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Research on the status of students' physical test exemption and delayed test application in Hainan Normal University —Take 2018 students as an example

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Abstract: *The physical health test in universities has improved students' fitness, yet exemptions and delays persist. Research at Hainan Normal University revealed that physical, mental, and attitudinal factors, as well as insufficient sports knowledge and injury care awareness, affect students' participation in physical tests. It's crucial to foster students' interest in sports, encourage participation, especially among weaker students, and promote lifelong physical education to enhance overall fitness and facilitate the smooth running of school fitness tests.*

Keywords: *physical fitness test; free test; delayed test; college students*

1. Introduction

The Central Comprehensive Reform Commission reviewed the "Opinions on Deepening the Integration of Physical Education to Promote the Healthy Development of Adolescents" in September 2020. [1] The document aims to establish the concept of health education, encourage students to actively participate in physical exercise, experience joy, learn knowledge, form sports cognition, cultivate a collective spirit, shape good character, and train students to become all-around developed socialist builders and successors. At present, our country has entered a new stage of development, and the state and local governments have issued documents on the physical health level of students, such as the "Opinions on Strengthening School Physical Education and Promoting the All-around Development of Students' Physical and Mental Health".[2]The national fitness program, student physical fitness improvement initiative, and youth sports promotion plan aim to enhance the health levels of students, strengthen the physical fitness and functional capacity of college students. The future of the nation relies on college students, whose health status affects national construction, is related to the living standards and future development of the people, and is closely linked to the realization of the Chinese Dream. Therefore, strengthening the physical health level of Chinese college students has become a key task for school sports in the new development stage. [3]A study on physical exercise revealed that just 30% of students reach moderate to high intensity levels daily, and only one-third achieve moderate intensity. This indicates a significant decline in Chinese teenagers' physical health, necessitating greater focus on health education and fitness testing for college students. Policies that result in the neglect of physical health testing, sports technology, knowledge, and ethics training are impeding equitable education. This contradicts the goal of comprehensive education policy, which aims to promote educational fairness, quality education, and moral education, and is essential for developing well-rounded socialist builders and successors. Without physical health tests, the goal of comprehensive development cannot be achieved.

Lack of testing can result in a negative attitude towards physical health among students, hindering their development and the quality of education. This study will examine data from Hainan Normal University's 2018 sophomores who were tested over four years to pinpoint problems in college physical education and suggest improvements for students' sports understanding, knowledge, skills, and fitness, ensuring effective school fitness assessments.[4]

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2. Study subjects and research methods

2.1 Study subjects

The study involved 2018 students from Hainan Normal University and analyzed 383 valid paper materials submitted over four academic years.

2.2 Study Methods

Search platforms such as CNKI, Wanfang Database, and VIP Journal can be used to collect literature related to college students' physical fitness tests. This will help grasp research findings and provide theoretical support for the conclusions of this study. Researchers can use data analysis methods to organize and analyze data collected from surveys and physical fitness tests. They should select representative and valid data as the basis for argumentation and derive corresponding data results and preliminary textual theories. Finally, they can use logical analysis to propose viewpoints and argue these points through the logical analysis and discussion of data phenomena.

3. Results and analysis

3.1 Apply for exemption or delay the changes in the number of people

Freshmen are generally more motivated for fitness tests than upperclassmen, potentially because of a positive mindset or peer influence. They have less stress from studies and work, which allows them to engage in sports and results in fewer test exemptions and delays.

Sophomore surge is influenced by students' adjustment to college and increased academic pressures. Negative emotions can deter participation in sports, and some may adopt an opportunistic stance. Additionally, increased sedentary behavior and the effects of COVID-19 on freshmen in 2019 have led to poorer physical health and potential long-term impacts on motor skills, contributing to more sophomore challenges.

Junior students may experience a decline in numbers because of graduation pressure and the need for high grades. However, increased participation in school activities and sports to alleviate stress can lead to better health, reducing the likelihood of slow applications.

Seniors face academic and personal challenges, including course failures, job hunting, and family responsibilities, potentially causing stress and health issues. Emotional and psychological concerns about graduation and entering the workforce can impact their mental health, leading some to seek academic exemptions.(See Table 1).

