

# Research on the Correlation between College Students' Sports Participation and Mental Health

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## Abstract

In order to study the correlation between college students' sports participation and mental health, this paper compiles a questionnaire based on the situation of college students' sports participation, "activity and Meter comparison table" and "Chinese college students' mental health scale". Taking college students in Henan Province as the survey object, this paper studies the correlation between college students' mental health and sports participation. It is found that the Pearson correlation coefficient between college students' mental health and sports participation is 0.659. There are different degrees of correlation between college students' sports participation and various factors of mental health. There are gender differences between male and female college students. College students who often participate in sports have better mental health.

**Keywords:** College students, sports participation, mental health, pearson correlation coefficient.

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## INTRODUCTION

The Outline of Healthy China 2030 Plan points out that colleges and universities should attach importance to mental health education and form a "big health" concept. The state pays more and more attention to the mental health of college students, and introduces policies to encourage college students to actively participate in physical exercise.

With the rapid development of society and economy, college students are facing employment, postgraduate entrance examination and emotional pressure, which makes their mental health worrying. The neglect of college students' mental health by all sectors of society makes mental health problems not be solved in time, which leads to some students' mental health diseases. Lin Xiaomin's research found that different sports participation behaviors of college students, such as the degree of sports participation, have different effects on the mental health of college students. Therefore, sports participation may have a certain impact on mental health. It is of great significance to further verify the relationship between sports participation and mental health of college students.

In the study of college students' mental health in China, psychological measurement scale is usually used to measure and evaluate. The result is to detect the commonality of college students' mental health status, which is objective and scientific, and lacks the connection with sports participation. The problems of college students in the stage of psychological maturity are mainly manifested in emotional state, interpersonal relationship, study, employment and development, which are mostly developmental problems. Therefore, this study uses indicators such as psychological endurance, adaptability and emotional regulation to evaluate the mental health status of college students. So it combined with the current level of sports participation of college students, this paper explores the correlation between the two, and determines whether the psychological pressure can be alleviated by improving the level of sports participation of college students, so as to improve their mental health.

## 1. RESEARCH OBJECT AND METHOD

### 1.1 Research Object

Correlation analysis of college students' sports participation and mental health.

## 1.2 Survey and Analysis Methods

### 1.2.1 Text Investigation Method

In the early stage of the survey, the members of this group searched for keywords such as sports, college students and mental health through websites such as China National Knowledge Infrastructure and VIP data, and obtained second-hand information that was helpful to the research, which strengthened our understanding of the research topic and facilitated the follow-up work.

### 1.2.2 Questionnaire Method

Questionnaire survey is one of the most direct methods to obtain first-hand information. In order to obtain first-hand information, we randomly interviewed and distributed questionnaires to college students in many universities in Henan Province, collected relevant data and information, and laid the foundation for subsequent in-depth analysis.

**Subjects:** 1000 college students in Henan province.

The distribution and recovery of the questionnaire: This survey adopts the method of convenient sampling, 1000 questionnaires were randomly distributed at the entrance of many colleges and universities in Henan Province, 956 questionnaires

were recovered, 896 valid questionnaires, the effective rate was 93.72 %.

### 1.2.3 Statistics Method

Encode the questionnaire data and enter the Excel table for later statistical analysis.

The incomplete questionnaires were eliminated, and the abnormal and missing data were checked and processed by SPSS software.

Mean, standard deviation and Pearson correlation coefficient are the main descriptive statistical analysis methods used in this paper.

## 2. SURVEY RESULTS AND ANALYSIS

### 2.1 Basic Situation of College Students' Mental Health

In order to fully and accurately understand the mental health of college students, this paper selects three aspects of psychological tolerance, adaptability and emotional fluctuation to evaluate. The results show that the average score of the total score is  $53.51 \pm 11.52$  points. The score of college students affected by psychological endurance is the highest, with a score of  $67.22 \pm 23.72$  points, followed by emotional fluctuation, with a score of  $51.91 \pm 25.16$  points.

**Table 1: Total score and item score of college students' mental health**

| Item                    | Score ( $\bar{x} \pm s$ ) / Point |
|-------------------------|-----------------------------------|
| Total score             | $53.51 \pm 11.52$                 |
| Psychological endurance | $67.22 \pm 23.72$                 |
| Adaptability            | $44.11 \pm 23.28$                 |
| Emotional fluctuations  | $51.91 \pm 25.16$                 |

### 2.2 Mental Health Status of College Students of Different Genders

The mental health status of college students is affected by subjective factors. Therefore, this study divides 896 college students into two groups according to gender, and analyzes the correlation between the mental health status and sports participation of college students in each group. The study found that the average score of mental health of male college students was  $55.59 \pm 11.32$ , and the average score of mental

health of female college students was  $49.61 \pm 11.63$ . At the same time, the results of this study show that the Pearson correlation coefficients of Merlot value and mental health status are 0.652 and 0.563, respectively, and the Pearson correlation coefficients are between 0.4 and 0.7. It can be seen that college students of different genders are closely related to sports participation and mental health.

