

# The effects of physical activity on the prevention of mental illness in college students

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## Abstract

College students are the driving force behind national and social progress. They frequently face a great deal of mental and psychological pressure. If the pressure is not relieved promptly, it will significantly impact their mental health. This study aims to examine the preventative effect of sports training on the mental health diseases of college students. In China, mental health issues are receiving increasing attention and psychological pressure. The students were screened using the SCL-90 psychological test, and those without significant psychological illness were chosen as research participants. Before and after the experiment, the Simple mood State Scale (POMS) was measured twice; the influence of different sports on the mood state of college students is the subject of this study. The experiment was conducted on 200 Chinese college students. None of the students was afflicted with any unusual diseases. The invalid questionnaire and students who interrupted the experiment due to exceptional circumstances were disqualified. The final subjects of the experiment were 194 first-year students. This paper investigates the relationship between college students' participation in sports and their mental health status. Before and after the comparison, there is a significant difference ( $P < 0.05$ ), as determined by the difference test. It has been found that college students who frequently participate in sports have significantly better mental health than those who do not. They have high self-awareness and are effective at eliminating negative emotions such as anxiety and depression. Exercising is a method of proving their worth. Through psychological transfer, students can use psychological hints to motivate themselves to achieve their goals, thereby enhancing their self-confidence in other endeavours. Enhancing self-confidence will play a significant role in promoting the study, work, and life of college students. Oxygen plays an important role in cultivating students' mental health. It can help students establish mental health consciousness, enhance the ability of psychological adjustment, cultivate students' correct understanding of self, boost self-confidence, develop optimistic psychological qualities, enhance the ability to deal with setbacks and adapt to society, and promote the sound development of students' psychological health.

**Keywords:** Sports training; Mental health; Disease prevention

## Introduction

College students' mental health is the foundation of their happiness and service to society. However, epidemiological statistics indicate that the number of college students with psychological disorders is on the rise, which has attracted an increasing amount of attention from the medical and educational communities, among which the issue of depression among college students merits greater consideration (Wang, 2021). Depression-related suicides have been prevalent among college students in recent years, harming the harmonious development of campuses, colleges and universities. The psychological behaviour of college students will directly or indirectly affect psychological quality. Mental health is an issue that requires the attention of the entire society, including individual students; physical education teachers are not solely responsible. How to control the depression level of

college students within a certain range and implement effective interventions for college student depression has become an unsolved problem. College students are the driving force behind national and social progress. They frequently face a great deal of mental and psychological stress. If they cannot alleviate their pressure promptly, they will experience a significant mental burden, negatively impacting their mental health. In its 1984 Charter, the World Health Organization stated that "health is not only the absence of physical defects and diseases, but also a state of perfect physical, psychological, and social adaptation" (Yunjun Xu, 2021). On September 11, 2020, the National Health Commission's official website published the work plan for examining specific services for the prevention and treatment of depression. The plan proposed that colleges and universities create mental health files for students, evaluate their mental health status, and pay particular attention to students with abnormal evaluation results

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(Dan, Zheng, & Hu, 2022). Mental health can be affected by one's mental state. A positive state of mind can have a positive effect on people, cause them to maintain a happy mood and an optimistic outlook on life, improve the learning efficiency of college students, cause them to communicate well with others, produce a good state of getting along with others, and promote the healthy development of the body and mind. The negative mental state will impact a person's daily life and behaviour, causing depression, anxiety, and stress. Long-term negativity negatively affects a person's physical and mental health and can lead to severe mental illness (Yuan et al., 2020). In this study, nine sports items will be chosen to compare the effects of different sports items on the mood state of college students before and after the experiment. In the development of modern society, the meaning of health is constantly evolving, and people are becoming more aware that the term "health" encompasses not only physical health but also mental health, social adaptation, and other factors. The human body must be relatively sound in these areas to be truly healthy.

