

# Analysis of the Current Situation of the National Student Physical Fitness Test

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**Abstract:** The physical health level of adolescents is related to the future of the motherland and the great rejuvenation of the Chinese nation. Through literature review, induction method, and logical analysis, this paper analyzes the policies related to students' physical health, explains the current situation of physical health testing of students in China, summarizes the problems that occur in the process of physical health testing, and finally puts forward suggestions for optimizing physical health testing of college students.

**Keywords:** Adolescents; Physical fitness; Policy analysis; Testing

**Online publication:** October 26, 2022

## 1. Introduction

The report of the 19th Party Congress pointed out that China's socialism has entered a brand-new stage, and the unbalanced and insufficient development is unable to meet the people's growing need for a better life. Physical exercise and sports activities has become a popular way to relieve stress and improve physical and mental health.

As an important part of education, school physical education is one of the most important indicators of human development in schools. However, in reality, physical education is often neglected. The effectiveness of physical education has lost its rightful place in education, which has led to the plight of students' physical health. In view of this, the Ministry of Education and the State General Administration of Sports revised the Physical Fitness Standards for Students in 2007 in accordance with the "Central Government's Document No. 7" and the mission of school sports reform and development, which was renamed as the National Physical Fitness Standards for Students. As China's first national standard for the evaluation of student' physical fitness<sup>[1]</sup>, it requires the universal implementation of the test report system, the announcement system, and the new student physical fitness test system<sup>[2]</sup>. The "Healthy China 2030 Planning Outline" issued by the Central Committee of the Communist Party of China and the State Council on October 25, 2016, clearly states that the national student physical health standard attainment rate of excellence should reach more than 25% by 2030, and the country has increased the emphasis on students' physical health. The National Student Physical Fitness Standard (hereinafter referred to as the Standard) test results are announced to the education departments at all levels of organization and management, and

to the schools at all levels of implementation<sup>[3]</sup>. In the “Fifth National Physical Fitness Monitoring Bulletin” released by the National Physical Fitness Monitoring Center, it was learned that the proportion of people who met the National Physical Fitness Monitoring Standard with a pass or higher increased by 0.8% to 90.4% compared to the monitoring data collected in 2014. However, it can be found in the published data that only adults between the ages of 20 and 39 have a pass rate below 90%. The goal of school sports is not only to promote the overall physical and mental development of students and to enhance their physical fitness, but also to lay a good foundation for lifelong sports and to cultivate a good perception towards physical exercise among students.

## **2. Materials and methods**

### **2.1. Student physical fitness test off policy analysis**

The United States was one of the first countries to implement student physical fitness testing and is also a leader in the field of student physical fitness testing research. As early as 1966, the AAHPERD & PCPFFS (American Association for Health, Physical Education, Recreation and Dance and the President’s Council on Physical Fitness, Sports and Physical Education) were the two main organizations responsible for student fitness testing. Under the leadership of AAHPERD & PCPFFS, student physical fitness testing in the United States is planned and organized. The two organizations use two different standards: the school standard reference standard (NRS), and the normative reference standard (CRS), to assess students and reward students for outstanding performance<sup>[4]</sup>.

China is a late starter for student physical fitness testing compared to the United States. However, the development of student physical fitness testing took shape very early. As early as 1912, the Tsinghua Academy established a program of physical examinations for students to test their physical health data<sup>[5]</sup>. Although after the founding of New China, the state has issued many relevant policy documents to encourage young people to actively participate in physical exercises, such as the “Labor Health System” implemented that year. However, it was not until the implementation of the “Student Physical Fitness Standards (Trial Program)” in 2002 that marked the official and comprehensive launch of the national student physical fitness test in China. In 1952, it was proposed by the country that the idea of strong teenagers and youth are multifaceted, including both ideological morality, academic performance, innovative ability, and hands-on ability, as well as physical health, physical strength, and sportsmanship.” Therefore, the students’ physical health has been the focus of national education at all stages of our country’s development.

In 2019, the article “Review, Reflection and Prospect of China’s Youth Physical Health Policies in the 40 Years of Reform and Opening Up” published in *Sports Science* by Chen Changzhou et al. elaborated on the development and significance of youth physical health in the 40 years of reform and opening up and sorted out the policies related to youth physical health in China from January 1979 to December 2017. The paper points out that China has issued a total of 286 policy documents on adolescent physical health in the 40 years of reform and opening up.

**Figure 1** shows the number of policy documents issued each year varies from 1 to 17. Although the number of issued documents shows a negative growth trend in some periods, the dotted line of the development trend shows that the number of issued policy documents has shown a steady increase throughout these four decades<sup>[6]</sup>. The article divides the time into four periods and introduces the purpose and significance of student physical education and health policies in different eras from the adjustment and recovery period, the sound and standardized period, the reform and deepening stage to the top-level design and synergy stage in the 40th anniversary of China's reform and opening up.

