

# THE PHYSICAL AND MENTAL HEALTH OF UNIVERSITY STUDENTS IN THE CONTEXT OF COVID-19

SAÚDE FÍSICA E MENTAL DOS ESTUDANTES UNIVERSITÁRIOS NO CONTEXTO DA COVID-19

SALUD FÍSICA Y MENTAL DE LOS ESTUDIANTES UNIVERSITARIOS EN EL CONTEXTO DE COVID-19



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## ABSTRACT

**Introduction:** The isolation policy caused by COVID-19 is plaguing physical exercise behavior, which seems to affect college students' physical and mental health. **Objective:** Understand the current situation of college students' exercise behavior during COVID-19, analyzing the physical and mental health status to provide policy guidance on formulating appropriate exercise behavior for college students in the context of the epidemic. **Methods:** 250 students from 20 colleges and universities in China were randomly selected as observation volunteers. The adherents' exercise-related behavior and physical and mental health were observed and analyzed by questionnaire, and subsequently evaluated according to statistical methods. **Results:** The results showed that exercise motivation, exercise frequency, exercise duration, and exercise items of the surveyed individuals affected the physical and mental health of college students; these effects were statistically significant ( $p < 0.05$ ). **Conclusion:** Under the control of COVID-19, college students should correct their motivation to exercise by choosing their own exercise programs to set a frequency and prolong the duration of exercise to improve their physical and mental health. **Level of evidence II; Therapeutic studies - investigating treatment outcomes.**

**Keywords:** COVID-19; Exercise; Students; Student Health.

## RESUMO

**Introdução:** A política de isolamento causada pela COVID-19 está assolando o comportamento de exercício físico, o que parece afetar a saúde física e mental dos estudantes universitários. **Objetivo:** Compreender a situação atual do comportamento de exercício físico dos estudantes universitários durante a COVID-19, analisando o estado de saúde física e mental dos estudantes universitários para fornecer uma orientação política sobre a formulação de comportamento de exercício físico adequado aos estudantes universitários no contexto da epidemia. **Métodos:** Um total de 250 estudantes de 20 faculdades e universidades na China foram selecionados aleatoriamente como voluntários de observação. O comportamento relacionado ao exercício físico, saúde física e mental dos adeptos foi observado e analisado por questionário, posteriormente avaliado segundo métodos estatísticos. **Resultados:** Os resultados mostraram que a motivação do exercício, a frequência do exercício, a duração do exercício e os itens de exercício dos indivíduos pesquisados afetaram a saúde física e mental dos estudantes universitários, estes efeitos foram estatisticamente significativos ( $p < 0,05$ ). **Conclusão:** Sob o controle da COVID-19, os estudantes universitários devem corrigir sua motivação ao exercício, escolhendo seus próprios programas de exercícios para fixar uma frequência e prolongar a duração do exercício para melhorar sua saúde física e mental. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

**Descritores:** COVID-19; Exercício Físico; Estudantes; Saúde do Estudante.

## RESUMEN

**Introducción:** La política de aislamiento causada por COVID-19 está asolando el comportamiento del ejercicio físico, que parece afectar a la salud física y mental de los estudiantes universitarios. **Objetivo:** Comprender la situación actual de la conducta de ejercicio de los estudiantes universitarios durante la COVID-19 analizando el estado de salud física y mental de los estudiantes universitarios para proporcionar orientación política sobre la formulación de una conducta de ejercicio adecuada para los estudiantes universitarios en el contexto de la epidemia. **Métodos:** se seleccionó aleatoriamente a un total de 250 estudiantes de 20 facultades y universidades de China como voluntarios de observación. El comportamiento relacionado con el ejercicio y la salud física y mental de los adherentes se observaron y analizaron mediante cuestionario, evaluándose posteriormente según métodos estadísticos. **Resultados:** Los resultados mostraron que la motivación para el ejercicio, la frecuencia de ejercicio, la duración del ejercicio y los ítems de ejercicio de las personas encuestadas afectaban a la salud física y mental de los estudiantes universitarios, siendo estos efectos estadísticamente significativos ( $p < 0,05$ ). **Conclusión:** Bajo el control del COVID-19, los estudiantes universitarios deben corregir su motivación para hacer ejercicio eligiendo sus propios programas de ejercicio para establecer una frecuencia y prolongar la duración del ejercicio para mejorar su salud física y mental. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