Similar to previous research, the current study also examined physical activity among students (Cheng & Guan, 2022; Shang, Xie, & Yang, 2021; Song et al., 2022). Additionally, mental illness is evaluated in the literature (Lee et al., 2020; Mork et al., 2022). In addition to the existing factors, such as physical exercise and mental illness, this study also considered several crucial factors. Specifically, this study highlighted the Chinese college students affected by mental illness. The literature has emphasized these factors; however, the problem of mental illness among Chinese college athletes has been ignored in previous research. This study highlighted the issue of mental illness among Chinese college students to provide better implications. The contribution of the current study to the body of knowledge regarding mental illness and physical exercise may significantly expand the relevant body of knowledge and contribute to the practice.

## Literature Review

According to studies, the detection rate of depressive symptoms among college students majoring in physical education is 13.25%, which is significantly lower than the detection rate among all college students. Excluding other variables, it appears that the nature of their major and physical activity affects the improvement of their mood (Meng & Zhang, 2020). Using the symptom checklist 90 (SCL-90), mental health level evaluation form, sports association activity questionnaire, and

health cognition questionnaire, C. Zhang examined 566 members of sports associations and 580 students of non-sports associations. Results indicated that the prevalence of psychological disorders among college students participating in sports association activities was 24.73 percent, significantly lower than 46.14 percent among non-members. It demonstrates that college students who participate in sports association activities have significantly better mental health than those who do not (Zhang et al., 2021). Is there a relationship between this and physical activity? How does physical activity affect college students' levels of depression? Outside of China, physical exercise as a method of psychotherapy and mental health improvement is now widespread. Physical activity is an effective means of maintaining or promoting mental health and eradicating mental disorders (Dan et al., 2022; Daugherty, DePadilla, & Sarmiento, 2020).

The state of mind will affect individuals' mental health. Yang, J. found that the factors of tension, depression, panic, and self-esteem in the mental state of postgraduates were significantly improved by aerobic exercise. In contrast, the factors of compulsion, anxiety, and psychosis in their mental health were also significantly improved (Yuan et al., 2020). The study of people engaging in gyro movement by Haolun Xu (2021), reveals that the mood state of middle-aged and older adults who frequently engage in gyro movement develops in a positive direction and has a positive effect on the mental health of middle-aged and older adults (Haolun Xu, 2021). Channa, Popescu, and Ciobanu (2020) believes that the mood state of college students who engage in sports activities for more than one hour per day is demonstrably improved and that their mental health is also relatively good. Thus, it can be concluded that the positive mood state of college students positively impacts their mental health. Mental health is significantly impacted by mood. Physical exercise significantly affects mental health primarily by enhancing physical self-esteem. Physical self-esteem influences mood and improves students' mental health by enhancing the mood state of individuals. In analyzing the impact of physical exercise on mood, Kolenik and Gams (2021) concludes that most studies agree that physical exercise of the appropriate intensity can help improve people's mood and that physical self-esteem is significantly related to people's mood. People's self-esteem can frequently lead to a good mood, and the improvement of mood will eventually affect their mental health. The psychological health of college students is depicted in Figure 1 (He, 2021; Taghvaei, Masoumi, & Keyvanpour, 2021).

