

Research Article

A Method of Improving College Students' Physical Fitness Test Based on Fuzzy Comprehensive Evaluation of Information Fusion

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For the evaluation of college students' physical health, the *t*-test, one-way ANOVA test, fuzzy comprehensive evaluation, and other methods were used to establish the models of back generation test, ANOVA, and fuzzy comprehensive evaluation; and Matlab, Excel, VBA, and other software programming were used to derive the significant influence of body weight on college students' physical health, no significant difference of students' physical health in different places of birth and the comprehensive score of college students' physical health. The results such as the comprehensive score of health evaluation were used to analyze the physical health test results of college students in Zhuzhou city colleges and universities in the context of the promulgation of the new Student Physical Health Standard and several higher school sports policies by using the fuzzy comprehensive evaluation method to comprehensively grasp the physical health condition of students and provide reference for school sports reform and students' physical exercise. *Conclusion.* The current situation of physical health of college students in Zhuzhou City is less satisfactory, and most of the students' physical test results are concentrated in the passing area, with fewer students with excellent and good proportions. The policy changes, system construction, implementation, and students' attitudes were analyzed, and solution measures were proposed to intervene in time to turn the situation around and improve students' physical health.

1. Introduction

The fuzzy set-pair theory is a combination of fuzzy logic theory and set-pair analysis to study the uncertainty of a system in terms of sameness, difference, and opposition of two sets [1]. It is more objective in dealing with uncertainty problems, and the operations are simpler, so fuzzy set-pair analysis theory has been successfully used in artificial intelligence, system control, management decision making, and other fields [2]. The concept of fuzzy set theory was introduced in 1965 by Professor L. A. Zadeh, an American automatic control expert, to express the uncertainty of things. The application of fuzzy integrated evaluation method [3].

The physical health test of college students mainly includes physical form, physical function, and physical quality, and the specific test items include height, weight, lung capacity, standing long jump, grip strength (male students),

sitting forward bend (female students), and step test. This thesis aims to investigate the significant influence of weight on college students' physical health and establish a fuzzy comprehensive evaluation model of college students' physical health [4].

In June 2014, the Ministry of Education (MOE) issued several documents, including the Measures for Monitoring and Evaluating Students' Physical Health and the Standards for Physical Education in Higher Education, and formulated the National Physical Fitness Standards for Students (Revised 2014) [5] in May 2016, the Opinions of the General Office of the State Council on Strengthening School Sports for the Overall Development of Students' Physical and Mental Health. The promulgation of national policy documents prompted us to conduct a study on the current situation of physical testing of college students in Zhuzhou City to understand the physical health level of college students and

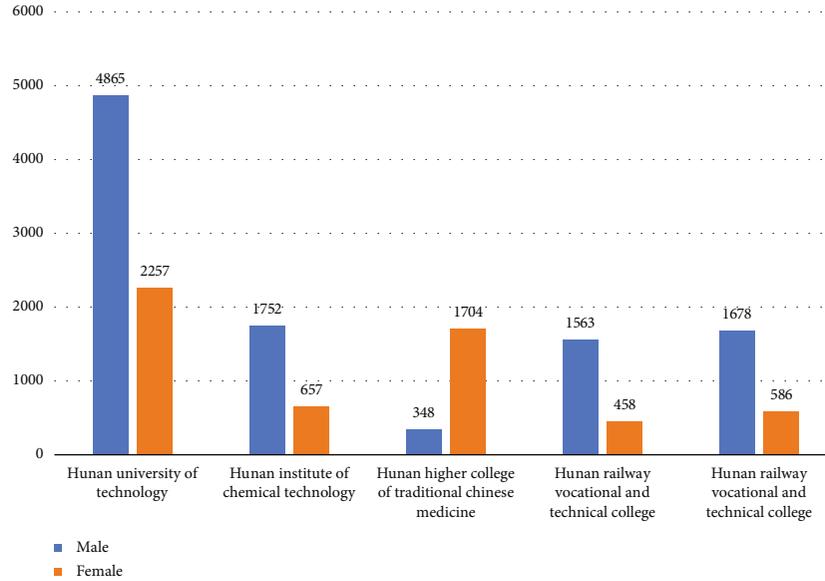


FIGURE 1: Number of students from Hunan universities in class 14.

provide a basis for the reform of college sports in Zhuzhou City [6]. In this context, it is important to comprehensively understand the implementation of physical fitness test of college students in Zhuzhou City under the new situation and the results of students' physical fitness test, so as to provide a basis for promoting the physical fitness reform in Zhuzhou City's higher education institutions and to provide a guarantee for the steady improvement of students' physical fitness level [7].