Table 1 Number of free and deferred applications for 2018 students (N=383)

grade	N(number of people)	percentage (%)
freshman	8	2.10%
sophomore	172	45%
junior	21	5.50%
senior	182	47.5

3.2 Gender difference in the number of applicants for exemption and delay

Typically, more girls than boys have slower application rates, largely because of physical differences and the fact that girls make up a larger share of the student body, leading to a bigger database of girls and thus more girls encountering delays.(See Table 2)

Table 2 Gender of exemption and delayed for for 2018 (N=383)

sex	n(number of people)	percentage%
man student	124	32.40%
woman student	259	67.60%

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3.3 Differences in the number of applicants for exemption and delay

Science students request the fewest exemptions, with arts students in the middle, and liberal arts students the most. Science students typically have lower health risks, are more active, and are interested in practical skills, which is reflected in their physical fitness test results. Arts students often experience injuries related to sedentary activities like drawing or dancing. Liberal arts students have weaker active thinking skills, fewer practical skills, and are less active than dance students, leading to the highest number of exemption requests.(See Table 3 and Table 4)

Table 3 Exemption and delayed application of 2018 students (N=383)

college	N(number of people)	percentage (%)
Liberal arts class	276	72.10%
arts	66	17.20%
Science class	41	10.7

Table 4 Students for 2018 (N=383)

college	N(number of people)	percentage (%)
School of Information Science and Technology	64	35.20%
institute of foreign languages	50	27.40%
conservatory of music	44	24.10%
College of Liberal Arts	29	15.90%
School of Journalism, Communication and Film and Television	28	15.30%
The School of Economics and Management	25	13.70%
academy of fine arts	22	12%
School of Geographical Environment and Sciences	21	12%
The School of Marxism	17	9%
School of Physics and Electronic Engineering	12	7%
CollegeInstitute of Education	11	6%
The School of Mathematics and Statistics	10	5.40%
College of History and Culture	9	4.90%
School of Chemistry and Chemical Engineering	8	4.30%
School of Primary Education	8	4.30%
barrister oragnization	7	3.80%
School of psychology	6	3.30%
School of Life Science	5	2.70%
School of International Education	4	2.20%
Institute For Tourism Studies	3	1.60%

3.4 Special application

Exemptions are mainly due to students taking leave for internships, exams, national tests, and military tests without physicals. Some colleges are confused by students claiming leave to avoid physical tests. Additionally, menstrual issues, dizziness, diarrhea, and skin diseases lead to test absences, indicating a negative attitude towards sports.[6]Students frequently skip fitness tests and PE, using various excuses. This prevents them from improving physically, leading to a negative cycle.

3.5 Common physical disorders

3.5.1 Injury of the lower limbs

Lower limb injuries, often caused by falls, sprains, bruises, contusions, pulls, and fractures, are prevalent among students. Some injuries also stem from misuse of electric vehicles or insufficient use of protective gear. This points to shortcomings in sports injury prevention, management knowledge, and awareness of campus traffic safety. According to Dong-peng Li and Li-ping Zhang (2017),

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students' understanding of sports knowledge is concerning, with only 23.1% preparing before engaging in sports.[7]Students have poor engagement in fitness and limited understanding of diet and sports injury prevention. They struggle to articulate sports-related health care knowledge, suggesting a lower understanding of physical education than expected. This affects their interest in sports and prevents them from experiencing its full benefits. Additionally, as more college students use electric vehicles on campus, there are safety issues such as illegal riding, speeding, improper parking, cycling on pedestrian paths, and not wearing helmets.[8] Online food delivery services have expanded quickly, resulting in more delivery personnel on campuses. Their speed can disrupt traffic and create safety hazards, endangering students' health and safety.

3.5.2 Cardiovascular problems

Most students have normal heart rhythms, typically sinus arrhythmia, which doesn't indicate heart disease or affect physical activity. Chronic conditions such as hypertension, diabetes, or heart failure should avoid strenuous exercise. Some students have abnormal heart rhythms that may result in inactivity and reduced interest in sports. Research by YanFei in 2006 showed that college students' physical health significantly impacts their sports participation, with poor health potentially leading to missed physical education goals, competition struggles, and decreased confidence and enthusiasm for sports.[9]Students with sinus arrhythmia may skip sports, potentially leading to health issues. Proper guidance in physical activities is essential.