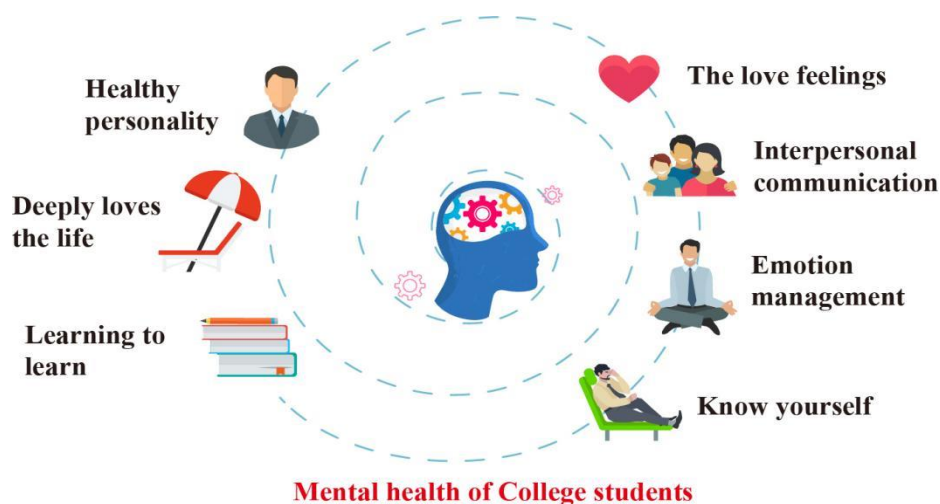


Figure. 1 Mental health content of College Students

College students' mental health development may be affected by physical activity's influence on their mental state. Zhang (2021) noted that the physical exercise group scored lower in negative emotions such as tension, anger, fatigue, depression, and panic than the non-sports group and higher in positive emotions such as energy and self-esteem. Physical activity was negatively correlated with anxiety, depression, and stress response and positively correlated with positive mood, self-esteem, and cognition, as demonstrated by Ma et al. (2021). This paper examines the relationship between physical activity and mood state from both a positive and a negative perspective. Landers's research demonstrates that physical activity can enhance positive mood, self-esteem, and cognitive function. Sports can influence the negative emotion of mood state: Gonçalves et al. (2020) discovered that anxiety increases after high-intensity resistance exercise, whereas long-term aerobic exercise effectively reduces anxiety. Therefore, physical activity has a positive effect on anxiety, but exercise mode must also be considered. The findings of Shen and Qi (2020). indicate that physical activity can affect mood. After participating in a 60-minute aerobic dance course, anger, confusion, fatigue, tension, and vigour in the mood state of the subjects were significantly reduced. Marques et al. (2021), based on a 12-month Sports Intervention Experiment with overweight women, that there is a significant correlation between mood state changes and sports. Through sports, obese women's positive emotions are enhanced, and their negative emotions are diminished. In Tao (2020) analysis of the influence of physical exercise on mood, the majority of studies agree that the appropriate intensity of physical exercise helps to improve people's mood and the body self-esteem and people's mood. The mood will gradually affect mental health.

According to the literature mentioned above, numerous domestic and international studies demonstrate that physical exercise can affect college students' moods and that different sporting events and training cycles can affect mood. Currently, Chinese scholars have conducted some research on the influence of sports on emotional state. When researchers pursue this line of inquiry, they concentrate primarily on the study of self-esteem and mood state and the effect of sports or traditional sports on mood state. Few research projects lack contrast and are insufficiently exhaustive. This study will select nine sports to measure the mood state of the subjects before and after the experiment and compare and analyze the effects of different sports on the mood state of college students.

## Methodology

### Research object

The focus of this paper is the effect of different sports on the emotional state of college students. A total of 200 college students participated in the study. None of the students was afflicted with any unusual diseases. The invalid questionnaire and students who interrupted the experiment due to exceptional circumstances were disqualified. The final subjects of the experiment were 194 first-year students.

### Literature method

In the process of writing this paper, relevant books, periodicals, and master's and doctoral theses are collected by searching the CNKI database (China Journal Network), the Wanfang database, and the Shanghai Normal University Library, and then categorized, summarised, and summarised to comprehend the research content associated with this paper fully. By consulting a large number of relevant literature on physical exercise and

mood state, we understand the current state of the research field and collect literature related to this study, which provides a research foundation for the design of this framework, the citation of literature, and the writing of this paper.

