Open Access Library Journal
2023, Volume 10, e10029
ISSN Online: 2333-9721
ISSN Print: 2333-9705

Analysis of the Influence of Effective Organization Training on Physical Fitness Test of College Students

Nan Chen, Jiahao Jiang

College of Physical Education and Health Sciences, Zhejiang Normal University, Jinhua, China
Email: 1010531849@qq.com

How to cite this paper: Chen, N. and Jiang, J.H. (2023) Analysis of the Influence of Effective Organization Training on Physical Fitness Test of College Students. *Open Access Library Journal*, **10**: e10029.
https://doi.org/10.4236/oalib.1110029

Received: March 20, 2023
Accepted: April 18, 2023
Published: April 21, 2023

Abstract

In May 2022, the author had the honor to participate in the physical health test of students in Zhejiang Province with the tutor, and took this opportunity to make statistics and analysis on the test results of 984 students in five colleges and universities based on the physical health test data of nine colleges and universities in Zhejiang Province, according to the relevant requirements of the Student Physical Health Standards, using literature, project testing, expert interviews, mathematical statistics, logical analysis and other methods. And from the perspective of tester organization and management, this paper understands and analyzes the current situation of physical health of college students in Zhejiang Province, as well as the shortcomings of the school management in the early effective organization, management and preparation of provincial physical health tests, as well as physical health spot checks and tests. From a point to area perspective, it timely adjusts the school physical education curriculum, revises unreasonable parts of textbooks, and adjusts the school management to provide relevant opinions and suggestions.

Subject Areas

Physical Education

Keywords

Physical Health Test, Organizational Training, Physical Health

1. Introduction

The 19th National Congress of the Communist Party of China was an important meeting of epoch-making significance in the process of China's development, which clearly defined that "China's socialism has entered a new era, which is a

new historical orientation for China's development". In particular, the report clearly put forward "accelerating the construction of a strong sports country", which pointed out the direction for the development of China's sports [1]. At the same time, Xi Jinping pointed out that "when the youth are strong, China is strong. The strength of the youth includes multiple aspects, such as ideological and moral integrity, academic achievement, innovation ability, hands-on skills, as well as physical health, stamina and sportsmanship" [2]. As the builders and successors of the cause of socialism with Chinese characteristics in the new era, college students are the country's extremely important strategic reserve of human resources and shoulder the great historical mission of national rejuvenation. The physical fitness test for college students is not only an important part of school physical education work, an important content of school physical education, but also an important practical path for building a strong sports country and putting it into President Xi Jinping's series of speeches on important expositions on sports work. The construction of "healthy China", "sports power" and "education power" will converge on the young generation, and the development of school sports will become the help of "China strong" [3]. The physical health of college students is not only of great significance for improving the physical and mental health of college students, but also has a far-reaching impact on individuals and families, and has a profound impact on the construction and development of the country. The author has organized and participated in the 2022 Zhejiang Province College Student Physical Health Test, and found that there are many subjective and objective problems during the entire test process, which may have a certain impact on the results of the college student test. Through on-site monitoring, telephone interviews and other methods, this paper comprehensively discusses the implementation status and organizational process of college students' physical health test, conducts mathematical statistics and analysis on the test results of a total of 984 students in nine colleges and universities in Zhejiang Province, and puts forward corresponding reform measures. Therefore, this paper studies the factors affecting students' physical health test results and discusses the problems in the test, which is of great significance for optimizing the physical health test process of college students, how to improve the physical health level of students, and objectively evaluating students' health level.

2. Research Objects and Methods

2.1. Subjects of Study

The author is responsible for testing five universities in Zhejiang Province: A, B, C, D, E (junior undergraduate students, junior college sophomores), a total of 984 students, including 484 male students and 500 female students (According to the policy, there are 100 boys and girls in each school. However, there is a serious imbalance between boys and girls in D school, with less than 100 boys, so only 84 students were selected for the sample) (**Table 1**).