**Table 2: Comparison of sports participation results of college students of different genders**

| Peer group              | Head | Tummel value    | Mental health status / points |
|-------------------------|------|-----------------|-------------------------------|
| Boy                     | 503  | $5.46 \pm 5.59$ | $55.59 \pm 11.32$             |
| Girl                    | 479  | $3.58 \pm 4.81$ | $49.61 \pm 11.63$             |
| Correlation coefficient |      | 0.652           | 0.563                         |

### 2.3 The Correlation between College Students' Sports Participation and Mental Health Dimensions

The correlation between college students' sports participation and mental health status was measured by Pearson correlation coefficient. The results

show that the Pearson correlation coefficient between sports participation and mental health is 0.659, and the Pearson correlation coefficients of psychological endurance, adaptability and emotional fluctuation are 0.726, 0.534 and 0.623 respectively. Therefore, college

students' weekly sports participation is positively correlated with all dimensions of mental health ( $P <$

0.05), and the relationship is close.

**Table 3: Pearson correlation results of sports participation and mental health status**

| First-level evaluation index | Pearson correlation coefficient ( $r$ ) |
|------------------------------|---|
| Total score                  | 0.659                                   |
| Psychological endurance      | 0.726                                   |
| Adaptability                 | 0.534                                   |
| Emotional fluctuations       | 0.623                                   |

### 3. CONCLUSIONS AND SUGGESTIONS

#### 3.1 Conclusion

##### 3.1.1 Overview of the Basic Situation of College Students' Sports Participation and Mental Health Dimensions

This paper selects three aspects of psychological tolerance, adaptability and emotional fluctuation to evaluate. The results show that college students have the highest score of psychological impact, with a score of  $67.22 \pm 23.72$ , followed by emotional fluctuation, with a score of  $51.91 \pm 25.16$ . Therefore, college students should improve their psychological endurance and improve their mental health through sports participation.

##### 3.1.2 Gender Differences in Mental Health and Sports Participation of College Students

Table 2 shows that the average score of mental health of male college students is  $55.59 \pm 11.32$ , and the average score of mental health of female college students is  $49.61 \pm 11.63$ . At the same time, the results of this study show that the Pearson correlation coefficients of Merlot value and mental health status are 0.652 and 0.563, respectively, and the Pearson correlation coefficients are between 0.4 and 0.7. It can be seen that college students of different genders are closely related to sports participation and mental health.

##### 3.1.3 College Students' Sports Participation is Closely Related to the Dimensions of Mental Health

The correlation between college students' sports participation and mental health status was measured by Pearson correlation coefficient. The results show that the Pearson correlation coefficient between sports participation and mental health is 0.659, and the Pearson correlation coefficients of psychological endurance, adaptability and emotional fluctuation are 0.726, 0.534 and 0.623 respectively. Therefore, through planned sports participation can improve the mental health of college students, and there is a close relationship between the two.

#### 3.2 Suggestions

##### 3.2.1

College students can improve their psychological endurance by choosing appropriate sports methods, and then adjust their mental health. More individual confrontational exercises, such as badminton, table tennis and tennis exercises and competitions, in

training to match a higher level of opponents. At the same time, strengthen the training, can in constant failure to study hard to succeed, so that the psychological endurance is enhanced, and improve their mental health.

##### 3.2.2

The school strengthens the health management of college students, makes specific sports participation programs for boys and girls, and encourages and guides college students to participate in sports scientifically, effectively and regularly. According to the characteristics of different genders, girls are more suitable for endurance-based, protective sports, such as aerobics and dancing. On the contrary, boys are more suitable for explosive and high-intensity sports, such as playing basketball and football. At the same time, combined with the situation of students to carry out interesting games, pay attention to the participation of students, through the way of reward to enhance college students' interest in active participation in sports activities, so as to improve the mental health level of college students.

##### 3.2.3

College students should choose different ways of sports participation according to their physical fitness. Different ways of sports participation have different effects on the mental health of college students. Participating in large and medium intensity physical exercise can improve the mental health level more than participating in small intensity physical exercise. In the case of regular physical exercise, maintaining more than three times a week is more conducive to promoting the healthy growth of college students. Therefore, college students should appropriately increase the intensity and time of physical exercise and increase the number of physical exercises as much as possible within the scope of the body.

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