**Questionnaire survey method**

**(Survey of College Students' favorite sports)**

College students enjoy various sports, and with the progress of society and the nation, college students can interact with an increasing number of sports. As the primary location for college students to study and live, campus sports are the most prominent form of sports with which college students can interact. Under the context of personalized sports reform in colleges and universities, each school may offer students the opportunity to learn a variety of sports. Students can now contact one another, systematically study and train sports, and create questionnaires to determine their preferred sports. College students like a variety of sports. College students can participate in more sports as a society and the nation advance. As the primary location for college students to study and reside, campus sports are the primary means by which they can engage in physical activity. Against the backdrop of the personalized reform of physical education in colleges and universities, schools can offer a wide range of sports for students to learn. Now we will summarise and categorize the sports that college students can contact and engage in systematic learning and training during college, as well as develop a questionnaire to determine the most popular college sports. Three sports are considered. Based on the competitive event group theory, sports are categorized into five groups. According to the topic, college students participating in the survey select one of their favourite or most desired sports [Meng and Zhang \(2020\)](#). In the first week of school, random distribution of online questionnaires was used to distribute electronic questionnaires to college students (December 20, 2021 - December 27, 2021). There were recovered a total of 196 electronic questionnaires and 194 valid questionnaires. The final selection of three sports, including table tennis, basketball, and Taijiquan, was based on the results of online questionnaires.

**(Symptom checklist SCL-90)**

As a result of screening college students with the SCL-90 psychological test, the subjects of this study were college students without major mental illnesses. According to the results of the national norm, students with a total score of more than 160, more than 43 positive items, or any factor score of more than 2 require additional testing. Students with a total score of more than 160 or more than 43

positive items are excluded from the experimental scope of this study due to the requirements.

**(Short form mood state scale (POMS))**

College students were measured twice with a simple mood state scale before and after the experiment (POMS). The scale's reliability ranges between 0.60 and 0.82, with an average of 0.71. It is useful for studying emotional state and the connection between emotion and exercise performance. It contains forty adjectives and seven subscales, including tension, anger, fatigue, depression, energy, panic, and self-esteem ([Zhao et al., 2021](#)). TMD = the sum of five negative emotion scores (tension, anger, fatigue, depression, and panic) minus the sum of two positive emotion scores (energy and self-esteem) +100. IBM SPSS22.0 Statistics was utilized to organize and summarise the collected data, after which it was processed and analyzed using Excel 1. The mean and standard deviation of various mood state factors were calculated and tested for statistical significance.

**Results and Discussion**

**Influence of basketball on various factors of College Students' mood state**

**Table 1**

*Scores before and after each factor of mood state of college students in the basketball group*

Mood state	Pre and post-test	M±SD	T	df	P
Nervous	Pre-test	4.5±2.5	-0.5	38	0.6
	Post-test	4.8±3.5			
Anger	Pre-test	2.3±2.5	-1.5	38	0.1
	Post-test	3.3±3.7			
Fatigue	Pre test	4.3±2.6	0	38	1.0
	Post-test	4.3±2.8			
Depressed	Pre-test	2.2±2.0	-2.5	38	0.01*
	Post-test	3.8±3.5			
Energy	Pre-test	12.9±3.8	-2.3	38	0.03*
	Post-test	15.0±3.8			
Flustered	Pre-test	3.7±2.3	-2.0	38	0.05
	Post-test	5.0±3.1			
Self esteem	Pre-test	8.4±3.0	-2.4	38	0.02*
	Post-test	10.0±3.5			