Table 1. Number of people tested in the five universities.

	A	B	C	D	And
The measured number of males	100	100	100	84	100
The measured number of women is female	100	100	100	100	100
The number of people at the bottom is male	100	99	98	72	100
The number of women at the bottom	100	99	100	86	100

2.2. Research Methods

2.2.1. Study Design

In accordance with the requirements of the "Student Physical Health Standards", the five colleges and universities in Zhejiang Province (juniors for undergraduates and sophomores for junior colleges) in Zhejiang Province were tested in five aspects: 1000/800 M running, pull-ups (men)/sit-ups (women), 50 M running, standing long jump and sitting forward bending. Through the collation of literature (collecting research and reports on this proposition) and mathematical statistics on the physical health test data of 5 students in five universities in Zhejiang Province, and then analyzing the results, we understood the current situation of students' physical fitness in colleges and universities in Zhejiang Province, the impact of school organization, management and training on students' physical health test scores, and the practical difficulties encountered in the testing process. The implementation of physical fitness monitoring of college students in colleges and universities in Zhejiang Province was discussed, in order to arouse the thinking and attention of the management of colleges and universities in Zhejiang Province, explore more efficient testing methods and processes, and provide theoretical basis for subsequent physical fitness tests.

2.2.2. Expert Interview Method

Through interviews with the persons in charge of physical health tests in five colleges and universities in Zhejiang Province, we learned about the policy support of each university for students' physical health tests, the early organization and preparation of students, the difficulties in physical health tests and the areas that need to be improved.

2.2.3. Mathematical Statistics

All data obtained are analyzed and processed using SPSS software. The Shapiro-Wilk test (Shapiro-Wilk) was used to test the normality distribution, and the paired-sample T test was used to analyze the data belonging to normality, and the rank sum test was used to analyze the skewed data. For running projects, Pearson Correlation Analysis (Pearson) is used and histograms are drawn using excel software. The level of $P < 0.05$ was selected for the significance difference between groups.

3. Study Results

According to Table 2, School A's 50 m, sitting forward bend, sit-up; 50 m of school B, sitting body forward bending, sit-ups, standing long jump; School C's standing long jump and sit-ups; Sit-ups, standing long jumps at Colonel D; the P-value of the 50 m and sit-up test items of School E was >0.05, indicating that the above test item data conformed to the normal distribution, and an independent sample T test was used for it. The P-value of the remaining test item data is <0.05, indicating that the remaining test item data do not conform to the normal distribution, that is, it belongs to the skewed distribution, so the rank sum test is used for it.

3.1. The Relevance of Running Projects to Other Projects

In this paper, in the study of Pearson's correlation, it is concluded that: 1) the 50-meter item has a significant negative correlation with the anterior flexion of the sitting body $P = -0.117 < 0$, and the degree of correlation is weakly negative; For sit-ups $P = 0.189$ was between 0.0 - 0.2, there was a positive correlation, and the degree of correlation was very weak; For the other items, p was between 0.4 - 0.6, showing a significant positive correlation, and the correlation level was moderately correlated. 2) The 1000/800 m event showed a significant positive correlation ($0 < P < 1$) for all other events. Among them, the correlation level for the seated anterior flexion item was very weak ($0.0 < P < 0.2$), and the correlation level for other items was moderate correlation level ($0.2 < P < 0.4$) (Figure 1).

3.2. The Effect of Organizing Training on 50 Meters

After organizing the training, except for the average score of School E, there was no significant change and no statistical difference, and the average score of the other four schools of 50 meters was significantly improved compared with the average score of 50 meters at the time of the survey, which was statistically significant ($P < 0.05$) (Table 3).

3.3. Effect of Organizational Training on Forward Flexion of the Sitting Body

After organizing the training, the average score of sit-forward flexion of school B increased slightly compared with the average score at the bottom of the survey, but there was no statistical difference ($P > 0.05$), and the average score of school E did not change significantly, or even decreased slightly ($P > 0.05$). The average scores of seated forward flexion in the other three universities were significantly improved compared with the average scores at the bottom of the survey, and there were significant differences in statistical significance ($P < 3.0$ </b05>) (Tables 4-6).