To collect the data of the physical fitness test of college students in Zhuzhou City in the past two years, the research team collected literature on "college physical fitness test" and "student physical health" through the library and information center of the university [8]. Through the field visits, we have a comprehensive understanding of the implementation of physical fitness test in Zhuzhou colleges and universities, including the construction of the system of physical fitness test, the current situation of the implementation of physical fitness test, and the attitude of students' participation in physical fitness test [9]. The data of physical fitness test of students in Zhuzhou colleges and universities were sampled. In Figure 1, a survey is conducted mainly for some Hunan university's 14th grade students (as shown in Figure 1).

For the number of students in class 15 is as shown in Figure 2.

2. State of the Art

Fuzzy comprehensive evaluation method is a comprehensive evaluation method based on fuzzy mathematics [10]. This comprehensive evaluation method converts qualitative evaluation into quantitative evaluation according to the affiliation theory of fuzzy mathematics, that is, it uses fuzzy mathematics to make an overall evaluation of things or objects that are subject to multiple factors. It has the charac-

teristics of clear and systematic results, can better solve fuzzy and difficult to quantify problems, and is suitable for various nondeterministic problems [11].

Talking about fuzzy set-pair analysis theory firstly, we should talk about set pair analysis theory.

Set pair analysis theory (SPA) is an emerging discipline founded by Mr. Zhao Keqin in 1989, which is a theory and method to deal with fuzzy, random, intermediate, and other uncertain systems by using the linkage " $a + b_i + c_j$ " in a unified way. The theory of set-pair analysis has been widely used in natural science, social economy, and other fields [12].

In our description of uncertainty systems, one is the statistical theory of probability, which describes random uncertainty, and the other is the fuzzy set theory, which describes fuzzy uncertainty [13]. In 1989, Zhao Keqin proposed the theory of set-pair analysis, also known as "connection mathematics."

According to the physical test data, SPSS19.0 software was used to find out the pattern of physical test data in Zhuzhou city colleges and universities by using fuzzy comprehensive evaluation method. Fuzzy comprehensive evaluation is an emerging branch of mathematics developed on the basis of fuzzy sets proposed by Professor Zadeh, an American cybernetics expert, in 1965. Fuzzy comprehensive evaluation method is a comprehensive evaluation method based on fuzzy mathematics, which realizes the transformation of qualitative evaluation into quantitative evaluation based on the theory of affiliation. Based on the 2014 version of the National Physical Fitness Test Standards for Students, the set of factors U of the evaluation object is established as equation (1) and the set of rubrics V as equation (2).

$$U = \{U_1, U_2, U_3, \dots, U_6\}. \quad (1)$$

U_1 lung capacity indicator, U_2 standing long jump indicator, U_3 50m indicator, U_4 seated forward bend indicator,

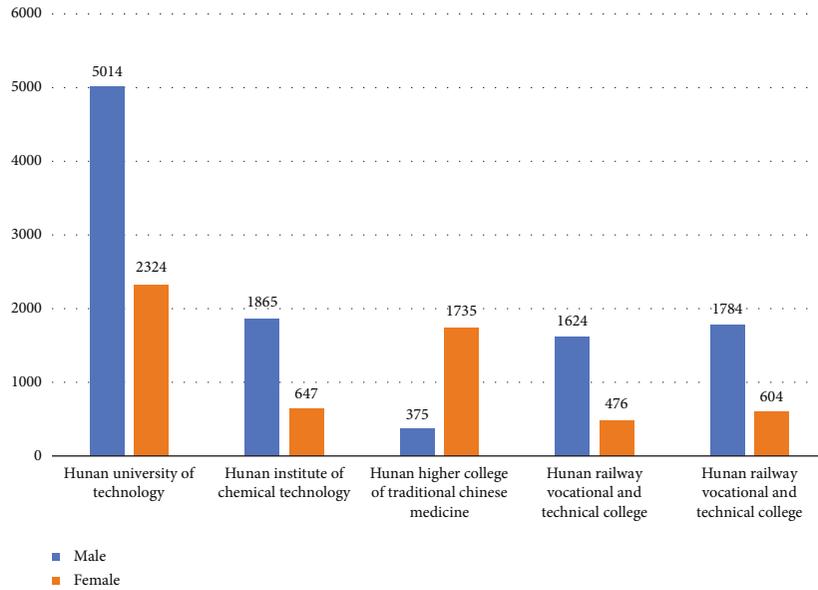


FIGURE 2: Number of Hunan colleges and universities in class 15.