As seen from [Table 1](#), after ten weeks of sports, the scores of two positive emotions in the mood state of college students in the basketball group were improved compared with those before the experiment, while the depression in the negative emotions increased. Before the experiment, the average scores of energy and self-esteem of college students in this group were 12.9 ± 3.8 and 8.4 ± 3.0,



respectively. After the experiment, the average scores of energy and self-esteem of college students were  $15.0 \pm 3.8$  and  $10.0 \pm 3.5$ , respectively. According to the statistical test, there was a significant difference between before and after comparing the energy and self-esteem of college students in this group ( $P < 0.05$ ). Before the experiment, the depression score of this group of college students was  $2.3 \pm 2.1$ . After the experiment, the depression score increased compared with that before the experiment. The difference test showed that there was a significant difference between before and after the experiment ( $P < 0.05$ ); In terms of tension, anger, fatigue and panic, although the data values before and after the experiment increased or decreased, there was no significant difference ( $P > 0.05$ ). The data results show that after ten weeks of exercise, college students in the basketball group can significantly promote their positive emotions, promote the development of College Students' moods in a positive direction, and increase their depression. Basketball can make college students fully exercise in the field. Firstly, sufficient physical activity can increase the contractility and permeability of the cardiovascular system. Good blood circulation can keep people's body temperature constant. It helps maintain the normal conduction of nerve fibres to increase the value of "power".

Secondly, adequate physical activity can cause the activity of the HPA (The neuroendocrine system that responds to stress) system to increase participants' stress response and make them produce more "energy". The exercise intensity of college students in sports is slightly higher than that of other sports, and the course content contains a lot of exercise exercises that need college students to carry out the whole field of the sports field. It can fully mobilize their various sports organs and make the body get full activities. Basketball is the sport with which students have the most contact. College students in the basketball group can enhance their sports skills and technical and tactical ability through the continuous acquisition of fundamental sports skills. College students can apply the learned techniques and tactics to confrontation practice. They should be required to pay attention to cooperation in practice to obtain a sense of physical and social satisfaction, which will positively affect their "sense of self-esteem." There are numerous aggressive exercises for college students within the basketball group curriculum. Although it can improve college students' skill application in sports, it will also harm confrontational exercises. In basketball, there will be a greater emphasis on shooting skills and the capacity for peer cooperation. College students pay more attention to scoring in half-time five-person group sports. Therefore, shooting errors and errors in partner cooperation will increase participant depression.

### Influence of table tennis on various factors of College Students' mood state

Table 2

Scores before and after each factor of mood state of college students in the table tennis group

Mood state	Pre and post-test	M±SD	T	df	P
Nervous	Pre-test	4.5±3.1	-1.1	38	0.3
	Post-test	5.2±2.8			
Anger	Pre-test	2.2±3.2	-0.9	38	0.4
	Post-test	2.8±3.1			
Fatigue	Pre-test	4.6±4.0	-1.4	38	0.2
	Post-test	5.5±3.9			
Depressed	Pre-test	2.2±3.0	-0.4	38	0.6
	Post-test	2.5±2.6			
Energy	Pre-test	12.7±5.2	-0.8	38	0.4
	Post-test	13.5±4.3			
Flustered	Pre-test	4.7±3.3	2.5	38	0.2*
	Post-test	3.2±2.4			
Self esteem	Pre-test	7.8±3.1	-3.0	38	0.005*
	Post-test	9.5±2.5			

As can be seen from Table 2, after ten weeks of sports, panic and self-esteem improved. Before the experiment, the average score of panic emotion of college students in this group was  $4.8 \pm 3.3$ , and after the experiment, the average score of panic emotion of college students was  $3.3 \pm 2.4$ . According to the statistical test, there was a significant difference between the data before and after the panic emotion of college students in this group ( $P < 0.05$ ). Before and after the experiment, the self-esteem scores of college students in this group were  $7.8 \pm 3.1$  and  $9.6 \pm 2.5$ , respectively. After the experiment, they increased compared with those before the experiment. The difference test showed that there was a very significant difference between before and after the experiment ( $P < 0.01$ ); In terms of other factors of mood state, although the average value of data after the experiment increased compared with that before the experiment, there was no significant difference ( $P > 0.05$ ). The results show that table tennis can promote the development of College Students' self-esteem in a positive direction, significantly reduce college students' panic and positively impact their mood. College students in the table tennis group must participate in the entire process, from learning to practice to simple competition. The group's learning process consists primarily of two individuals practising. Everyone will be able to participate in the sport, and a winning mentality will permeate the entire procedure. In addition, the characteristics of table tennis, which include a small ball, short distance, fast speed, and numerous changes, will increase the tension and

