



Analysis and Countermeasures for the Physical Health Status of College Students Under the Healthy China Initiative

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Abstract. This study analyzes the 2024 physical fitness test data of nearly 20,000 vocational college students under the Healthy China Initiative. Results show that while students maintain a healthy body mass index, vital capacity performance is critically low across all groups. Overall fitness is concerning, with only 68% achieving a passing score and merely 4.7% rated "Good" or "Excellent." Female students consistently outperform males in strength, flexibility, and endurance. A decline in physical performance is observed with academic progression. To address these issues, we propose a three-pronged strategy: standardizing testing protocols to ensure accuracy, building a digital platform for real-time monitoring and early intervention, and implementing targeted, grade-specific health promotion programs. These measures aim to systematically improve student physical health by fostering sustainable exercise habits from enrollment to graduation.

Keywords: Health China Initiative, College Students, Physical Health

1 Introduction

Higher education constitutes a critical component of China's educational system, and the physical health of college students has long been a priority for the nation. The physical well-being of students not only affects their individual holistic development but also bears significance for the long-term progress of the country and the nation. Against the backdrop of the Healthy China strategy, physical fitness testing serves as a means to monitor whether students meet the standards in terms of body morphology, physical fitness, and physiological function. This approach plays a positive role in guiding students to improve their physical health and enhance their overall fitness. In 2016, the Central Committee of the Communist Party of China and the State Council issued the "Healthy China 2030" Planning Outline, explicitly proposing to "integrate health into all policies." The physical health of adolescents is an indispensable and crucial component in promoting the implementation of the "Healthy China" strategy. *The National Student Physical Health Standard* promulgated in 2014 serves as a fundamental

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guiding document for school education and a baseline for educational quality in China. It functions as an important basis for evaluating students' comprehensive qualities, assessing school performance, and measuring regional educational development^[1]. As a specific implementation of *the National Physical Exercise Standard* within the school context, it applies to students in full-time ordinary primary schools, junior high schools, senior high schools, secondary vocational schools, and regular higher education institutions. This standard comprehensively assesses students' physical health levels in terms of body morphology, physiological function, and physical fitness. It acts as an educational tool to promote the development of students' physical health and motivate them to engage actively in physical exercise. Furthermore, it constitutes an essential component of the national framework for core competencies in student development and academic quality standards, serving as an individual evaluation criterion for students' physical health. It reflects the concern and emphasis on the physical health of students in colleges. Its purpose is to encourage normal physical development, enhance physical fitness, promote comprehensive development in moral, intellectual, physical, aesthetic, and labor education, address and improve prominent issues in students' physical health during the learning process, and guide students to strive for a healthy physique and sound personality.

This study investigates and analyzes the 2024 physical fitness test scores of nearly 20,000 students from a vocational college. It objectively reveals the physical health characteristics of the surveyed students across various test items. Nine influencing indicators are preliminarily established for the comprehensive evaluation of male and female students' performance in the physical fitness tests^[2]. Using algorithmic methods for comprehensive evaluation and ranking, the study finds that students exhibit relatively lower scores in the vital capacity and pull-ups (or sit-ups) test items. Further analysis of the reasons behind students' engagement in physical exercise reveals that their motivation is largely driven by institutional requirements. Many students exercise primarily to fulfill the physical activity tasks stipulated in the college's training program. Such a mindset is not conducive to the in-depth advancement of the educational goal of enhancing students' physical health. Based on the comprehensive data results, this study aims to assist the institution in formulating targeted strategies and proposes integrated recommendations for physical exercise. It seeks to contribute to the construction of a governance system for improving college students' physical health, promote the reform of physical education curricula, and support the development of physical education teaching staff. Furthermore, it assesses the actual physical health level of contemporary college students and provides reasonable suggestions, such as improving dietary structure and strengthening physical exercise, to help enhance the physical health of college students.

2 Analysis of the Basic Physical Fitness Test Status of Students in a Vocational College in 2024

2.1 Introduction to the Physical Fitness Test for College Students

The physical fitness test is an annual mandatory assessment for every college student. The test scores are determined by seven indicators: Body Mass Index (BMI), Vital Capacity, 50m sprint, Sit-and-Reach, Standing Long Jump, Pull-ups (male), One-Minute Sit-ups (female), 1,000m run (male), and 800m run (female). The evaluation criteria are primarily based on the National Student Physical Health Standard (2014 Revision), with results categorized into four grades: "Excellent" (90 points and above), "Good" (80.0–89.9 points), "Pass" (60.0–79.9 points), and "Fail" (59.9 points and below).

2.2 Analysis of the Average Physical Fitness Test Scores of Students in a Vocational College in 2024

The vocational college program lasts three years. This paper presents the average scores of the 2024 physical fitness tests for students across three grades, as shown in Table 1.

Table 1. Average Scores of Student Physical Fitness Test Items by Grade and Gender

Test Item	2024 Male	2024 Female	2023 Male	2023 Female	2022 Male	2022 Female
Body Mass Index	excellent	excellent	excellent	excellent	excellent	excellent
vital capacity	fail	fail	fail	fail	fail	fail
50m	Pass	Pass	Pass	Pass	Pass	Pass
Sit and reach	Pass	Pass	Pass	Pass	Pass	Pass
Standing long jump	Pass	Pass	Pass	Pass	Pass	Pass
Pull-ups (male)	fail	Pass	fail	Pass	fail	Pass
Sit-ups (female)	fail	Pass	fail	Pass	fail	Pass
1,000m (male)	Pass	Pass	fail	Pass	fail	fail
800m (female)	Pass	Pass	fail	fail	fail	fail

To ensure data accuracy, this study uses raw data for organization, analysis, statistics, and processing. Since the scoring standards for the seven indicators are not entirely the same for male and female students, the data for males and females are analyzed separately, yielding the statistical results shown in Table 2 and Table 3.