3.4. The Influence of Organizational Training on the Standing Long Jump

After organizing the training, there was no significant change in the performance

Table 2. Shapiro-Wilk normality test.

		A Shapiro-Wilk			B Shapiro-Wilk			C Shapiro-Wilk			D Shapiro-Wilk			And Shapiro-Wilk		
	gender	Statistics	df	Itself.	Statistics	df	Itself.	Statistics	df	Itself.	Statistics	df	Itself.	Statistics	df	Itself.
50 meters measured	man	0.983	100	0.234	0.932	72	0.001	0.986	98	0.396	0.932	72	0.001	0.985	100	0.308
	woman	0.977	100	0.076	0.980	86	0.209	0.980	100	0.137	0.980	86	0.209	0.975	100	0.051
50 meters to the bottom	man	0.986	100	0.348	0.987	72	0.676	0.869	98	0.000	0.987	72	0.676	0.988	100	0.529
	woman	0.977	100	0.084	0.988	86	0.616	0.986	100	0.400	0.988	86	0.616	0.986	100	0.374
Anterior flexion of the sitting body is measured	man	0.988	100	0.521	0.947	72	0.004	0.989	98	0.566	0.947	72	0.004	0.991	100	0.761
	woman	0.963	100	0.007	0.986	86	0.468	0.974	100	0.044	0.986	86	0.468	0.283	100	0.000
The sitting body is bent forward and touches the bottom	man	0.981	100	0.150	0.982	72	0.399	0.908	98	0.000	0.982	72	0.399	0.992	100	0.792
	woman	0.984	100	0.290	0.994	86	0.954	0.979	100	0.107	0.994	86	0.954	0.942	100	0.000
Standing long jump measurement	man	0.651	100	0.000	0.960	72	0.022	0.981	98	0.166	0.960	72	0.022	0.991	100	0.774
	woman	0.980	100	0.122	0.967	86	0.025	0.985	100	0.298	0.967	86	0.025	0.982	100	0.194
Standing long jump to get to the bottom	man	0.987	100	0.409	0.958	72	0.016	0.989	98	0.626	0.958	72	0.016	0.991	100	0.783
	woman	0.963	100	0.006	0.982	86	0.268	0.990	100	0.643	0.982	86	0.268	0.939	100	0.000
Pull-ups/sit-ups measured	man	0.957	100	0.003	0.898	72	0.000	0.938	98	0.000	0.898	72	0.000	0.989	100	0.612
	woman	0.976	100	0.061	0.969	86	0.035	0.988	100	0.486	0.969	86	0.035	0.927	100	0.000
Pull-ups/sit-ups	man	0.928	100	0.000	0.877	72	0.000	0.923	98	0.000	0.877	72	0.000	0.982	100	0.182
	woman	0.983	100	0.218	0.982	86	0.286	0.988	100	0.507	0.982	86	0.286	0.937	100	0.000
@1000 m/800 m measurement	man	0.875	100	0.000	0.841	72	0.000	0.843	98	0.000	0.841	72	0.000	0.677	100	0.000
	woman	0.872	100	0.000	0.882	84	0.000	0.879	100	0.000	0.882	84	0.000	0.936	100	0.000
@1000 m/800 m bottoming	man	0.909	100	0.000	0.949	72	0.006	0.860	98	0.000	0.949	72	0.006	0.885	100	0.000
	woman	0.864	100	0.000	0.896	84	0.000	0.870	100	0.000	0.896	84	0.000	0.928	100	0.000

