

RESEARCH

Analysis of the Extracurricular Sports to Promote the Healthy Development of Students' Physique

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In recent years during the process of Students education, a healthy body is fundamental to learning, but it is also a problem that is often ignored. Especially for college students, they are the future and hope for the construction of the motherland and they bear an important responsibility of national construction in the future. (Bing Li, 2012) So it is necessary to strengthen and promote the physical health of college students. This paper uses the methods of literature, questionnaire surveys and other scientific research methods to study the health development of students' physical health in Northeast Petroleum University, analyzes the status quo and influencing factors of students' physical health in Northeast Petroleum University, and discusses the way of after class sports promoting healthy development of the students, and putting forward corresponding countermeasures to further improve the physical health level of the students of Northeast Petroleum University, and provide a theoretical reference for the cultivation of a good consciousness of lifelong physical exercise.

Keywords: Spare time activities; College students; Physical fitness

1. Introduction

Health is the eternal topic of human pursuit, the foundation of vitality, and the cornerstone of university-generated talent. The famous French doctor Tissot once said: "Sports can replace almost any medicine in terms of its effects, but all drugs in the world cannot replace the role of exercise." (Bocong Qiu, 2013) Exercise can promote health in scientific way. With the coming of the era of knowledge economy and the improvement of the material living standards of the residents (Qingfu Shi, 2015), exercises that require large muscles are almost unnecessary. (Caifang Wang, 2011) And people's awareness of sports and health is becoming stronger, making sports an indispensable part of people's lives. College students are the high-skilled talents in the mainstream of economic and social development. The intellectualized labor mode makes sports an important means to maintain their healthy development. Therefore, college sports play a unique role in promoting healthy development of students' physical fitness.

Health, as the World Health Organization (WHO) defined: health is not only disease-free and not weak, but also a perfect state of physical, psychological and social adaptation. Physique is the quality of the human body. (Tao yu, 2017) The specific elements of physical health include cardiopulmonary endurance, muscle strength, muscle endurance, flexibility and body shape. (Yuanjiang Ding, 2018) Common indicators for assessing a person's physical ability often use healthy fitness indicators, which are the basis for measuring a person's health. (Meilin Wu, 2010) Therefore, aiming at the body shape, flexibility, muscle strength and muscular endurance of college students, the investigation and analysis of cardiopulmonary fitness is of great significance for improving the physical quality of college students, thus providing a scientific basis for the students' sports work of Northeast Petroleum University.

2. Research objects and methods

2.1. Research object

The effect of extracurricular sports on the healthy development of students' physical fitness.

2.2. The research methods

2.2.1. Bibliography

According to the purpose and task of the research, using the available resources such as the school library in Northeast Petroleum University and China Knowledge Network to search for papers related to extracurricular sports promoting the healthy development of students, and statistics and collation of the collected data. Providing a reliable and scientific theoretical basis for the design of the questionnaire and the work of writing the paper.

2.2.2. Experimental test method

In May 22nd -2018 March 6, 2018, it lasted 11 weeks, and randomly selected class 2016 sports options (200 people) and 2017 class sports options (200 people) to carry out an experimental study. The contents of the experiment were the national physical health test contents (height, weight, sitting body flexion, vital capacity, 800 meters).

2.2.3. Questionnaire survey method

The following (Table 1), which was integrated from the selected studies for this review, showed issue from a total of 400 students. In the class of 2016 and 2017 of Northeastern University of petroleum, 400 were recycled, 396 were effective and ratio of efficiency is 99%. After the experiment, a survey was conducted on students' interest in sports and their time to participate in physical exercise after class. 400 questionnaires were issued, 400 were collected, 390 were effective, 97.5% effective, and the survey results were statistically analyzed.

2.2.4. Data statistics method

The following (Table 2), which was integrated from the selected studies for this review. the excel software was used to statistically and comparatively analyze the relevant data before and after the students' experiments, and the conclusions of the paper were obtained.

3. Research results and analysis

3.1. Analysis of body shape test results

3.1.1. Height

Height reflects an important indicator of the vertical development level of human body morphology. The height is taken to measure and the instrument is calibrated. It can be seen from Table 3 that the height index of men and women of the 2016 and 2017 college students of Northeast Petroleum University is higher than the national average.

3.1.2. Weight

The body weight reflects the overall indicator of the lateral development level of the human body. As can be seen from Table 4, the students' body mass index was higher than the overall average, and the students' weight was in the normal range.