3.5.3 Lumbar spine problems

Students frequently seek exemptions and delays due to back issues. In China, over 200 million individuals experience back problems, with 15.2% having herniated discs, and the figures are rising.[10]Students, especially college ones, may develop lumbar disc herniation from prolonged sitting and insufficient exercise. Those affected often have limited forward bending. Diagnosis involves multiple factors. Treatment can include manual traction, functional exercises, acupuncture, and exercise-based therapies. Most cases are mild to moderate and can be managed with conservative exercise rehabilitation, avoiding surgery.(See Table 5)

Table 5 Reasons for exemption and suspension of 2018 (N=383)

Cause of application	N(number of people)	percentage%
The body is normal without delay	105	27.40%
Lower limb injury	82	24%
else	70	18.30%
Cardiovascular problems	46	8.20%
Lumbar problem	40	5.90%
anocelia	14	9%
Respiratory problems	9	5.20%
Stomach problems	7	3.80%
Endocrine system problems	6	3.30%
Autoimmunity	2	9.00%
Psychological problems	2	1%

4. Suggestions

4.1 Students should standardize their work and rest and improve their physical fitness

Students should support each other and participate in sports to build collective awareness and sportsmanship. Boys should encourage girls to exercise, and sports enthusiasts should motivate less active peers, creating a positive environment that combines learning with sports.

Individuals should learn and improve sports health knowledge in order to correctly treat common injuries and prevent oversight of serious conditions. They should actively promote this knowledge to increase public awareness of sports health and encourage proper understanding and prevention.

The following points should be paid to the prevention of lumbar diseases:

(1)Students should aim to develop the right body shape through exercise, ensuring they maintain their health while maximizing their body's functionality to improve fitness.[11].

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(2)Avoid repeated bending, twisting, long turbulence, high intensity jumping and other movements [12].

(3)Students' varying professional and living habits lead to different levels and types of lumbar issues. Therefore, it's important to prevent the unchecked progression of these problems. [13] College students should develop a proper understanding of physiological health and sports rehabilitation, tailoring preventive measures to their specific academic and professional needs.

(4) Limit prolonged sitting to about an hour at a time. Individuals should engage in activities like aerobics, wuqinxi, and Baduanjin to exercise muscles and bones, enhance blood circulation, and lower the risk of lumbar disease to improve overall health. They should also focus on managing psychological aspects by enjoying sports, reducing stress and negative emotions, and effectively addressing psychological issues.

Students with poor physical fitness should participate in sports they enjoy to increase their motivation for exercise, enhance physical and mental strength, and improve their health, rather than avoiding sports.

4.2 The school prioritizes health education and encourages students to engage in related activities

Researchers and educators should gather and organize physical test data, analyze the results systematically, advance physical education research, enhance teaching theory, implement school fitness test reforms, and improve students' health and physical abilities. Additionally, they should guide students to promptly correct poor posture, maintain normal spinal curvature, and ensure proper height. They must maintain a scientific approach and stay current by continuously exploring and addressing any shortcomings identified during monitoring.

Attention should be paid to the improvement of physical exercise and physical quality in teenagers, cultivate the habit of active exercise, and enhance the physical [14].Training methods aim to boost college students' awareness of preventing and managing lumbar diseases, focusing on improving outcomes and providing real-time feedback. Monitoring treatment and rehabilitation is essential, as is establishing appropriate plans and scheduling extracurricular sports and aerobic exercises. Emphasis is placed on students' physical health, supported by policies and management.

Using the subject of theoretical results and analysis conclusions, we aim to identify more scientific exercise methods to help students. Through various means, such as example-based teaching, we seek to improve college students' understanding of human body form and the normal physiological state of the lumbar spine [15]. This approach will achieve the goal of treating and preventing lumbar disc protrusion, create theoretical conditions for students, enhance function, and improve physical quality, which is crucial for effective rehabilitation of lumbar disc protrusion [16]. Additionally, it is important to timely assess and understand students' physical education learning levels, actively guide them on how to correctly participate in sports, conduct related research, and improve their understanding of physical education.

Teach sports safety issues comprehensively in physical education class to reduce the risk of injury of students in sports[17].

Teachers are encouraged to teach students in accordance with their aptitude, and pay attention to the differences between male and female students, the individual differences between students and the differences in physical education learning ability, so as to promote the improvement of physical education teaching theory and improve the teaching quality.

5. Conclusion

College students' physical health suffers from their limited knowledge of sports and injury care, impacting their interest in sports. They tend to see physical education tests as mere obstacles to passing exams, with a focus on exam scores rather than learning. This has led to a utilitarian approach in physical education, where teachers prioritize exam tasks over individual student needs. To boost students' interest in sports, it's crucial to promote participation, particularly among those with poorer physical health, and to foster a lifelong commitment to sports. The primary goal of sports should be to enhance mental and physical well-being, instill values, and provide entertainment, contributing to the development of a strong sporting nation.

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