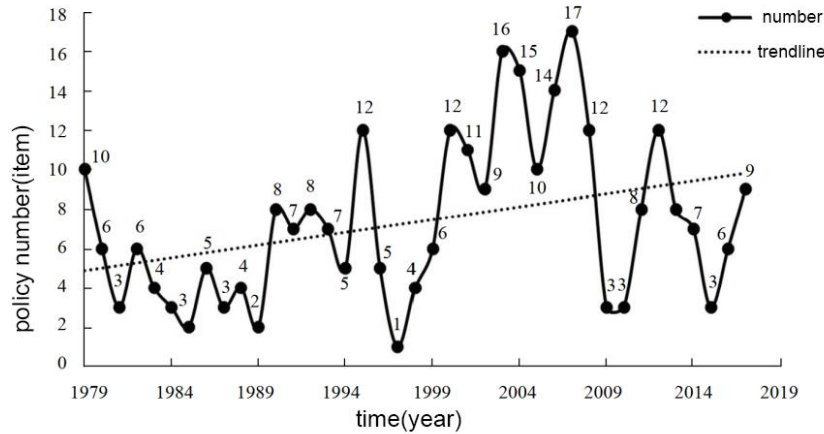


Figure 1. Graph of the number of policy releases, January 1977–December 2017 [6]

## 2.2. China’s students’ physical fitness test current status

### (1) Management model of student physical fitness test

Through researching 12 colleges and universities in Guangdong Province, we learned that the establishment of the National Student Physical Fitness Test Standards (hereinafter referred to as “Health Standards”) test leadership group is beneficial to the smooth implementation of the test activities. The organizational leadership includes the main leaders of all levels and departments of the school. The importance of the leadership (not only the school-level leaders or the leaders in charge of the school’s physical education department) directly determines the quality of the physical fitness test. The quality of leadership is reflected in whether relevant rules and regulations are established, whether financial support is given, whether the physical fitness test equipment is frequently maintained or updated, and whether the physical fitness test is taken as an indicator of merit evaluation, promotion and performance, and whether all teaching units of the school support the physical fitness test work of students. In the process of implementation, most universities set up leading groups for student physical health testing. The leading group can fully mobilize internal and external resources to provide help and support before and during the physical health test. Taking Huizhou College as an example, Student Physical Fitness Testing Center was established in the college in March 2017, the advisor and director of the organizational structure of the center are the deputy secretary and vice president of the college; the deputy director is the leader of the Student Affairs Office, the Academic Affairs Office and the School of Physical Education, and the members are the head of the Logistics Officer; and the head of the Security Office and the vice president are in charge of the teaching of each secondary college of the school. The members of its central organization will also change according to the development and personnel changes, which is more effective in ensuring the smooth implementation of the Health Standards.

### (2) Students’ physical health test compliance rate

The Ministry of Education published data on the physical health sample of more than 1.15 million students in schools nationwide in 2021 (Table 1), and the published sample review data show that the failure rate from elementary school to high school level is less than 15%, and the failure rate shows a slight decreasing trend. However, the failure rate of physical fitness tests of college students is as high as 30%, and Wang Meng and Chen Changzhou also pointed out that the physical fitness level of college students in China is decreasing [6].

**Table 1.** Dynamic changes in the national student physical fitness standard failure rate

Grade	Time	Failure rate	Remarks
Elementary school students	Until 2020	About 6.5%	5 years of continuous decline
Junior high school students	As of 2019	<10%	Overall significant decline
	2020 (epidemic impact)	14.5%	
High School Students	Until 2020	About 11.8%	Overall continued decline
College Students	Until 2020	About 30%	

The Basic Standards for Physical Education in Higher Education promulgated in 2014 clearly states that “the testing of the National Physical Fitness Standards for Students will be fully implemented, and colleges and universities with declining physical fitness levels for three consecutive years will not be rated as qualified in the undergraduate teaching evaluation, and students who score less than 50 will be considered as failed.” It reflects that the state attaches importance to students’ physical health, and also brings pressure to the physical education of colleges and universities to a certain extent. Not many colleges and universities are capable of implementing the relevant policies and will cause misrepresentation of data due to a variety of factors. Factors like the high workload of physical education teachers during the process of physical testing, the number of students involved, and the lack of positive attitude of students participating in the test will lead to some deviation in the final presented data of students’ physical health test [7]. In 2020, Wang Meng pointed out in his article “Problems of Physical Fitness Test and Countermeasures of China's College Students” that the student group lacks scientific physical exercise knowledge and good physical exercise awareness, and should not “test for the sake of testing and meet the standard for the sake of meeting the standard” [8]. Therefore, it is necessary to adopt scientific management for students’ physical fitness tests in conjunction with public physical education, so that students can understand that “it is not a test for the sake of testing, not a standard for the sake of meeting the standard” and reverse the dilemma of physical education class turning into a “physical test class” [9].