Table 1: Survey results of student participation activities of Northeast Petroleum University (N = 400).

| Test point | Looking forward to activities every day (%) | Always look forward to activities (%) | Technology makes me prefer sports (%) |
|------------|---------------------------------------------|---------------------------------------|---------------------------------------|
| 2016 Class | 100 | 94 | 87 |
| 2017 Class | 95.6 | 100 | 89 |

Table 2: Time survey results of students participating in extracurricular exercise at Northeast Petroleum University (N = 400).

| Test point | The average daily physical activity after school reaches and exceeds 1 h (%) | Average daily exercise reaches 40-60 min (%) | Average exercise reaches 30 min (%) |
|------------|------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------|
| 2016 Class | 80 | 13.5 | 6.5 |
| 2017 Class | 75 | 20 | 5 |

3.2. Analysis of students' physical fitness test results

3.2.1. 1000 m (male), 800 m (female) test analysis

As can be seen from **Table 5**, the test of 1000 meters (male), 800 meters (female) is not ideal.

3.2.2. Muscle endurance

Muscle endurance refers to the ability of the human body to perform muscle work for a long time, that is, the ability of the muscle to work repeatedly. The person with strong endurance can work for a long time without excessive fatigue. The male student's pull-ups and the girl's 1-minute sit-ups are the content of the student's physical health test, which is tested against the sampling group.

It can be seen from **Table 6** that in the content of the student's physical health test, the results of the male pull-up test are not satisfactory, and the result of the girl's 1-minute sit-up test is OK.

3.3. Analysis of flexibility test results

To assess the flexibility, the level of flexibility can be assessed by the positional flexion index.

It can be seen from **Table 7** that the student's sitting body flexion test results are better for girls than boys.

3.4. Analysis of cardiopulmonary endurance test results

Cardiopulmonary endurance refers to the ability of a person to continue physical activity. The test method for cardiopulmonary function uses a spirometry test.

Table 3: Test results of student height indicators of Northeast Petroleum University (N = 400).

| Test point | Average/cm | | Standard deviation/cm | |
|------------------|------------|--------|-----------------------|--------|
| | male | female | male | female |
| 2016 Class | 172.2 | 160.5 | 5.4 | 4.9 |
| 2017 Class | 173.8 | 162.8 | 5.8 | 5.0 |
| National average | 169.9 | 159.8 | 6.1 | 6.2 |

Table 4: Test results of students' weight index in Northeast Petroleum University (N = 400).

| Test point | Average/cm | | Standard deviation/cm | |
|------------------|------------|--------|-----------------------|--------|
| | male | female | male | female |
| 2016 Class | 62.9 | 53.4 | 9.7 | 7.5 |
| 2017 Class | 64.1 | 55.9 | 8.3 | 7.9 |
| National average | 61.0 | 52.7 | 8.1 | 7.5 |

Table 5: 1000 meters (male), 800 meters (female) test Unit: second.

| Test point | Data sample | 1000 m (male) | 800 m (female) |
|------------|-------------|---------------|----------------|
| 2016 Class | N = 200 | 4'48" | 4'05" |
| 2017 Class | N = 200 | 4'40" | 4'00" |

Table 6: Test results of student height index of Northeast Petroleum University (N = 400).

| Test point | pull-ups | 1 min sit-ups |
|------------|----------|---------------|
| | male | female |
| 2016 Class | 4 | 35 |
| 2017 Class | 3 | 33 |

Table 7: Test results of students' positional flexion index of Northeast Petroleum University (N = 400).

| Test point | Sitting body flexion mean | |
|------------|---------------------------|--------|
| | male | female |
| 2016 Class | 20.5 | 26 |
| 2017 Class | 24 | 29.5 |

Table 8: Test results of students' vital capacity test at Northeast Petroleum University (N = 400).

| Test point | Data sample | Mean of lung capacity |
|-------------------|-------------|-----------------------|
| 2016 Class female | N = 100 | 2345 |
| 2017 Class female | N = 100 | 2655 |
| 2016 Class male | N = 100 | 3360 |
| 2017 Class male | N = 100 | 3520 |

As can be seen from **Table 8**, the student's vital capacity test results are better for boys than for girls.

4. Conclusion

From the above test results, the height and body mass index of students of Northeast Petroleum University are higher than the national average, in an ideal state; physical fitness test items (1000 meters (male), 800 meters (female) test; flexibility test; heart and lung Functional test) These content test results are not satisfactory.

5. Development Countermeasures for Improving Students' Physical Health Level

5.1. Strengthen the management of school science

First, the school strengthens the promotion and education of physical exercise, so that students realize the importance of improving physical fitness. Increase the supervision of school sports work, ensure students participate in the time and intensity of physical exercise after school; in addition, improve the utilization of sports facilities, ensure that students have sufficient sports hardware facilities for sports activities, and provide favorable conditions for physical exercise.

5.2. Strengthen the study of sports knowledge

Pay attention to the study of students' theoretical knowledge, teach students the scientific physical exercise habits, make them develop a fitness method that is good at using science, enhance students' awareness of participating in sports activities, and develop the habit of actively participating in physical exercise.

Competing Interests

The authors have no competing interests to declare.

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