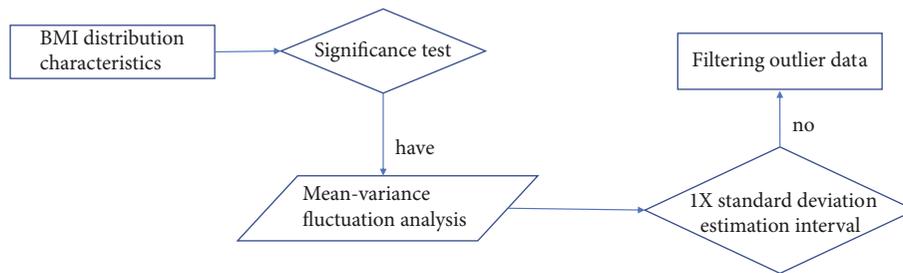


FIGURE 3: Back generation model of the effect of BMI on physical health.

U5 pull-up indicator (male), one-minute sit-up indicator (female), U6 1000m (male), and 800 m (female) indicator.

$$V = V_1, V_2, V_3, V_4, \tag{2}$$

i.e., excellent, good, pass, and fail [14].

3. Methodology

3.1. Effect of Body Weight on Physical Health and Determination of Measurement Data Bias

(1) Modeling preparation

First, height body mass index was derived from weight index as the following equation:

$$BMI = \left(\frac{\text{weight}(\text{kg})}{[\text{height}(\text{m})]^2} \right). \tag{3}$$

Then, the statistical methods such as *t*-test were used to study the correlation between BMI and students' physical health indicators, and the mean-variance test scale was used to establish the back generation detection model of the data, and finally to determine the basic situation of students with

significant errors in classes 1, 2, and 3 [15]. The modeling process is shown in Figure 3.

(2) Model development and solution

- (1) Back generation detection model of the effect of body weight on physical health using the height body mass index (BMI) as the entry point
- (2) The distribution characteristics of the BMI of freshmen students in this data are shown in Figure 4

The percentages of male and female students in each group are shown in Figure 5.

From Figure 4, it can be seen that the BMI of college students is most concentrated between 18 and 24, which is basically at the normal physical health level.

- (3) The mean and standard deviation and significance test values (*P* value) of the physical fitness indexes for male and female students were obtained (see Table 1). From Table 1, it can be seen that the boys' lung capacity body mass index, step test index, and standing long jump index are higher in the low

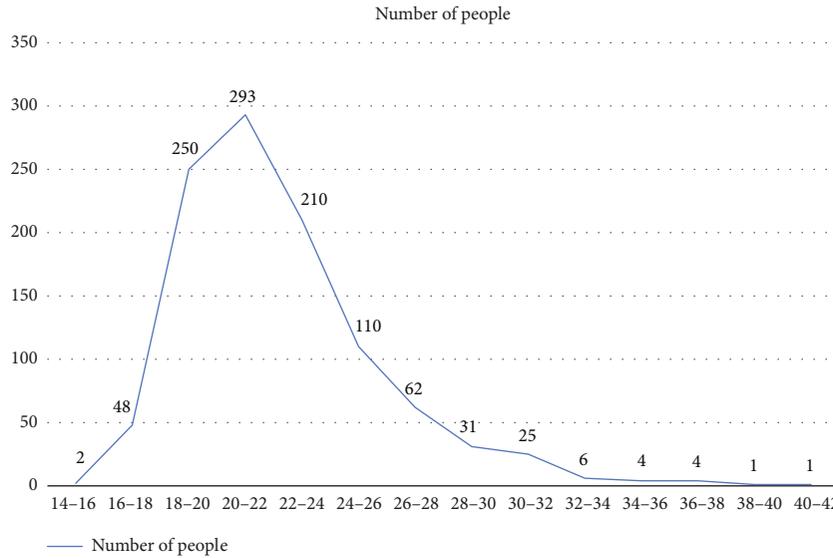


FIGURE 4: Histogram of the distribution of students' body mass index BMI.