**Descriptor:** COVID-19; Ejercicio Físico; Estudiantes; Salud del Estudiante.



## INTRODUCTION

The COVID-19 epidemic, which has attracted global attention, is a sudden international public health event. It has completely changed the pace of the whole world and everyone of us. It is a real national memory and global memory. Public health security has become the biggest and most realistic life threatening factor in the new era. Although the outbreak in Wuhan, Hubei Province has been effectively controlled by the “Chinese power” in just two months, the COVID-19 will also continue to have an impact on all aspects of China and the world for a period of time.<sup>1</sup> Under the influence of COVID-19, in order to maintain good health, you should avoid going out as much as possible to avoid adverse effects. However, in the process of staying at home for a long time, students’ psychological state will inevitably become sensitive, and there are fewer opportunities for physical exercise during the home period, which is not conducive to physical health.<sup>2</sup> In the long run, college students with physical and mental health and good social adaptation will be directly related to their social service ability. The epidemic has also witnessed the contributions of scientific research forces (such as public health and other professions). College students can be said to be the main force of reserve talents for the future and present scientific research development of the motherland.<sup>3</sup> In fact, young people like college students are also experiencing most of the major changes in their lives, so a series of problems such as emotions occur more frequently. Some studies have shown that adolescence and youth are likely to be the key stages of ups and downs in exercise behavior, because with the increase of age, people’s participation in physical exercise will decrease.<sup>4</sup> In order to maintain the physical and mental health of college students, appropriate exercise should be carried out during the home process to maintain a good state, so that the mental state of college students is more positive. Sports is a scientific method that consciously uses the body’s own movement to enhance physical fitness and promote physical and mental health according to the natural law of adaptation and change of the human body.<sup>5</sup> Physical and mental health is an important factor in the development of a person’s all-round development. Today, with the rapid development of social market economy, it is a huge challenge for everyone, which requires us to have a strong body, positive attitude and good psychological quality to face. Physical activity is therefore a good way to promote physical and mental development.<sup>6</sup> Physical exercise can not only improve physical health and improve one’s own immunity, but also improve the bad mood of the mind and make people maintain an optimistic attitude.<sup>7</sup> In recent years, the physical and mental health of college students in China has become the focus of social attention.<sup>8</sup> A recent survey of major cities across the country shows that universities with psychological problems are no longer a minority, accounting for 13%. Malignant events caused by psychological and behavioral abnormalities are frequent. The mental health problems of college students have seriously affected the normal development and self-quality of college students in China, and research on the physical and mental health development of college students has been imminent.<sup>9</sup> This study examines the impact of physical exercise on the physical and mental health of college students by investigating the current situation and living habits of college students.<sup>10</sup>

## Research object and research method

### Subjects of study

A total of 250 students from 20 colleges and universities across the country were randomly selected as observation objects.

The study is Purely observational studies which no need to registry ID of ICMJ, and all the participants were reviewed and approved by Ethics Committee of Sichuan International Studles University, China (NO. 2021026)

## Research Method

Questionnaires were designed for college students’ awareness of participating in physical exercise, activity time, exercise content, and physical and psychological feelings after exercise. At the same time, the actual credibility of the questionnaire distribution and recycling content is tested.

Through the university library, Western Book City, the Internet and other channels, we consulted domestic scientific research papers, journals, magazines, etc. related to the impact of physical exercise on body and mind, and after collecting, researching and analyzing, comprehensively sorting out relevant content, extracting the ideological concepts and scientific methods that could be used for reference, providing a theoretical basis for the writing of papers.