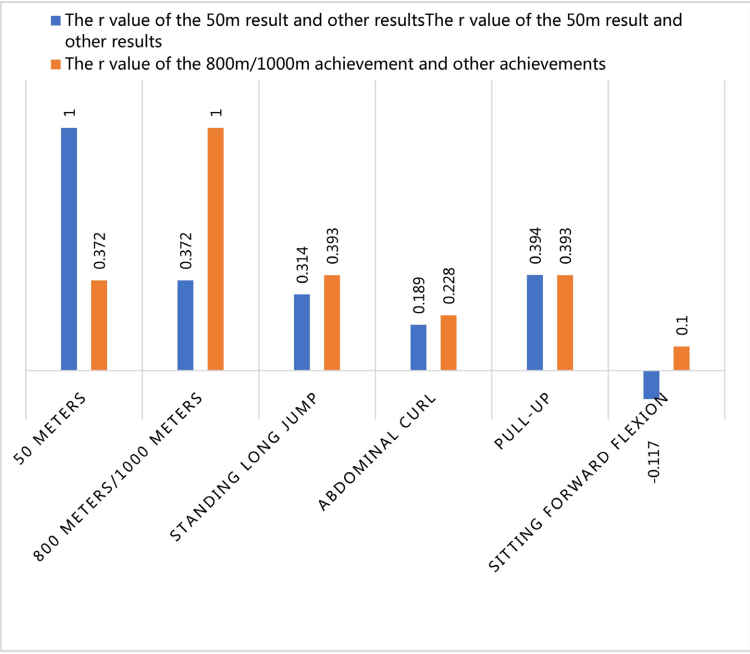

Figure 1. Correlation of running events with other test items.

Table 3. Analysis of 50-metre items (rank sum test).

	C	D
Sample size	198	158
Get to the bottom of the grades	8.05 (7.30 - 8.80)	8.60 (7.78 - 9.30)
Measured results	7.80 (7.10 - 8.50)	8.40 (7.60 - 8.90)
With	−8.859	−4.833
P	<0.05	<0.05

Table 4. Analysis of 50-meter items (paired sample T test).

	A	B	And
Sample size	200	198	200
Get to the bottom of the grades	8.02 ± 0.98	8.14 ± 0.96	8.15 ± 0.95
Measured results	7.96 ± 0.96	7.98 ± 0.93	8.14 ± 0.90
T	−2.084	−6.848	−0.114
P	0.038	<0.05	0.909

Table 5. Analysis of seated forward flexion items (paired sample T test).

	A	B
Sample size	200	198
Get to the bottom of the grades	16.58 ± 6.42	17.71 ± 6.80
Measured results	22.13 ± 5.80	17.23 ± 7.11
T	19.866	−1.174
P	<0.05	0.242

Table 6. Analysis of seated anterior flexion items (rank sum test).

	C	D	And
Sample size	198	158	200
Get to the bottom of the grades	17.25 (12.00 - 22.00)	16.60 (11.70 - 21.05)	20.40 (16.80 - 24.73)
Measured results	18.85 (13.93 - 23.50)	22.20 (17.26 - 26.03)	20.30 (16.33 - 24.58)
With	−6.800	−10.616	−0.403
P	<0.05	<0.05	0.687

of school C and school B, or even decreased slightly, and there was no statistically significant difference (P > 0.05). The average scores of the other three universities in the long jump were significantly higher than the average scores at the bottom of the survey, and there was a significant difference in statistical significance (P < 3.0 </b05>) (Table 7 and Table 8).

Table 7. Analysis of standing long jump project (paired sample T test).

	B	C	D
Sample size	198	198	158
Get to the bottom of the grades	202.42 ± 33.46	207.97 ± 31.56	193.98 ± 30.68
Measured results	203.18 ± 31.85	208.16 ± 2.28	200 ± 31.02
T	1.036	−0.279	8.078
P	0.301	0.780	<0.05

Table 8. Analysis of standing long jump items (rank sum test).