### 3. Discussion: problems of physical fitness tests for students in China

#### 3.1. Insufficient attention from schools

In 2017, the Supervision and Evaluation Measures for Primary and Secondary School Sports proposed to carry out special supervision and evaluation of school sports every 2 to 3 years. Provincial supervision and evaluation reports would be written and then submitted to the Office of the Education Supervision Commission of the State Council [10]. With educational accountability becoming an important part of school sports reform, schools and teachers, parents and students have all become stakeholders in the testing of students’ physical fitness [11]. Although most colleges and universities have set up a leadership group for student physical fitness testing, but the members of the leadership group are basically multi-tasking, busy with official duties and less directly involved in the testing work. Besides, in the whole process of physical testing, the successful completion of physical testing work is also affected by weather, field facilities, basic testing equipment, the students’ culture, and a mix of multiple factors. In addition, the idea of test-based education is deeply rooted, and clear quantitative assessment indicators are considered the “bottom line” for physical fitness testing in some schools, leading to underreporting, reuse of data, and arbitrary modification of data in the process of maturing data generation paths and more precise targets [12-16]. “Physical fitness test results = physical education course learning results” [9,17]. Student physical fitness test is a top-down process of implementing relevant policies, which involves a large number of relevant departments and personnel involved, and there will be certain deviations and errors, making it difficult to ensure that each step of the process is carried out as expected, and the degree of importance attached to

physical fitness testing in schools does not reach the expected level.

### 3.2. Students' mindset

The basic purpose of the national implementation of student physical fitness tests is to evaluate and measure the overall quality of students and to grasp the physical health status of our youth. However, in the process of conducting the survey and research, it was found that many students regarded the physical test as just a physical education course assessment. The score and the process of conducting the test is not important as long as they manage to pass the test. Again, this phenomenon of taking physical tests for the sake of physical tests and practicing for the sake of exams is not conducive to the development of the students' health. The students' focus is not on the physical exercise or the physical test itself, but on the effect of the results on their graduation from higher education. The basic connotation of quality education in China requires the all-round development of students' moral, intellectual, physical, social, and aesthetic development. However, in the general environment of competing for cultural achievements, students neglect "physical" development, which is not in line with the goal of quality education.

### 3.3. Differences in test items

After reviewing the data and related work arrangements, we found that the content of student physical fitness test is similar with that of junior high school, and the percentage of points for the items are fixed. **Table 2** shows that the contents of the items tested by male and female students, except for the 1000m and 800m running which reflect the endurance quality of students, are different. Another obvious difference between male and female students is that male students need to reflect the development of upper limb strength by testing pull-ups, while female students are tested on sit-ups to reflect the development of core strength and abdominal endurance.

During the survey, we found that many boys think the pull-up test is more difficult than the sit-up test. Due to the pressure of studying and the lack of good exercise habits, it is difficult for some boys to complete the standard movements or even finish the pull-up test and give up on the test. From **Table 2**, we can find that the scores of pull-up and sit-up tests only account for 10% of the total scores. Some male students find that even if they do not take the pull-up test, their physical test scores will still reach the passing standard, hence resulting in some of them choosing to give up on the test. These factors cause the phenomenon of missing and abandoning the test to occur more frequently in the pull-up test than in the sit-up test.

**Table 2.** Individual indicators and weights of national student physical health standards

Grade	Individual metrics	Weightage (%)
Middle school, high school, and college grades	50m run	20
	Sitting forward bend	10
	Standing Long Jump	10
	Pull-ups (men)/1-minute sit-ups (women)	10
	1000m run / 800m run (female)	20
	Body mass index	15
	Spirometry	15

### 3.4. Unreasonable "surprise training" for test preparation

In the process of the study, we found that the phenomenon of "exams for the sake of exams and physical tests for the sake of physical tests" still exists <sup>[18]</sup>. Due to unreasonable schedules, the high academic pressure, and the lack of good physical exercise habits, there are many students who "train unexpectedly

before the examination.” In the process of communication with students, some of them said that they were worried about their graduation due to their failure in the physical test, so they would conduct surprise training for the test items for some time before the test, thinking that such training could improve their performance in the physical test in a short period <sup>[19]</sup>. However, without regular physical exercise and scientific training means, sudden physical exercise of too much intensity or too long is likely to result in injury. Even in the process of the research, some students said that before the test there will be a period of nervousness, anxiety, insomnia, other symptoms, and very unstable emotions.