Simple mathematical statistical processing of the recovery questionnaire.

## Experimental result and analysis

### Frequency and duration of physical exercise participation by college students

Physical exercise refers to the physical activities that people choose according to their needs, use various sports means, and combine natural forces and health measures to develop the body, improve health, enhance physical fitness, regulate the spirit, enrich cultural life and dominate leisure time. Health refers to a person’s physical, mental, and social well-being. The health content of modern people includes: physical health, mental health, social health, moral health, etc. The traditional concept of health is “no disease is health”, modern people’s concept of health is overall health, the World Health Organization proposed that “health is not only the body without disease, but also has mental health, good social adaptation and morality”.

It can be seen from Figure 1 that under the background of COVID-19, college students are relatively stressed and have relatively low adaptability to the environment, and are easily affected by different factors, resulting in adverse psychological changes, resulting in mental illness. From Figure 1, it can be shown that college students do not know enough about physical exercise and health, and there are very few students with a comprehensive understanding of health, but at the same time they participate in physical exercise at different times, most of the boys actively participate in physical exercise, participate in different projects where their interests are located, and the rest occasionally or almost do not participate in physical exercise activities for various reasons.

After a public health incident, college students cannot go out to find other ways to release stress, and in the process of staying at home for a long time, they are affected by different factors such as the external environment, public events, academic progress pressure, and conflicts between family members, which is easy to make students’ psychology fall

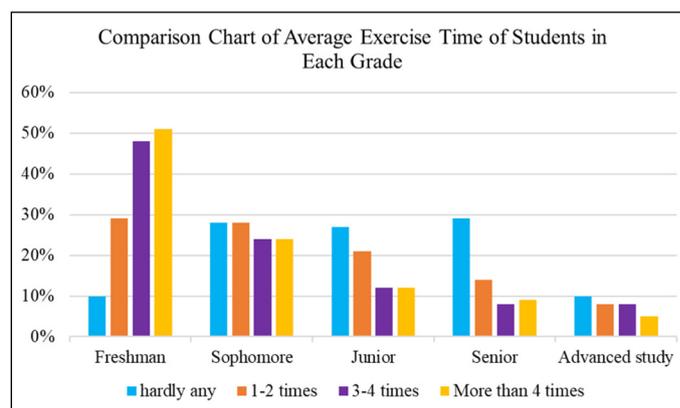


Figure 1. College students’ understanding of physical exercise and health.

and impact. In order to avoid adverse effects on students' psychological conditions, students' psychological pressure should be adjusted through appropriate exercise to avoid adverse psychological changes. On the one hand, proper physical exercise can consume part of the energy of college students, make them unwilling to think about other adverse events, and avoid psychological problems caused by college students' "cranky thinking". On the other hand, through exercise, the physical function of college students can be enhanced, on this basis, improve their psychological tolerance and environmental adaptability, and ensure mental health.

### Survey of motivation and effect of physical exercise by college students

From Table 1, it is found that the motivation of most male college students to participate in physical exercise is personal interest, and the main motivation of female college students to participate in physical exercise is to lose weight; Among them, boys accounted for 20% of physical fitness, 8% of weight loss, 47% of interest, and 25% of venting emotions; Girls accounted for 15% of physical fitness, 60% of weight loss, 12% of interest, and 5% of venting. 82% of the boys who participated in the exercise were happy, 13% were emotional, and 5% did not feel it; Girls were in a happy mood 25%, emotional at 65%, and insensible at 10%. Boys participate in physical exercise with ball games mostly group projects, mainly personal interests, physical fitness, venting emotions as secondary exercise behavior, to meet the physical needs of physical needs. Most of the physical activity of girls is due to the compulsory physical education courses offered by schools. Or purposefully pursuing physical activity that is dissatisfied with one's body shape, the main motivation is to lose weight. The physical exercise method they choose is based on their favorite sports, and they have different enthusiasm for different projects, so they choose different exercise methods.