fatigue of college students who participate in the sport. Due to the inherent characteristics of table tennis, serving, attacking, pushing, and blocking are the primary components of table tennis group practice. Table tennis moves faster. The fatigue of college students increases with repeated practice. The increase in "sense of fatigue" will inhibit the central nervous system and reduce the production of panic emotion, thereby reducing panic emotion among college students. After ten weeks of training, this group of college students has mastered the fundamentals of table tennis, including serving, pushing, and blocking the ball, as well as receiving the ball from their peers. Additionally, their physical flexibility and reaction speed has increased compared to their previous levels. In the final training phase, they can engage in a straightforward confrontation exercise with their peers. College students can experience table tennis through the confrontation exercise. Simultaneously, participants can practise the acquired skills, obtain significant self-affirmation, and meet their physical and psychological needs, thereby significantly enhancing their self-esteem.

**Influence of Taijiquan on various factors of College Students' mood state**

**Table 3**

*Scores before and after each factor of mood state of college students in the Taijiquan group*

Mood state	Pre and post-test	M±SD	T	df	P
Nervous	Pre-test	4.0±2.6	1.4	38	0.2
	Post-test	3.1±2.7			
Anger	Pre-test	3.1±3.5	2.4	38	0.02*
	Post-test	1.5±2.1			
Fatigue	Pre-test	3.7±2.5	1.8	38	0.07
	Post-test	2.5±2.7			
Depressed	Pre-test	2.0±2.5	1.8	38	0.07
	Post-test	1.1±1.7			
Energy	Pre-test	13.1±4.2	-1.1	38	0.3
	Post-test	14.0±4.5			
Flustered	Pre-test	3.8±2.6	4.0	38	0.0*
	Post-test	2.2±1.9			
Self esteem	Pre-test	8.5±2.9	-2.5	38	0.02*
	Post-test	10.1±3.5			

As can be seen from Table 3, the negative emotions of college students in the Taijiquan experimental group decreased after ten weeks of practical exercise. Before and after the experiment, the average anger scores of college students in this group were 3.1 ± 3.5 and 1.6 ± 2.1, respectively. The statistical test showed a significant difference between before and after the experiment (P < 0.05). Before and after the experiment, the scores of panic emotion of this group of college students were 3.8 ± 2.6 and 2.2 ± 1.9, respectively. The difference test showed a significant difference in panic emotion of this group of college students (P < 0.001). In terms of self-esteem, the data value after the experiment was higher than before, 8.5 ± 2.9 before and 10.1 ± 3.4 after the experiment. The test showed a significant difference (P < 0.05); Although there was no significant difference in other factors of mood state after ten weeks of the experiment, the negative emotion decreased. The data show that college students significantly improved their negative emotions after Taijiquan. Taijiquan is an indoor sport, which is not affected by weather, climate and other factors. In the process of exercise, it is usually accompanied by very soothing music, which puts people's brains in a relaxed state, and the mood of participants is relatively soothing. In training, college students must follow the teacher to learn Taijiquan movements. They can complete the movements alone under the music background according to the prompts so that the participants can stabilize their minds. At the same time, Taijiquan does not have the actions that make the heart rate rise rapidly, such as running and jumping, which can effectively reduce the anger and panic values of the participants, to make college students in a relatively stable state of emotion. Taijiquan belongs to traditional Chinese sports. Practising traditional Chinese sports can produce a sense of national pride. From contacting Taijiquan to finally presenting a complete 24 Style Taijiquan combination is a process to show college students' self-learning ability and mastery ability, which is conducive to increasing students' sense of self-esteem.