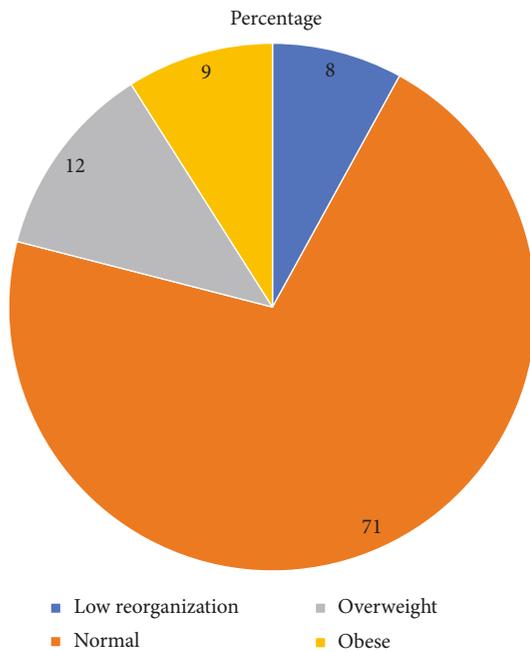


FIGURE 5: Percentage of male and female students in each group.

group than the normal group, while the overweight and obese groups are lower than the normal group, indicating that there is a significant relationship between the boys' BMI and this index

This is also true for female students, as shown in Table 2.

This shows that overweight and obesity have a significant negative impact on the physiological and respiratory functions of college students and impede the explosive power of the lower limbs. And the more overweight and obese, the greater their grip strength potential.

The indicators with strong correlation between BMI and students' physical health were screened and combined with the mean-variance test scale (see Table 3).

As shown in Table 3, there is a strong negative correlation between male BMI and spirometry BMI, so only the effect of spirometry BMI on male BMI is considered. The same is true for female students. The normal measurement range of physical health indexes of college students was obtained by mean-variance test analysis as in the following equation:

$$\begin{aligned}
 &\text{Normal measurement range of each group} \\
 &= \text{mean value of attendance} \pm 1 \text{ times standard deviation} \\
 &= x \pm s
 \end{aligned}
 \tag{4}$$

Those who exceed the normal measurement range are regarded as the students who did not show their true level in the measurement, and the deviation of the measurement results is large.

- (4) Judgment of the deviation of measurement data by substituting the model with the data of students in classes 1, 2 and 3, i.e., x now $\pm s$, to determine whether they belong to the category of BMI grouping (see Table 4)

We know that there are 19 outliers in classes 1, 2, and 3 with a total of 72 students, so these outliers should be removed or retested.

3.2. Determination of Significant Differences in the Physical Health of Students from Different Birthplaces

- (1) Modeling preparation
 - (1) The modeling idea is to use a confidence interval of 95%, and the estimation error of the total evaluation index estimated from the sample is not more than 0.3. The sample of 8 places of origin is sampled, and finally, a one-way ANOVA test is conducted with the region as a single factor. The modeling process is shown in Figure 6

TABLE 1: Statistics of physical health indicators for male students and significance test of BMI with each physical health indicator.

Physical health indicators	Overall	Low recombination	Normal	Normal	Obese	P value
Spirometry weight index	60.79 ± 12.18	68.29 ± 13.08	63.95 ± 10.98	54.79 ± 9.14	46.60 ± 8.65	<0.01
Step test index	51.28 ± 7.85	50.02 ± 6.30	51.78 ± 7.90	50.95 ± 7.71	49.66 ± 8.74	<0.05
Grip strength body mass index	47.91 ± 9.61	41.17 ± 6.92	47.89 ± 9.30	50.71 ± 10.76	48.31 ± 7.94	<0.05
Standing long jump	214.71 ± 20.05	214.73 ± 19.16	216.56 ± 19.49	211.03 ± 19.22	209.64 ± 24.20	<0.05

TABLE 2: Statistical analysis of physical health indicators of female students and significance test of BMI and each physical health indicator.