	A	And
Sample size	200	200
Get to the bottom of the grades	201.5 (172.5 - 230)	200.50 (169.00 - 220.00)
Measured results	206.0 (175.0 - 240.0)	205.50 (178.00 - 233.75)
With	−6.040	−9.295
P	<0.05	<0.05

3.5. Influence of Organizational Training on 1000/800 Meters

After organizing the training, the average results of 5/1000 meters in the five universities were significantly improved for the average results at the bottom of the survey, and there was a statistically significant difference (P < <b800> 0.05) (Table 9).

3.6. Effects of Organizational Training on Pull-Ups

After organizing the training, the average pull-up score of school D increased slightly compared with the average score at the bottom of the survey, but there was no statistically significant change, and the average score of pull-up in the other four universities increased significantly compared with the average score at the bottom (P < 4.0 </b05>) (Table 10).

3.7. Effects of Organizational Training on Sit-Ups

There was no significant difference between the average sit-up scores of schools A and C compared with the average scores at the bottom of the survey, and the average sit-up scores of the other three universities were significantly higher than the average scores at the bottom of the survey, which was statistically significant (P < 3.0 </b05>) (Table 11).

4. Analysis and Discussion

4.1. Organization and Preparation Affect Physical Test Results

The effectiveness of students' physical health tests is closely related to test details and implementation standards [4]. This study shows that the organization and

Table 9. 800 m/1000 m project analysis (rank sum test).

	A	B	C	D	And
Sample size	200	198	198	156	200
Get to the bottom of the grades	4.11 (3.55 - 4.24)	4.11 (3.54 - 4.30)	3.41 (3.30 - 3.55)	4.23 (4.06 - 5.02)	4.08 (3.40 - 4.23)
Measured results	3.56 (3.43 - 4.09)	4.00 (3.41 - 4.18)	3.39 (3.28 - 3.50)	4.03 (3.48 - 4.27)	3.54 (3.38 - 4.10)
With	−9.812	−8.647	−4.146	−9.159	−8.694
P	<0.05	<0.05	<0.05	<0.05	<0.05

Table 10. Analysis of pull-up items (rank sum test).

	A	B	C	D	And
Sample size	100	99	98	72	100
Get to the bottom of the grades	6.00 (2.00 - 10.00)	5.00 (0.00 - 10.00)	6.00 (2.00 - 12.00)	5.50 (1.00 - 10.00)	6.00 (3.00 - 11.00)
Measured results	8.50 (4.00 - 13.00)	6.00 (2.00 - 12.00)	10.00 (3.00 - 17.00)	6.00 (1.00 - 10.75)	7.00 (3.00 - 15.00)
With	−6.727	−5.661	−5.62	−1.878	−5.256
P	<0.05	<0.05	<0.05	0.60	<0.05

Table 11. Analysis of sit-up items (paired sample T test).

	A	B	C	D	And
Sample size	100	99	100	86	100
Get to the bottom of the grades	41.23 ± 8.17	41.14 ± 7.47	42.76 ± 7.67	36.26 ± 6.27	43.18 ± 8.28
Measured results	41.31 ± 10.04	42.41 ± 8.62	41.46 ± 8.04	39.08 ± 9.13	45.74 ± 8.16
T	0.112	2.252	−1.912	3.788	−4.202
P	0.911	0.027	0.059	<0.05	<0.05

preparation in the early stage have a significant impact on the final score of the physical fitness test, which can effectively improve the performance of students, and the performance of running events in the four colleges and universities has been significantly improved. For the early training, the leaders of colleges and universities all focused on the training of running events, and accounted for the largest proportion of weekly training time, because the leaders believed that the training of running events could affect and improve the performance of other events from the side (this paper has been proved in the study analyzing Pearson's correlation), and running events accounted for the highest proportion of physical fitness test scores. Among them, for the 1000/800 meters, the average score of the four universities improved the most, improving by 11 - 20 seconds. In contrast, the average 1000/800 m score of C school only improved by 2 seconds, but its bottom score was significantly higher than that of the other four universities. Through the interview with its person in charge, it was learned that