**Impact of various sports on College Students' TMD**

**Table 4**

*Changes in TMD scores of nine groups of college students before and after the experiment*

Project	Before test (M±SD)	After the test (M±SD)	T	df	P
Basketball	98.1±12.0	96.2±17.7	0.5	38	0.6
Table tennis	98.4±17.9	96.6±14.3	0.6	38	0.3
Taijiquan	97.3±16.4	86.5±12.4	3.8	38	0.001**

It can be seen from Table 4 that after the ten-week exercise experiment, the mood state TMD scores of college students participating in different sports decreased. From the change of mood state TMD of college students before and after the experiment, there was a significant difference in TMD among college students participating in Taijiquan ( $P < 0.01$ ). It can be seen that sports can promote the development of College Students' mood state in a positive direction, and different projects have different effects on mood state TMD. This study shows that the three sports can improve the total score of emotional disorder (TMD) of participants' mood state, which is consistent with the previous research that sports can improve college students' mood state. After the experiment, the TMD of the Taijiquan group was much lower than before, significantly improving participants' overall mood. The Taijiquan group improved the mood of participants most significantly; There was no significant difference in TMD scores of basketball and table tennis experimental participants before and after the test, but the TMD scores of the post-test were lower than those of the pre-test.

When participating in sports, college students cannot only exercise their bodies but also release their stress, disperse the negative energy in their hearts, and make themselves happy. Moreover, sports can facilitate communication between students, encourage college students to form healthy friendships, and even aid in resolving conflicts between students. Effective student-to-student communication and a good, healthy environment for making friends can positively and positively affect college students.

#### Different effects of different sports on stress factors

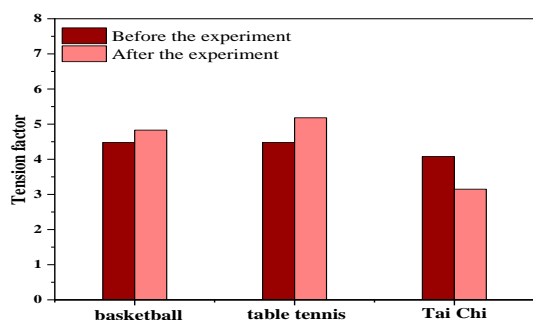


Figure.2 Scores of stress factors of each item before and after the experiment

As shown in Figure 2, the tension of college students participating in basketball and table tennis increased compared to before the experiment. In contrast, the tension of college students participating in Taijiquan decreased.

Consistent with previous research, sports can improve college students' self-esteem because they enable participants to see their progress, including improving physical skills and physical quality, and to be recognized by

others. Moreover, sports can improve college students' self-esteem through physical control with others or their proficiency and useability through practice and overall movement.

#### Comparison of students' mental state with different physical exercise participation levels

According to the Chinese sports population definition standard, the frequency of physical activity is three times per week for 30 minutes, and the activity intensity is above moderate. Using this criterion, the surveyed students were divided into sports (group A) and non-sports (group B), and the mental health status of the two groups was compared. The various factor scores of the SCL-90 psychological questionnaire were significantly lower in group A than in group B, indicating that the mental health status of group A college student was significantly superior to that of group B. This suggests that exercise promotes improvements in both physical and mental health. As one of the most common school activities, physical activity not only contributes to the improvement of the body but also plays a crucial role in improving mental health. In addition, it plays a significant role in enhancing social communication, language, and other aspects of people's lives.

This paper demonstrates that the mental health status of students who regularly engage in physical activity is significantly better than that of students who do not engage in physical activity. This demonstrates the positive impact of sports on mental health, which is primarily comprised of the following factors:

#### Physical exercise can improve your willpower

According to student research and analysis, college students must exert great sweat and effort to complete the exercise task. Willpower is required for long-term physical activity. In addition to promoting physical health, it aids in tempering the will. The improvement of willpower can result from physical activity and increased student participation in sports. This is a complementing cycle, and the improvement of college students' willpower is also conducive to their various learning activities in school.