Physical health indicators	Overall	Low recombination	Normal	Normal	Obese	P value
Spirometry weight index	50.22 ± 11.18	56.74 ± 12.51	50.32 ± 10.58	42.28 ± 6.11	35.16 ± 5.65	<0.01
Step test index	49.95 ± 6.83	50.22 ± 5.01	50.20 ± 7.15	48.17 ± 5.24	45.00 ± 6.29	<0.05
Grip strength body mass index	17.57 ± 7.18	20.88 ± 8.93	17.57 ± 6.68	13.59 ± 6.20	12.08 ± 5.81	<0.05
Standing long jump	155.87 ± 17.48	163.69 ± 22.23	155.91 ± 16.33	145.39 ± 12.19	146.00 ± 17.83	<0.05

TABLE 3: Correlation coefficient test between BMI and each index for male and female students.

Indicators	Spirometry body mass index	Step test index	Grip strength body mass index	Sitting forward bend	Standing long jump index
Male BMI	-0.51617	-0.04994	0.15394	—	-0.14399
Female BMI	-0.42343	-0.11629	—	-0.22336	-0.27417

TABLE 4: Significant deviations in student test data.

Student number	BMI	Exceptions	Student number	BMI	Exceptions	Student number	BMI	Exceptions
120002	19.33456	Anomalies	120023	20.69833	Anomalies	120001	21.82978	Anomalies
120065	19.42685	Anomalies	120077	21.00362	Anomalies	120074	21.90226	Anomalies
120045	19.43376	Anomalies	120079	21.31533	Anomalies	120066	23.85387	Anomalies
120017	19.54083	Anomalies	120037	21.42173	Anomalies	120049	24.79331	Anomalies
120018	19.99554	Anomalies	120050	21.46127	Anomalies	120044	26.62964	Anomalies
120085	20.14818	Anomalies						

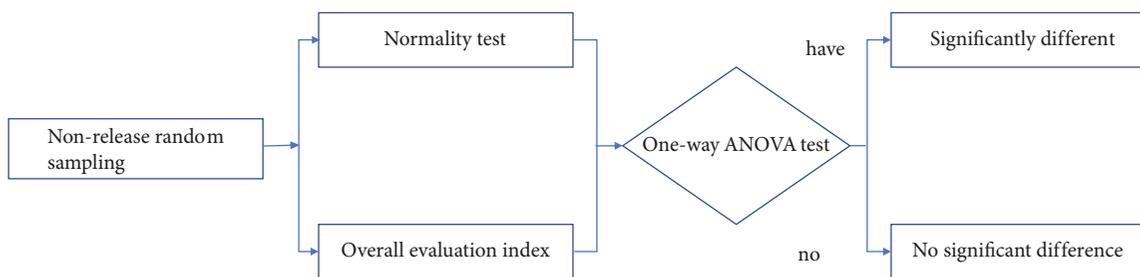


FIGURE 6: The idea of discriminating the significant difference among the places of origin.

(2) The total evaluation indices were obtained according to the weight of the evaluation items of the National Physical Fitness Standard for College Students: BMI weighting coefficient: 0.10, step test: 0.30, spirometry body mass index: 0.20, standing long jump: 0.20, and grip strength body mass index (seated forward bend): 0.20 [16]

(3) Determine the sample size and sample according to the formula (5) for determining the sample size n

when the estimated parameter is the overall mean under the nonrelaxation condition:

$$n = \frac{(Nz\partial/2)\sigma_2}{(N\Delta_2 + (z\alpha/2\sigma_2))}, \tag{5}$$

where N is the overall number of units; σ_2 is the overall variance; the limiting error of the overall mean estimate is as in the following equation.

$$\Delta = \frac{z\alpha/2\sigma}{n1/2} \left(1 - \frac{n}{N}\right) \frac{1}{2}. \quad (6)$$

The total evaluation index of $\sigma = 11.15752$, $\alpha = 0.05$, $z\alpha/2 = 1.96$, $\Delta = 0.3$, and a total of 597 people should be sampled. Using VBA programming in excel, the sample size for each source is source 1: 420, source 2: 50, source 3: 49, source 4: 19, source 5: 7, source 6: 27, source 7: 11, and source 8: 13.