the school's physical fitness test for students is not a gun sharpening, but from the beginning of freshman admission, they are forced to participate in the running tasks stipulated by the school every semester, and at the same time put forward pace requirements, regularly hold running activities, the consistency of students' college sports promotes the formation of lifelong sports concepts, and improves their physical fitness in daily accumulation. There is no need to do much preparation before the test, just restore the student's physical fitness and adjust the student's condition. In addition, the person in charge also mentioned that for some fatter or thinner students with poor physique, the school adopts the strategy of "precision poverty alleviation", that is, multiple physical education teachers and party members are each responsible for 5 - 6 students, and practice in their spare time, and the students' grades have improved significantly. For the 50 meters, it is impossible to quickly improve the speed performance in a short period of time, so the heads of the five universities have focused on training the starting posture, reaction, sprint running of the 50 meters, and improving the technical movements of the 50-meter run, and the final results have also been significantly improved.

4.2. Preparation Activities to Improve Physical Test Scores

There is a very significant difference in test results between preparatory activities and non-preparatory activities [5]. Not only that, but studies have found that preparation activities are important for improving athletic performance and avoiding sports injuries [6]. In a relatively quiet state, if people do not carry out intense exercise through preparatory activities, it will lead to speed, strength and other qualities that cannot be fully exerted, and their performance will not reach the normal level. Before the test, teachers from various colleges and universities will lead students to carry out full preparation activities to improve the excitability of students' nervous system and awaken more muscle fibers to participate in the work, thereby promoting students' performance in 50 meters, standing long jump, pull-up and other events. However, during the test, the author found that although most students have done preparatory activities, the adequacy is not enough, there is a lack of special preparatory activities, the timing of some students' preparation activities is not appropriate, and the timeliness of preparatory activities is not fully guaranteed. There are irrational arrangements in the process of items in the test, and affect the physical distribution of the participants, resulting in the subjects not being able to fully exert their abilities. In addition, Running activities have a positive effect on the results of seated forward flexion tests [7]. During the test, the author found that for the flexibility project of sitting forward bending, the leading teacher of each university led the students to jog and assist the students to stretch before the test, thereby promoting a significant improvement in the performance of the project.

4.3. Dilemma in the Process of Physical Examination

During the two-week test work, the author also found some problems in inter-

views with experts and university leaders of the working group: 1) Due to the weather, although medical workers and ambulances are present, there are still safety risks due to poor site conditions and slippery ground. In particular, it has a certain degree of impact on the 50-meter test work and student test results. 2) Due to professional characteristics, some students stay up all night and have potential safety hazards during the test. 3) Monitoring behavior is not standardized, and "hidden rules" prevail in the monitoring process [8]. In some schools, there are cases of lagging flags waving and students rushing to run in the 50-meter order, and sit-up students misreporting the number. In addition, students do not care about the test, do not complete the test according to the test requirements, and there are phenomena such as "1000/800 meter running has become a walk". As an organizer, it is not strictly implemented according to the test requirements; as participants, students participate passively, which can lead to inaccurate test data [9]. Although the reminder has been regulated and corrected, teachers should first "set an example" and educate people in all aspects of education, and cultivating students' good virtues is more important than grades. 4) When students are tested, the directors of the physical education departments of each college and university are personally deployed, and physical education teachers can basically be in place, but because some schools are not tightly organized and the division of labor is not clear enough, the role of on-site guidance of physical education teachers needs to be better played. 5) During the test, the leading teacher and the test student do not understand the standard of the score, and the staff is surrounded by the test site to ask the relevant grade standards, which brings certain troubles to the maintenance of order on the site and delays the test work.

5. Conclusions and Recommendations

5.1. Conclusion

The physical health test of college students in Zhejiang Province is affected by subjective and objective factors such as the standardization, reward and punishment, and supervision of test venues, equipment, specific test items, etc., which can affect the accuracy of test data.