#### Physical exercise can relieve the mood

Students who regularly engage in physical activity have relatively stable moods during activities. According to research, physical activity can cause the body to secrete various chemicals that are beneficial to physical health and can also make participants happier and more optimistic. People who regularly engage in physical activities and exercise are said to be more optimistic and upbeat than other groups, indicating that physical exercise positively affects physical activities. Physical activity has a significant

positive impact on calming emotions, diverting attention, and eliminating negative emotions. Participation in basketball, running, and other sports can serve as an outlet for people who are depressed or unhappy.

#### **Physical exercise can increase your self-confidence**

Exercising is a method of proving their worth. Students can self-motivate to achieve their goals with the aid of psychological cues, thereby enhancing their confidence in other areas of study through psychological transfer. Enhancing self-confidence will play a significant role in promoting the study, work, and life of college students. Personal confidence is also essential in the job-searching process for college graduates who must enter the workforce after completing their studies.

### **Conclusion**

In this study, nine sports items will be chosen to compare the effects of different sports items on the mood state of college students before and after the experiment. With the development of modern society, the meaning of health is continuously evolving, and people have a clearer understanding that the term "health" encompasses not only physical health but also mental health and social adaptation. Only when the human body is relatively healthy in these areas can it be truly healthy. You can obtain a strong physique, beautiful posture, and strong will through physical exercise. Students' education and development are considerably more visual and intuitive than in other cultural courses. The psychological behaviour of college students will directly or indirectly affect their psychological quality. Mental health is an issue that requires the attention of the entire society, including students individually, not just physical education teachers. Oxygen exercise plays a crucial role in fostering the mental health of students. It can assist college students in establishing their awareness of mental health, enhancing their capacity for psychological adjustment, cultivating their accurate self-awareness, boosting their self-confidence, learning to cooperate and compete, being optimistic and upward, enhancing their capacity to deal with setbacks and adapt to society, and fostering the healthy development of their personalities. The mental health issues of today's college students cannot be ignored, and a platform for integrating physical exercise and mental health education must be established and improved immediately. In the future, in-depth research can be conducted on this platform. Different sports have varying effects on a variety of emotions. When college students participate in extracurricular sports, they can select the most rapid and effective sports items to reduce their negative emotions and enhance them based on their circumstances.

### **Implications of the Study**

Mental illness is one of the most significant factors influencing the performance of daily activities among the population. Similarly, mental health disorders are one of the most prevalent issues among students. The deterioration of students' mental health can harm their academic performance; however, this issue has not been adequately addressed in previous research on college students. This type of illness plays a significant role among students, and problems related to this illness may affect students' academic performance. However, the literature in China is silent on the impact of mental illness on college students. Considering mental health disorders among college students resulted in significant ramifications from this study. Importantly, the present study highlighted the contribution of physical activity to mental health disorders. Even though mental health disorders can be treated through physical activity, college students rarely address the issue. The role of physical activity in the mental health of Chinese college students has been largely neglected in previous research.

Consequently, this study proposed significant implications for practitioners. This research suggests that practitioners encourage physical activity among students. As physical activities among Chinese college students can reduce mental illness, they may significantly impact their ability to perform better.

### **Limitations and Future Directions**

There are numerous types of mental illness; however, the mental illness was treated as a complete variable in this study. In this study, the entire variable is considered as opposed to various mental illness dimensions or types. Consideration of various types of mental illness may improve outcomes because one type may have a minor impact on the students. In contrast, the other type has a significant impact. When considering the effect of physical activities on the mental health of college students, it is important to consider the unique role of each type of mental illness. In addition, the current study is limited to a single research method; however, future research should include mixed-method studies and incorporate questionnaires and interviews, yielding superior results. Consequently, the mixed-method approach can provide better implications for the literature and practice.

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