(2) Model building and solving

(1) *Normality Test*. The sample size of source 1, 2, and 3 is more than 50, which is approximately normally distributed by the central limit theorem. For some small samples, i.e., the overall samples of source 4, 5, 6, 7, and 8, Matlab 7.1 software was used to establish the normality test, and the data points basically fall on a straight line, so the hypothesis that the data obeys the six-dimensional normal distribution cannot be rejected, and the marginal distribution of the multidimensional normal distribution obeys the normal distribution, but the opposite is not true [17]. That is, the data of each birthplace obeys normal distribution

(2) One-way ANOVA test the standard deviation of each index of the 8 overall sources can be obtained from the statistics of each source, and we know that the standard deviation of 6 indexes of each source is approximately equal. $\dots \neq \mu_8$, there is a significant difference among the eight places of origin. (2) Determine the significance level: based on the principle of small probability, the significance level $\alpha = 0.05$. (3) Accept or reject the hypothesis: if $P < \alpha = 0.05$, the hypothesis is rejected, and there is a significant difference, otherwise, there is no significant difference. Using the data analysis tool of Excel software, we can obtain the one-way ANOVA test values for each indicator. The F value of each indicator is less than F_{crit} (i.e., F critical value), so the original hypothesis H_0 is accepted at the significance level of $\alpha = 0.05$: there are $i, j \in (1, 2, \dots, 8)$, $\mu_i = \mu_j$ ($i \neq j$), the P test value is greater than $\alpha = 0.05$. 0.05, and the same conclusion can be obtained. That is, there is no significant difference in the physical health of students from different places of origin [18]

(3) Analysis of students' physical health based on fuzzy comprehensive evaluation method

(1) *Modeling Preparation*. Basic idea of fuzzy comprehensive evaluation method: given a domain U , a fuzzy subset A on U means that for any $x \in U$, a positive number $UA(X) \in [0, 1]$ can be determined, and this number x is used to repre-

sent the degree of belonging to A . The mapping $UA : U \rightarrow [0, 1]$, $x \rightarrow UA(x) \in [0, 1]$, is called the affiliation function of A . The constant $UA(x)$ is called the affiliation degree of the elements in U to the fuzzy subset A

Combined score: according to the weight of each indicator, the new score is obtained by weighting the average of all individual scores, which is denoted as z , as shown in the following equation:

$$z = \sum wiw_j, \quad (7)$$

where w_i is the weight of an indicator, and y_i is the individual score of an indicator.

(2) Model development and solution

When the test items are in the failing grade, the change of the unit index has a greater impact on the score, so the indexes in the failing grade are segmented separately [19]. The coefficients of variation of y_1 , y_2 , y_3 , and y_4 are obtained from the weight vectors of the individual scores (see Table 5).

(3) The coefficients of variation were normalized to obtain the weights of each index for girls: $w_1 = 0.31$; $w_2 = 0.13$; $w_3 = 0.46$; $w_4 = 0.10$. The scoring criteria indicate that the passing rate of grip strength BMI is 54 or more, while the passing rate of grip strength BMI for 758 boys is only 20.3%, which will result in nearly 80% of boys failing. Therefore, the model will select only three indexes, namely, spirometry BMI, step test, and standing long jump, for the boys' overall score [20]. The weights of each index for male students are $w_1 = 0.33$, $w_2 = 0.21$, and $w_3 = 0.46$

(4) Fuzzy evaluation model

The overall score z is used to evaluate the physical health status of students in this school.

The overall score of physical fitness of female students is shown in the following equation

$$Z = 0.31y_1 + 0.13y_2 + 0.46y_3 + 0.10y_4. \quad (8)$$

The overall score of physical health of male students is shown in the following equation

$$Z = 0.33y_1 + 0.21y_2 + 0.46y_3, \quad (9)$$

where excellent score: (90, 100), good score: (75, 90), passing score: (60, 75), and failing score: (0, 60). The overall physical health evaluation status of 23 male and 6 female students was obtained from the overall scores of 29 students in class 1 (see Table 6).

As we can see from Table 6, there is no outstanding number of students in the comprehensive physical health assessment of 23 boys and 6 girls, and most of the students

TABLE 5: The variance, mean, and coefficient of variation of each score for male and female students.

Coefficient of variation of each score for female students					Coefficient of variation of the scores of male students				
Individual scores	Y_1	Y_2	Y_3	Y_4	Individual scores	Y_1	Y_2	Y_3	Y_4
Variance	24.42934	10.61753	26.06417	11.22521	Variance	25.84584	16.06081	28.2389	24.44178
Mean value	64.92805	67.70088	45.88994	89.62675	Mean value	61.55662	61.5472	47.86347	31.78149
Coefficient of variation	0.376253	0.15683	0.567971	0.125244	Coefficient of variation	0.419871	0.260951	0.589989	0.737592

TABLE 6: Students' comprehensive physical health evaluation status.

