonable manner, resulting in excessive physical exertion, lowered immunity and reduced physical fitness, which has both physical and psychological effects.

4.2.2 Poor awareness of self-health management among college students

During their time at university, they are free from the discipline of their teachers and parents and do not have the self-control to discipline themselves in their lives. Many students begin to become casual and disorganized.

Firstly, there is the irregularity of work and rest. Without the habit of going to bed and getting up at the right time in high school, they have developed the habit of going to bed late and waking up late, not getting up if no class, or even going to bed today and getting up today in some cases. The disruption of the

biological clock is one of the most important reasons for the decline in the physical health of college students today.

Secondly, there is the unhealthy and irregular diet. Under the influence of COVID-19, many schools choose to teach online, students do not have to go to classrooms, most students choose to attend classes in their bedrooms, resulting in morning classes students do not develop the habit of eating breakfast, most students combine three meals into two meals or one meal [4]. Even for meals, many students opt for second canteen "takeaways", and most of the food they choose is unhealthy food with high calorie and fat content such as barbecue, fried chicken and milk tea, all of which cannot be guaranteed to be safe and healthy. At the same time, overeating and dieting are extremely common in universities. Some students start overeating when they only eat one meal a day and girls choose to eat less or not in order to lose weight, which puts a serious burden on the digestive system [5] and leads to gastrointestinal diseases being more common in universities.

Finally, there is a lack of awareness of self-exercise. Most students participate in sports during physical education classes, and do not choose to exercise actively outside of class without mandatory school requirements, choosing instead to play with their mobile phones, computers, binge-watch and other entertainment activities, which is also a major cause of myopia. In the face of the recurrence of the COVID-19, physical exercise is the most effective means for college students to improve their immunity to prevent and control the epidemic, but students generally do not have a strong sense of awareness of physical exercise, do not know enough about the importance of physical health, and have not developed the awareness and habit of exercising themselves. The lack of physical exercise has led to a decline in the physical health of college students today, and the phenomenon of kyphosis and "phubber" is more serious on campus.

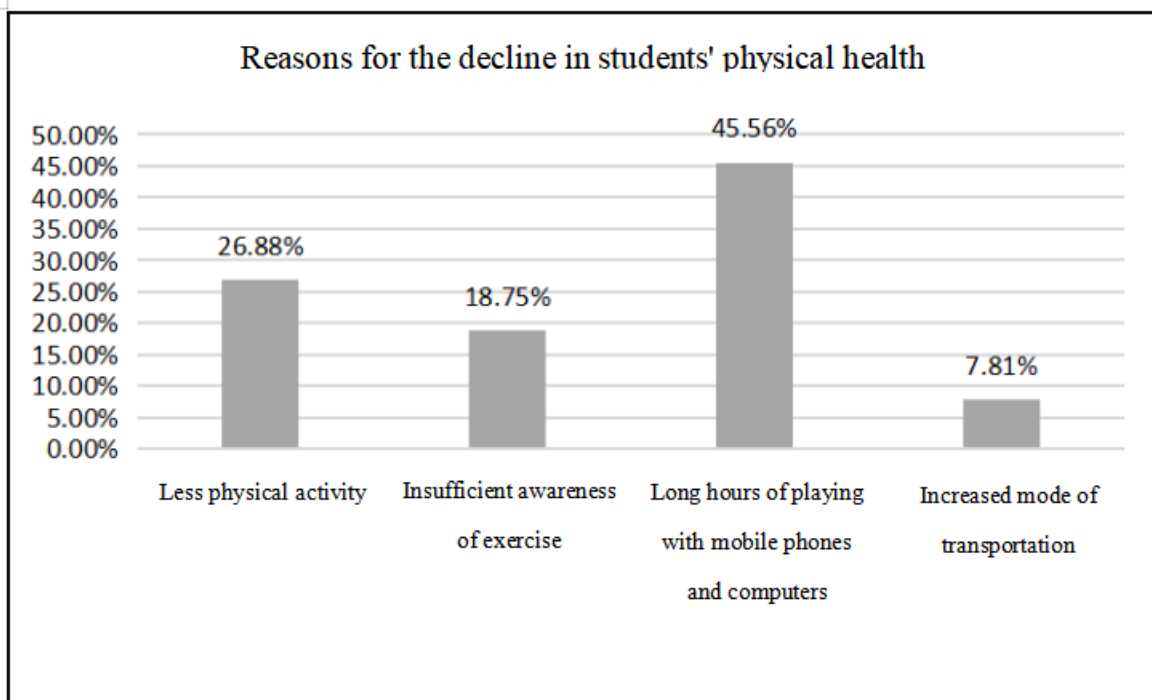


Figure 1 Reasons for decline in student physical fitness

The survey found that most students believed that the main reason for the decline in physical fitness in recent years was uncontrolled playing on mobile phones and computers, followed by a lack of awareness of exercise and less physical activity. This can also reflect the fact that students are aware of the various reasons for their declining physical fitness, but the lack of physical health education and some interventions in schools has resulted in laziness in behavior and awareness.

