

# Study on the Application and Research of the Exercise Prescription in Physical Education of Colleges and Universities

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**Abstract:** Exercise prescription is a highly targeted, well-defined, selective, and controlled exercise therapy in physical exercise. The application of Exercise prescription in college physical education is a new physical education teaching mode, which is one of the indispensable and necessary teaching methods in modern physical education. The paper analyzes the Exercise prescription in details through practical research in physical education first. And the results show that the application of exercise prescription can improve students' physical quality, psychological quality and interest in physical exercise effectively, as well as enable students to exercise scientifically by following the guidance of "Health first".

## 1. Introduction

Exercise prescription commonly refers to the specific plan of fitness-related activities that are designed for a specified purpose, which is often developed by a fitness or rehabilitation specialist for the client or patient. Due to the specific and unique needs and interests of the client/patient, the goal of exercise prescription should be focused on motivation and customization, thus making achieving goals more likely to become successful. The prescription of exercise came about because of the major impact that exercise can improve our health and many benefits it brings to our body. Exercise benefits our mind, body and emotional state. It can also benefit our social life as well. Daily exercising can help to prevent various illnesses, which is another reason why physicians prescribe exercise to their patients. Many people don't get the adequate amount of exercise or don't exercise at all which leads to them contracting harmful ailments.

The concept of exercise prescription was first proposed by American physiologist kapovich in the 1950s. Since the 1960s, with the development of rehabilitation medicine and rehabilitation training for coronary heart disease and other diseases, sports prescriptions have begun to arouse attention. In 1969, the World Health Organization (WHO) began to use sports prescription officially, which was recognized internationally. Nowadays, scholars in medical and the field of sports have different expressions on the concept of sports prescription, but they are unified essentially.

## 2. Research Object and Methods

### 2.1 Research Object.

Some of the students (boys) taught were selected as the research object.

### 2.2 Research Methods. Documentation Method.

A quick and simple way to add a comment block prior to a method. We can collect the information on sports prescription through the library, reference room, network access, to provide the required materials for the paper.

### 2.3 Questionnaire Survey.

The research method designs a series of questions and other prompts for the purpose of gathering

information from respondents. We can collect and analyse the questionnaires on daily sports activities filled out by the students.

## **2.4 Experimental Method.**

The experimental method is usually taken to be the most scientific of all methods, the 'method of choice'. The main problem with all the non-experimental methods is lack of control over the situation. We tested the selected subjects, including body weight, vital capacity, 50 m, standing long jump, 1000 m. Exercise prescriptions are formulated for different students and then executed.

## **2.5 Mathematical Statistics.**

Mathematical statistics is the application of probability theory on statistic. Statistical analysis of data was carried out after the experiment. The scores of POMS subscales were expressed by mean ( $\pm$ standard deviation). The data of pre-and post-text was carried out by SPSS 14.0 statistical software. The difference was significant ( $P < 0.01$ ).

## **3. Results and Analysis**

### **3.1 Results.**

After the experiment for one academic year, the test results show that there are significant differences in the application of exercise prescriptions in Physical Education between the two groups ( $P < 0.01$ ). It shows that the teaching method of applying sports prescription in physical education meets the requirements of current students' physical education class. Exercises prescription can effectively improve students' physical quality and skill level. It can also reflect students' psychological quality and interest in physical exercise.

### **3.2 Analysis. The Basis of Applying Sports Prescription in Physical Education.**

At present, the physical qualities of college students vary greatly, and the traditional one-size-fits-all teaching model cannot meet the needs of students. In order to achieve the goal of quality education in an all-round way and improve the students' physical and mental quality, it is necessary to strengthen the reform of physical education curriculum, develop students' ability of Sports scientifically. In physical education, teaching methods should pay more attention to the individual differences of students, from simple activities to complex activities, gradually increase the exercise load from low level to high level. Systematic teaching and practice, exercise prescription can play a vital role. Targeted sports prescription for students could make them exercise consistently, so as to promote the physical and mental health of students. For example, the students who are lonely, not very gregarious, can choose soccer, basketball, volleyball and other collective projects. They will gradually adapt to the interaction with peers, and love the team; the students who are shy and timid, can participate in swimming, skating, skiing, boxing and other similar events, these activities require them to constantly overcome timidity and find courage to overcome difficulties. The students who are indecisive and hesitant should participate in table tennis, tennis, badminton and other similar sports activities, hesitation will result in losing the opportunity and the match; and those students who are impulsive should participate in chess, Taiji, jogging and other slow and sustained activities, which can help them enhance their self-control ability.

### **3.3 Leading Role of Teachers in Physical Education.**

The implementation of sports prescription in physical education can form an ideal interaction between teachers and students. Teachers can formulate corresponding exercise prescriptions according to different physical qualities, hobbies and personalities of each student. In the practical process, students could get the systematic guidance from teachers, so they can grasp the key points quickly and improves the effect of exercise effectively, which fully reflects the leading role of teachers in return.

### **3.4 Students' Initiative and Self-confidence.**

Now there are individual differences among students. Some of the students do not want to exercise and are not willing to participate in activities. The application of Sports Prescription in teaching can group the students according to the differences of students' physique, interest and specialty. The students could exercise suits to them, the classroom will become active. Students become active from passive in practice, which is conducive to develop students' self-managed habits and improve their self-confidence.

### **3.5 Integration of Physical Education Teaching.**

Currently, physical education class has been set up once a week, which could not meet the needs of students for sports. Extracurricular sports activities lack the guidance from teachers. The application of sports prescription in physical education teaching organically integrates physical education classroom teaching and after-class exercise. Students will also exercise step by step in accordance with the requirements of sports prescriptions after they finish a good P. E. class. According to the requirements of sports prescription, extracurricular sports exercises can promote the knowledge and skills in class, improve physical fitness more effectively, and attract their interest in sports.

### **3.6 Students' Ability to Use Sports Knowledge.**

In the routine physical education teaching, the teacher focuses on students' practice and examination results, but neglects students' understanding of sports knowledge and application of skills. Through applying exercise prescription in physical education teaching, students can do the self-feedback by comparing the teaching goal set based on prescription with their own exercise situation, which could formulate exercise prescriptions according to their own situation through teachers' teaching knowledge, consulting relevant information and communicating with students.

## **4. Conclusion and Suggestion**

(1) The teachers will play the leading role effectively and the students will play the main role by the application of sports prescription in physical education teaching. It can better solve the problem of students' individual differences and formulate different sports prescriptions according to the characteristics of different sports events, which is the extension and supplement of physical education class.

(2) In the formulation and implementation of Sports Prescriptions in physical education, attention should be paid to the development of students' interests and personalities, so that students can formulate and implement Sports Prescriptions suitable for themselves under the guidance of theoretical knowledge, so as to exercise scientifically and cultivate lifelong sports consciousness.

(3) Exercise prescriptions require the necessary data to be recorded step by step, and constantly revised and improved the physical condition.

(4) The application of exercise prescriptions should vary from person to person, and follow the principle of overall physical and mental health. In the formulation and implementation of exercise prescriptions, attention should be paid to maintain the balance of human physiology and psychology, constantly adjusting and ensuring the scientific validity of the prescriptions.

(5) Exercise prescription should be implemented in a safe range. If it goes beyond the limits of safety, it may have a negative impact on the body. While formulating and implementing sports prescriptions, the regulations and requirements should be strictly followed to ensure safety.

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