Health status	Excellent		Good		Pass		Failing	
	Number of people	Percentage						
Male students	0	0	2	8.70%	13	56.52%	8	34.78%
Female students	0	0	2	33.33%	3	50%	1	16.67%

are in the passing stage, among which the total number of boys passing is 15 (13 passing, 2 good), and the passing rate is 65.22%; the total number of girls passing is 5 (3 passing, 2 good), and the passing rate is 86.63%. Nearly 9 out of 29 students are the school should pay attention to these students.

4. Result Analysis and Discussion

Based on the fuzzy comprehensive evaluation method, we analyzed the physical health test data of students in Zhuzhou City, Hunan Province, and found that the current physical health status of male students in Zhuzhou City is mostly in the passing and good area, 3.14% of students did not reach the standard, the current physical health status of female students is mainly in the passing area, 5.30% of students could not reach the standard, and the common characteristics are very few students can reach the excellent standard and not many good students. The common features are very few students can reach the excellent standard and not many students with good proportion. It can be seen that the current situation of students' physical health in Zhuzhou higher education institutions is rather serious, and measures must be taken to intervene in time to reverse the situation and improve the physical health of students.

The reasons for this are summarized as follows.

- (1) *The Influence of the New National Physical Test Standards and Policies.* In order to implement the spirit of the Third Plenary Session of the 18th CPC Central Committee and conscientiously implement the educational planning outline and the relevant requirements of the Notice of the General Office of the State Council on Forwarding Some Opinions of the Ministry of Education and Other Departments on Further Strengthening School Sports Work (Guo Ban Fa [2012] No. 53), the Ministry of Education has formulated the Measures for Monitoring and Evaluating Students' Physical Health and the Standards for Physical Education Work in Higher Education Institutions. The promulgation of a series of national documents has pointed out the direction

for the physical education reform and student physical fitness test in higher education institutions. From the new standards promulgated by the state, it can be seen that the increase of excellent and good standards is very large, while the passing standard is reduced, and the purpose is to encourage students to achieve "excellent" and "good" through the form of extracurricular exercise and their own active attitude. The purpose is to encourage students to achieve "excellent" and "good" through extracurricular exercise and their own active attitude to cultivate the habits, interests, and hobbies of physical exercise and to achieve the ultimate goal of sports. The National Physical Fitness Standard for Students (Revised 2014) clearly puts forward that those who score less than 50 points are treated as finishing or incomplete, and the new standard takes the initiative to lower the passing requirement in the hope that most students can graduate successfully, while 3.14% of male students and 5.30% of female students in Zhuzhou City still fail to pass, which is a realistic problem worthy of deep thinking and vigilance

- (2) *The Current Situation of Physical Fitness Test Work in Higher Education Institutions.* By interviewing the teachers in charge of the physical fitness test in Zhuzhou higher education institutions and investigating the testing students, we found that

First, schools are not active in promoting the physical fitness test; the physical fitness test in the five surveyed schools is basically carried out in the form of a notice, which is not raised to the school level, or even directly conveyed by the student union, and the Internet information technology is seldom used to promote, organize, and coordinate the arrangement. Large-scale school-wide testing work requires coordination and cooperation among multiple departments in order to complete the work accurately and on time within the time frame set by the state.

Second, feedback on students' physical fitness test results is not timely. The survey schools have teachers who are

mainly responsible for the physical fitness test, and they have to organize the physical fitness test work and data statistics and reporting after class, which is very difficult to do.

Third, the negativity of senior students' attitudes toward physical fitness testing. After a questionnaire survey of students, we learned that first-year students had the most positive attitude toward physical fitness testing. When new students enter the school, they are more active and motivated psychologically in the new environment, new school, and new classmates; and they also want to be affirmed by teachers and classmates; and they can encourage, cheer, and help each other in the test, reflecting a sports spirit of striving and unity. The attitude of senior students toward physical test gradually decreases, only students who strive for merit evaluation will take the initiative to exercise to improve their test scores, and some students have the mentality of just passing the test. In the test work, students who are late and punctual basically have this mentality, and there are more coping tests, especially the 800 meters and 1000 meters test items, which are more prominent. This phenomenon defeats the purpose of the national physical fitness test and affects the authenticity of the test data.