#### **4. Conclusion: Optimization suggestions**

##### **4.1. Strengthen publicity and guidance**

With the development of society and the progress of technology, the Internet has become an important part of our life. Through the Internet, information and knowledge are easily accessible, thoughts can be expressed, and communication with family and friends can be done. In the era of big data, it is important to make full use of the Internet platform. Benefits brought exercising scientifically can be promoted through the Internet. In this way, students can be aware of the necessity and importance of participating in physical exercise to a certain extent. Interest is the best teacher, the knowledge of physical exercise should be promoted through various media such as campus networks and official WeChat public accounts, so that students can understand the importance of physical tests and the methods of physical exercise, and further cultivate students' interest and habit of physical exercise and grow their love for sports.

##### **4.2. Pay attention to the application of results**

The “Sleep Order” and “Double Reduction” policies issued by the Ministry of Education in March and July 2021 were prompted by the discovery of the excessive academic pressure combined with extra classes after school. Sleep has improved to a certain extent after the implementation of the policies. Parental supervision is good for the promotion of physical fitness testing, but in terms of the results of the Standards, 70.9% of parents were not aware of the Standards policy document or even of their children's Standards results <sup>[20]</sup>. Theories are derived from multiple practices, since practice is the only standard to validate these theories, we should emphasize on the use of good results in the process of physical testing. In addition, some districts and schools that are not excellent in the implementation of the Standards but are at the top in education will also strengthen the implementation of the Standards in order to maintain their reputation <sup>[21]</sup>. Through the scientific analysis of students' test results, we should think of the test itself as a way of revealing the level of students' physical health. Besides, the physical fitness test is not only a test of students' physical health but also a test of the scientificity and rationality of the physical test itself. The analysis of physical test results should not be limited to the analysis of students' physical health, and when there are deficiencies in physical tests, the policy system related to physical tests should be improved in time.

##### **4.3. Optimization of physical fitness test structure**

Even professional athletes do not excel in all sports. In the 2020 National Swimming Championships, Yu He Xin, Fu Yuan Hui, and other outstanding athletes were first in the preliminaries, were disqualified from participating in the finals because they failed the physical fitness test. Their athletic and physical abilities cannot be defined based on a simple physical test alone. Similarly, the results of the student fitness test can only reflect the students' scores on the required items in the fitness test and certain athletic abilities. Therefore, the results of the fitness test cannot be used directly to measure a student's athletic ability and physical health. Each student has different characteristics, and simply specifying a few movements for testing does not adequately reflect a student's athletic ability and physical health.

Students are individually different and unique, and the development of their physical fitness cannot be measured or judged by a particular set of prescribed items. The existing physical fitness test for male students lacks the examination of core parts, while the test for female students lack the examination of upper limb strength. Therefore, additional test items can be added: For example, a less difficult push-up can be added as side test for upper limb strength for students to choose, making the fitness test more comprehensive and humane.

#### **4.4. Pay attention to students' mental health**

Physical fitness test scores, to a certain extent, not only reflect students' physical health, but also their participation in physical exercise, their attitudes toward physical exercise, and their psychological conditions. In 1993, the Central Committee of the Communist Party of China and the State Council promulgated the "Outline of China's Education Reform and Development," in which it was first proposed that "primary and secondary schools should revolutionize the education system from an 'exam-oriented education' to comprehensively improving national quality, improving students' ideological and moral, cultural and scientific, labor skills and physical and psychological qualities, and promoting students' lively and active development." The 1999 Communist Party Central Committee and State Council promulgated the "education reform and promoting quality education" which marked the formal formation of the ideological concept of quality education.

The fundamental goal of quality education is to promote the all-round development of individuals in terms of morality, intellectual ability, physical ability, aesthetic and labor. Besides, the goal of school physical education is not only to promote the all-round development of the students' body and mind and enhance their physical quality, but also to cultivate students' attitudes, interests, habits, and abilities to participate in sports, to lay a good foundation for lifelong sports, and not to focus only on students' physical health test results "for the sake of physical test and physical test, to meet the standards" and should also focus on the overall physical and mental development of students. The physical health test results of college students can make certain predictions on the heart health condition of college students, and physical exercise can improve the mental health level of students and promote their overall development as individuals.

#### **Funding**

This work was supported by Guangzhou Education Science Planning 2020 Project: Innovative Research on the Management of College Student Physical Fitness Test Data Based on Blockchain Technology (Project No.: 202012503).

#### **Disclosure statement**

The authors declare no conflict of interest.

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