4.2.3 Inadequate management system for physical health education in schools

The lack of management of physical health education in schools is a major reason for the decline in physical health of college students.

On the one hand, in the school curriculum, most of the physical education courses are more elective and less compulsory, and the frequency of classes is mostly once or twice a week, so students only choose the more relaxed courses, resulting in a polarization between relaxed course selection not available and more physically active courses not selected. Most online PE during the epidemic became a catechism, with teachers teaching and students watching, with a smaller number of students consciously following along. Today, although colleges and universities have adopted campus running for credit, a mandatory requirement for students to step up their workouts, a smaller number of students choose to substitute or run for them as there are still many drawbacks and management deficiencies in this approach. This kind of passive exercise for credit rather than active choice is a serious problem in universities today.

On the other hand, in terms of health education, schools lack a complete health education management system, and the status of health education in the whole curriculum is not clear yet. The Health Education course and the Physical Education course are part of the Physical Education and Health course, but in practice the Physical Education and Health course is less frequently taught in colleges and universities. College students are at the prime of their age and are at the peak of their physical functions. They are less aware of the importance of physical exercise to improve their physical quality and only realize the importance of physical exercise when their physical condition is poor [6]. Even though the school has put forward the slogan "exercise one hour a day and live a healthy life", it has not been put into practice [7]. College students are not aware of health management and do not receive good health management education, so they do not understand the importance of physical exercise to improve their health. Students do not pay attention to self-health management and lose interest in physical exercise, which directly leads to a general decline in physical fitness due to lack of exercise.

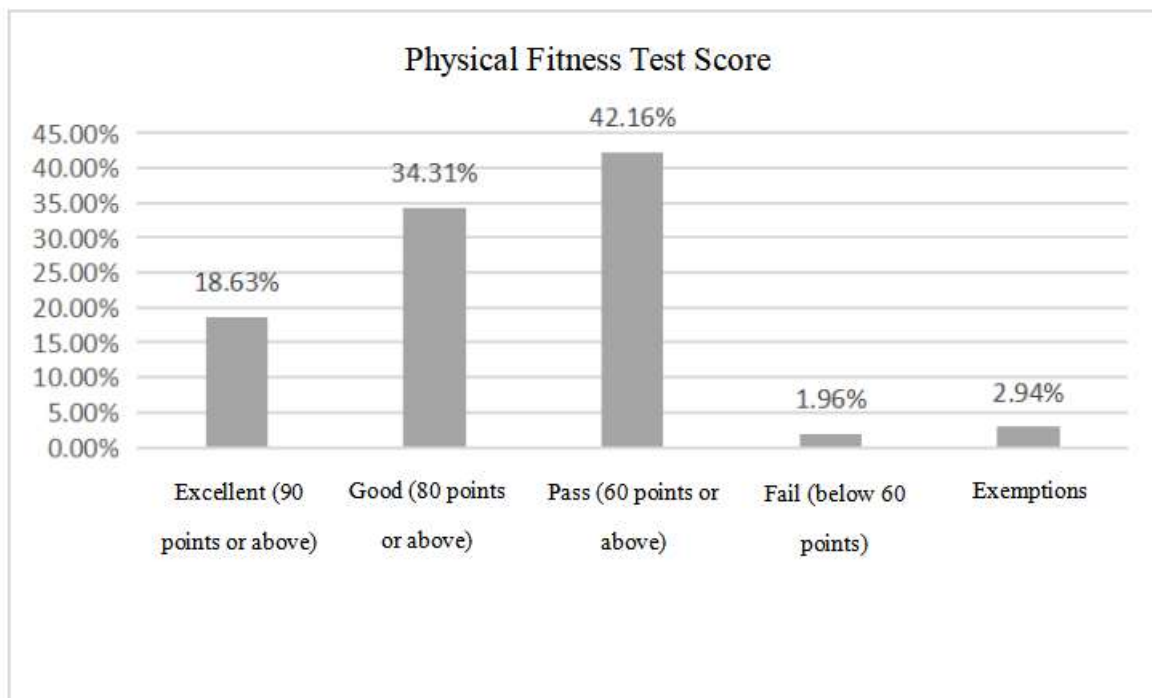


Figure 2 Table of student physical fitness tests

As can be seen from Table I, according to the results of the physical fitness test of college students, students who passed the physical fitness test of college students in China accounted for the maximum of the total proportion, the proportion of excellent and good results was still slightly lower, although the failure rate was reduced, most of the students could only just reach the test requirements, indicating that the overall level of physical fitness of college students in China is still in a relatively low condition.