Fourth, the system of physical fitness test in schools is not perfect. By examining the system construction data of five institutions of higher education in Zhuzhou City, we found that some schools had complete implementation plans, with detailed descriptions of principles, organization, division of responsibilities, implementation methods, and financial guarantee, which had been upgraded to school management documents and copied to all colleges, departments, and functional offices, which were very beneficial to the work and implementation. In contrast, two schools did not formulate the implementation plan of the National Student Physical Fitness Standard, but carried out the work directly according to the documents promulgated by the state, which has the disadvantages of unclear responsibilities for physical testing, difficulty in implementation, failure to secure funding for testing, and lack of student management.

4.1. Suggestions

- (1) Grasp the changes in the new standards for physical fitness tests, strive to increase the number of students with "excellent" and "good" percentages, and gradually reduce the proportion of failures
- (2) Use information technology to strengthen the publicity of students' physical fitness test, increase the coverage of physical exercise and scientific fitness knowledge, and enhance students' awareness of exercise
- (3) Provide timely feedback on the results of physical fitness tests and understand students' ideological dynamics
- (4) Increase the reform of school sports work, close links between the classroom and extracurricular, to create a positive, harmonious, and sunny campus sports atmosphere
- (5) Respond to the national requirement to carry out "Sunshine Long Distance Running" activities, develop "Sunshine Long Distance Running" program, and promote the formation of students' exercise habits with special activities on a large scale
- (6) Improve the "physical fitness test implementation plan," more research and visits, combined with the actual situation of the school and the characteristics of the student population, to develop effective measures to ensure the smooth implementation of the physical test work

5. Conclusion

In this thesis, we used various statistical methods from BMI, doubled standard deviation, fuzzy mathematics, and other perspectives and also passed various tests to conclude that weight has a significant effect on the physical health of college students, and there is no significant difference in the physical health of students from different places of origin. The established fuzzy comprehensive evaluation model can be used to analyze the physical health evaluation of college students in a more comprehensive way [21].

In view of the above reality, it is recommended that students should strengthen physical exercise and self-care in the following areas.

Insist on aerobic exercise to gradually improve cardio-pulmonary function. Exercise intensity is kept medium, exercise time lasts more than 20 minutes, heart rate is kept at about 140 times/minute, and generally 2/3 of muscle groups are involved in exercise. The most simple and easy to do such as every day to carry out a certain distance of running, in running to pay attention to their breathing rhythm, do not deliberately hard breathing, keep even, while maintaining their own running speed of uniformity to write down the time they spend every time the same distance running, for each time there is progress. The same can also take rope skipping, playing table tennis, badminton, and big ball (basketball, volleyball, and soccer) project to exercise to improve cardiorespiratory function as well as the coordination of the whole body and endurance, etc.

Regarding weight: many overweight and obese students, in addition to certain genetic factors, the main reason is the lack of necessary exercise, so that the energy intake in the diet is more than the body energy, resulting in excess energy stored in the body in the form of fat. For this reason, it is necessary to strengthen physical exercise, physical exercises of medium intensity, the highest heart rate is maintained at 150 to 160 times a minute, belonging to the medium to high exercise intensity is generally controlled at about 130 times/minute, each exercise should be more than 30 minutes. As long as such exercise duration is achieved, the proportion of fat supply in the body will increase significantly and eventually achieve the rehabilitation requirements of fat reduction in the body. Exercise is best arranged in the afternoon, and meals are eaten 2 hours after exercise. While adhering to exercise for a long time, it is also important to control your diet. Candy, cookies, KFC,

McDonald's, fried products (including potato chips), and barbecue should be eaten sparingly or not at all. Eat more vegetables for sure, but do not give up eating rice and steamed buns. Eat sixty or seventy percent full at each meal, do not eat too fast when eating, and do not sleep within four hours after the meal. Female students are recommended to practice aerobics and aerobics. As for those students who are malnourished or have low weight, while paying attention to strengthening physical exercise, they must pay attention to their diet and nutritional mix to effectively promote health and enhance physical fitness.

Data Availability

The labeled data set used to support the findings of this study is available from the corresponding author upon request.

Conflicts of Interest

The author declares that there are no conflicts of interest.

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