5.2. Recommendations

5.2.1. Ensure the Accuracy and Authenticity of Test Data

Through in-depth research on the timeliness of preparation activities, ensure that the participants' preparation activities are adequate and the preparation activities are appropriately timed; study the rationality of the project process to ensure the reasonable distribution of physical strength and energy of the test participants, and give full play to their due level.

5.2.2. Ensure the Standardization and Smoothness of the Testing Process

Strictly control the entire testing process, arrange the interval between each item

reasonably, and avoid students waiting too long; ensure the closure and uniformity of the test site; to ensure the consistency and integrity of the test equipment, it is necessary to operate and use the equipment correctly according to the specific requirements of each project.

5.2.3. Establish Relevant Mechanisms to Safeguard Testing Work

Increase the proportion of physical education in school education: 1) Reward and punishment: Government legislation and schools implement specific physical health programs [10]. Incorporate physical fitness testing into the year-end assessment of schools, colleges and classes, and link it with merit evaluation; Link the student's physical health to their credits. 2) Monitoring in place: Standardized monitoring can provide more accurate test scores [11]. Strengthen the training of on-site monitoring personnel, regularly conduct monitoring business training according to technical requirements and the actual physical health test of students, improve the professionalism, work enthusiasm and sense of responsibility of monitoring personnel, continuously train new skills and exchange experience, so as to improve the ability of existing monitoring personnel and reduce the occurrence of cheating. 3) Set up sports bonuses: give students a certain training subsidy, and set up sports health bonuses for those who meet the standards to improve the enthusiasm and subjective initiative of test personnel.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Chen, G. (2018) Extensively Carry Out the National Fitness Movement and Accelerate the Construction of a Strong Sports Country: Guided by the Spirit of the 2018th National Congress, Create a New Situation in the Development of Sports in Jiangsu. *Sports & Science*, **39**, 1-6.

[2] Yang, L.C., Gao, Y., Wang, X.Y., *et al.* (2019) The Internal Logic and Interpretation of Xi Jinping's Important Expositions on Sports Work. *Sports and Science*, **40**, 1-7.

[3] Liu, X.R. and Wang, J. (2019) The Mission of School Sports in the New Era: Based on the Understanding of the Spirit of the Report of the 2019th National Congress of the Communist Party of China. *Journal of Beijing Sport University*, **5**, 1-12.

[4] Wang, J.L. (2015) Thoughts on the Problems in Students' Physical Fitness Tests. *Journal of Physical Education*, No. 1, 5.

[5] Zhang, Z.G. (2009) Analysis of Subjective and Objective Factors Affecting the Test Results of the National Student Physical Health Standards. *Sports Science*, **29**, 86-91.

[6] Wang, M. (2020) Problems and Countermeasures of Physical Health Test for College Students in China. *Sports Culture Guide*, No. 7, 6.

[7] Luo, Y.P. (2008) Experimental Study on the Effect of Preparatory Activities on the Physical Health Test Results of College Students. Beijing Sport University, Beijing.

[8] Li, L. (2015) Theoretical Analysis of Third-Party Monitoring of the Quality of Students' Physical Health Test. *Journal of Xi'an Institute of Physical Education*, No. 1, 6.

[9] Wang, F.X. (2013) The Main Problems in the Test and Data Reporting of the Na-

tional Student Physical Health Standards and Their Solution Strategies. *Journal of Physical Education*, **20**, 3.

[10] Martin, S.B., Ede, A., Morrow, J.R. and Jackson, A.W. (2010) Statewide Physical Fitness Testing. *Research Quarterly for Exercise and Sport*, **81**, S31-S41. https://doi.org/10.5641/027013610X13100547898112

[11] Konty, K.J., Day, S.E., Larkin, M., Thompson, H.R., Dâ Agostino, E.M. and Zeeb, H. (2020) Physical Fitness Disparities among New York City Public School Youth Using Standardized Methods, 2006-2017. *PLOS ONE*, **15**, e0227185. https://doi.org/10.1371/journal.pone.0227185