V. SUGGESTIONS AND COUNTERMEASURES TO IMPROVE THE DECLINE OF PHYSICAL HEALTH OF COLLEGE STUDENTS

5.1 Families Change Their Mindset and Cultivate Correct Values among Students

Parents are the first teachers of their children, and the family environment is crucial to their children, and parents' words, behavior and ideology will directly influence children's values [8]. For parents, their children's health is often the first priority, but in the face of China's exam-oriented education, putting grades first is the common ideology of most families in China, and too much attention to grades makes most parents neglect their children's physical and mental health. With the COVID-19 epidemic sweeping the country, the importance of health is of paramount importance. Therefore, a change in family attitudes is an important measure to develop students' awareness of health concepts and improve their physical health.

Firstly, parents should change the stereotypical "grades first" mindset and raise awareness of health education. Through reading books on health education, distributing educational films to parents and listening to lectures by experts, parents can raise their awareness of health [9] and make them understand the importance of a healthy and strong body for their children's future development and family, so that they can encourage their children to participate in physical exercise.

Secondly, parents should train their children to form the ideology of self-health management, develop their children's self-restraint and encourage them to do more physical exercise on campus to improve their physical fitness and strengthen their immunity, which is the most effective means to fight against viruses. Good family health education concepts have a huge impact on children and can foster the correct values of health awareness in children.

Finally, parents should set an example. Parents should often take part in physical exercise to set the right example for their children, to stimulate their children's interest in participating in physical exercise and to create a good atmosphere for physical exercise [10]. This invariably cultivates children's attention and concern for their physical health and develops a sense of active exercise. At the same time, it effectively relieves the physical and psychological stress brought about by over-learning.

5.2 Strengthen Self-Management Awareness and Establish Correct Health Management Concepts

College students in the new era are the main force of national development, and what the country needs are talents with all-round development of morality, intellect, physical fitness, aesthetics and labor, and students' health is the most basic and important factor [11]. Today's students should put their self-health first, improve their physical quality, change their mindset, strengthen their awareness of self-health management and establish a correct concept of health management [12].

Firstly, develop regular habits of work and rest, and eliminate bad habits such as staying up late and staying in bed. A good routine not only improves one's immunity and resistance, but also promotes the

growth and development of the brain, improves memory and gives students sufficient energy to study. The rules and regulations set by the school should be accompanied by the development of students' self-management skills, active participation in self-health management supervision and regular self-examination [13].

Secondly, develop reasonable and healthy eating habits. A proper diet plays an important role in improving the body's immunity and preventing diseases. A healthy and reasonable diet can maintain the nutrients needed for human activities and ensure the normal functioning of the organism [14]. At the same time, it improves learning efficiency and enhances memory. Students should learn more about scientific diet and nutrition, stop eating junk food, and arrange their diet time and meals in a reasonable way.

Finally, take the initiative to participate in physical exercise and pay attention to school physical fitness tests. The outbreak of the COVID-19 epidemic is a wake-up call to college students that having a good physique is crucial. Proper physical exercise can promote health, relieve study stress and enhance self-psychological quality. College students can increase their interest in physical exercise by participating in various sports events organized on or off campus, and focus on physical fitness tests to improve the overall level of test scores. Contemporary college students need not only a wise mind, but also a strong body. College students should change from passive exercise to independent participation in physical exercise, undergo a fundamental change in their understanding and behavior, strengthen the importance of physical exercise and improve their physical health.

5.3 Improve the Campus Health Education System and Create a Good Atmosphere for Physical Exercise

Student physical health needs to establish systematic and multi-faceted management to promote the development of college students' physical health. Schools should develop a set of scientific and perfect systematic education system, college physical health education for college students should be all-round and multi-faceted [15]. China's colleges and universities should address the current situation of physical health of college students, increase the strength of students' physical health test, and improve the rate of students' physical health test assessment to meet the standards. Schools are responsible for the task of promoting students' physical health and should be improved in all aspects.

On the one hand, schools should strengthen physical health education for students, increase health education courses and lectures, cultivate the concept of "health first and lifelong sports", encourage students to do more physical exercise while completing their studies, offer more physical education and health courses for students as far as possible, and equip professional health education teachers [16], to combine physical exercise with health education, and to implement the National Standard for Student Physical Fitness in order to cultivate good physical exercise habits and healthy lifestyles, and to ensure that the "exercise one hour a day" is put into practice [17]. In the questionnaire survey, it was found that another reason why students do little or do not exercise at all is the lack of facilities to meet students' needs for physical exercise; so many students choose to give up. Therefore, schools should improve the various

sports venues and equipment facilities as much as possible to create a good atmosphere for students to exercise.

On the other hand, schools should improve the student health record management system to form a data-based, systematic system for the assessment, feedback, intervention, monitoring and other aspects of health management for student health information [18], forming a perfect set of health data so that students can pay attention to their health status in real time. Finally, schools should strictly enforce student physical health testing and improve the student physical health testing system. As one of the criteria for assessing students' physical health, schools should ensure the authenticity, accuracy and validity of their tests, establish a scientific physical health testing system according to the actual situation of students, cultivate students' attention to physical health tests, increase the standard of physical health tests for students, improve the rate of meeting the standard of physical health tests, and strictly implement the National Standard for Student Physical Fitness to evaluate students' physical health status [19].

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