Table 2. Average Scores of Male Students' Physical Fitness Test Items by Grade

Reported Group	Number of Students	Body Mass Index	Vital Capacity	50m
2024 Male	2468	91.78	45.19	76.59
2023 Male	3399	91.04	48.48	76.52
2022 Male	5492	90.41	45.30	72.19
Reported Group	Sit-and-Reach	Standing Long Jump	Pull-ups	1,000m
2024 Male	67.72	66.11	38.47	66.19

2023 Male	67.26	65.64	35.29	59.19
2022 Male	66.86	64.34	34.59	54.14

Table 3. Average Scores of Female Students' Physical Fitness Test Items by Grade

Reported Group	Number of Students	Body Mass Index	Vital Capacity	50m
2024 Female	1623	95.13	48.51	68.42
2023 Female	1846	94.68	48.70	68.58
2022 Female	3207	94.04	46.77	66.23
Reported Group	Sit-and-Reach	Standing Long Jump	Sit-ups	800m
2024 Female	69.53	69.33	66.63	68.50
2023 Female	70.58	71.56	67.98	61.66
2022 Female	71.48	70.25	66.24	57.39

From Table 1, it can be observed that in the Body Mass Index test, students of all three grades, regardless of gender, achieved an "Excellent" rating. This is the only item among the seven physical fitness tests that received an "Excellent" score, indicating that students have relatively good body morphology. In contrast, all students failed the Vital Capacity test. The scores for all three grades cluster around 45 (see Tables 2 and 3). The reasons for this poor performance need to be analyzed and may include improper use of equipment or nervousness during testing. In the 50m sprint, although all students passed, detailed data show that female students generally performed better than males. Similarly, in the Sit-and-Reach test, all students passed, but females outperformed males. In the Pull-ups and One-Minute Sit-ups tests, females passed the sit-ups, while males failed the pull-ups, indicating a need for males to improve arm and core strength. In the long-distance running tests, first-year students performed better than second- and third-year students, suggesting that endurance may decline with age or academic progression. Additionally, female students outperformed males in long-distance running.

3 Suggestions and Prospects

College students in the new era bear the hopes of the nation's future, and their physical health is closely linked to the prospects of the country and the nation. Higher education institutions, serving as hubs for cultivating high-level professionals and skilled talents, shoulder the responsibility of nurturing "master craftsmen" with great craftsmanship. The physical fitness level of students is intrinsically connected to the fundamental tasks of physical education in fostering moral character, inspiring dedication, and cultivating well-rounded individuals. However, the current physical health assessment system for college students is often organized and implemented merely as a specialized task, lacking strong integration with the reform of physical education curricula, the relevance of teaching content, and innovative pedagogical approaches^[3]. Through this research project, existing issues have been identified, and solutions are proposed to facilitate comprehensive reforms in physical education and teaching at the institutional level, enhance

the core professional competencies of physical education teachers, and improve the development of the teaching faculty in vocational colleges.

3.1 Establish Regulations and Strengthen the Standardization of Physical Fitness Testing in Colleges

Firstly, develop a "Physical Test Operation Manual" and implement a "three-step confirmation method" for vital capacity testing (mouthpiece installation → seal check → demonstration). Designate dedicated testing personnel and introduce pre-test sessions for error-prone items such as vital capacity and standing long jump to minimize unnecessary mistakes that could affect students' test scores.

Secondly, formulate gender-differentiated strategies. The key improvement areas for male students primarily lie in endurance running as well as arm and back strength. Intervention measures include launching a "Men's Fitness Boot Camp," integrating elements of military-style training, and providing professional guidance from instructors to enhance physical health in a safe and effective manner^[4]. The key improvement areas for female students primarily focus on BMI management and explosive power. Intervention measures involve creating a "Women's Health Workshop," emphasizing posture management and sprinting techniques, and providing professional guidance from instructors to improve physical health in a safe and effective way.

3.2 Build a Digital Campus and Establish a Dynamic Monitoring System

Develop a digital platform tailored to the college's physical health initiatives, enabling real-time integration of test data and daily exercise records. Establish a "red-yellow-blue" three-tier warning mechanism to identify and intervene with students showing abnormal BMI or low strength and endurance.

3.3 Fully Utilize Existing Resources and Develop Targeted Intervention Plans

First-year students: Focus on establishing good exercise habits and building a foundation for physical activity through the "Freshman Health Sailing Plan," promoting physical exercise from the start of their college journey.

Second-year students: Prevent declines in physical performance and enhance existing fitness levels through initiatives like the "Physical Fitness Defense Campaign," aiming to improve weak areas while maintaining overall fitness.

Third-year students: Launch the "Healthy Graduation Project" to consolidate physical fitness and incorporate test scores into internship eligibility criteria, encouraging the maintenance of healthy exercise habits and fitness levels beyond graduation.

3.4 Strengthen Home-College Communication and Improve the Home-College Co-development Mechanism

Given the significant and lasting influence of parents on their children's development and education, colleges should actively engage in communication with parents, informing them about their children's physical health status at college^[5]. Parents are encouraged to supervise and manage their children's physical exercise and healthy lifestyle habits during holidays to ensure consistent and sustained healthy living, preventing issues such as overeating, indulging in distractions, or adopting a passive and neglectful attitude. Colleges and teachers should work to deepen both parents' and students' understanding of "health" from a conceptual perspective, enabling the integration of healthy living into daily routines. This approach helps elevate the overall quality of the population and reinforces the synergistic role of the "family-college-community" partnership in fostering comprehensive improvements, thereby promoting the overall enhancement of students' physical fitness.

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