Whether college students practice physical activity based on personal interest or purpose, the effect of participating in physical exercise is quite obvious. Mainly male college students, when participating in different projects they like, can fully exert their physical and mental energy, including emotions, willpower, etc., while female college students are relatively less obvious. Female college students do not devote themselves to exercise, but carry out it purposefully, making it boring, lacking the passion that contemporary college students should have, and receiving physical exercise under external pressure such as school and physical education requirements, forming forced physical activities.

### Effects of physical exercise on the psyche

Self-confidence is the conviction of one's own abilities and the expression of one's own worth. Our learning and life are based on self-confidence. Developing and forming self-confidence is inseparable from specific activities, and physical exercise is an effective way to cultivate self-confidence.

From Table 2, it can be seen that 82% of college students believe that physical exercise can improve self-confidence, and 53% of female students; The percentage of boys and 47 per cent of girls did not think it would improve. Most college students believe that physical exercise can develop self-confidence, and physical exercise is accompanied by success and failure, and success and failure are encountered by anyone who participates in physical exercise. Regular victory in physical exercise is more conducive to the development of self-confidence. Physical exercise also stimulates a person's enterprising spirit. By participating in physical activities that accompany success and failure, physical exercisers can stimulate people's enterprising

**Table 2.** College students' understanding of physical exercise to develop self-confidence.

Gender	Total number of people	Self-confidence development	
		Improve	No
Male	126	82%	18%
Female	124	53%	47%

spirit and fighting spirit. Through success and failure, competition and hard work, hone the will, stimulate the fighting spirit, desire the dawn of victory, learn to accept failure and not be afraid of failure. Actively see your own shortcomings and rise up to catch up. Invincible in life and study.

However, it should be noted that improper sports can also have a negative impact on the psychology of college students. Incorrect exercise methods may lead to insignificant physical exercise effects, excessive consumption, difficulty in maintaining the love of sports, and even rejection, which makes sports unable to play its due benign role. Therefore, when choosing sports and exercise time, college students should choose appropriate home sports according to their own circumstances, so as to gain gains in physical exercise while maintaining a stable psychological state. At present, under the influence of public health events, college students pay more attention to physical health, and most students maintain a supportive or neutral attitude towards improving physical and psychological fitness through physical exercise, but there are still a small number of students who remain negative about home physical exercise. In order to help students establish a correct and positive concept of physical exercise, they should be helped and promoted accordingly to improve their enthusiasm for sports.

### CONCLUSIONS

In summary, under the influence of public health events, in order to avoid abnormal psychological state of college students in the long-term home situation, appropriate physical exercise should be used to adjust and improve mental and physical health. We should strengthen our own regulation, and at the same time cooperate with teachers' teaching and social encouragement, constantly cultivate exercise habits, and make physical exercise bring more benefits to themselves. The study found that college students do not know enough about physical exercise and health, do not understand the health problems that should be paid attention to when exercising, and neglect other health except physical health. Most of the motivation of college students is hobbies, and achieve the exercise effect they need. College students participate in physical exercise to achieve the ideal body shape in their hearts through physical exercise, improve the sensitivity and coordination of the body of college students, so as to respond more accurately and quickly to external stimuli, and at the same time strengthen respiratory strength, increase lung capacity, improve oxygen utilization ability, and meet the needs of college students for oxygen in life and sports. The victory achieved by college students through perseverance in physical exercise helps to develop self-confidence and strong willpower. At the same time, they also recognize and reflect on the deficiencies caused by personality in the process of sports communication to improve their own personality.

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**Table 1.** College students' exercise motivation and exercise effect.

Gender	Total number of people	Motivation to exercise				The effect of exercise		
		Strengthening the body	Weight loss	Interest	vent	Good mood	Emotionally charged	No feeling
Male	126	20%	8%	47%	25%	82%	13%	5%
Female	124	15%	60%	12%	5%	25%	65%	10%

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