

# SPORTS TRAINING ORIENTATION IN COLLEGES AND UNIVERSITIES DURING THE EPIDEMIC



ORIGINAL ARTICLE  
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ORIENTAÇÃO DE TREINAMENTO ESPORTIVO EM FACULDADES E UNIVERSIDADES DURANTE A EPIDEMIA

ORIENTACIÓN DEL ENTRENAMIENTO DEPORTIVO EN FACULTADES Y UNIVERSIDADES DURANTE LA EPIDEMIA

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## ABSTRACT

**Introduction:** The epidemic has impacted the pace of teaching in colleges and universities, especially in physical education practical classes. Both online physical education and students' spontaneous exercise are restricted by space and infrastructure, making it necessary to seek guidelines for adjusting sports training. **Objective:** Investigate the current status of physical exercise by college students during the epidemic period, exploring data management strategies for the guidance of actions in exercise practice by colleges and universities. **Methods:** An online questionnaire survey was conducted among college and university students from different regions. The online data were entered, sorted, and analyzed using the questionnaire platform in question and Excel software. **Results:** The college students-maintained exercise frequency between three to seven sessions per week, with an average duration of 30 to 90 minutes in each session. As for the effect of the exercises performed, after optimal training, the theoretical exercise score was 3.74 points, the exercise capacity score was 3.68 points, and the actual exercise capacity score was 2.96 points. A score of 3.89 points was obtained for self-regulation and 4.23 points for stress regulation. However, due to the limits imposed by the local infrastructure and the fact that the online teaching content is slightly adapted to the real situation, it still requires adjustments. **Conclusion:** Colleges and universities should strengthen sports data management, manage the situation and students' physical needs in a timely manner, and provide targeted guidance to students' movements. Adjustments of methods and content to online teaching should consider the actual needs of students, providing better sports support to students during the epidemic. **Level of evidence II; Therapeutic studies - investigating treatment outcomes.**

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

## RESUMO

**Introdução:** A epidemia impactou o ritmo de ensino nas faculdades e universidades, especialmente nas aulas práticas de educação física. Tanto a educação física on-line quanto o exercício físico espontâneo dos estudantes são restringidos pelo espaço e pela infraestrutura, fazendo-se necessária a busca de orientações para o ajuste dos treinamentos esportivos. **Objetivo:** Investigar o estado atual dos exercícios físicos pelos estudantes universitários durante o período da epidemia, explorando estratégias de gestão dos dados para uma orientação de ações na prática de exercício pelas faculdades e universidades. **Métodos:** Foi realizada uma pesquisa por questionário online entre estudantes de faculdades e universidades de diferentes regiões. Através da plataforma do questionário em questão e do software Excel, os dados on-line foram introduzidos, classificados e analisados. **Resultados:** Os estudantes universitários mantiveram a frequência de exercícios entre três a sete sessões semanais, com média de duração de 30 minutos a 90 minutos em cada sessão. Quanto ao efeito dos exercícios praticados, após o treinamento otimizado, a pontuação teórica do exercício foi de 3,74 pontos, a pontuação da capacidade de exercício foi de 3,68 pontos, e a pontuação da capacidade real de exercício foi de 2,96 pontos. Obteve-se 3,89 pontos para a autorregulação e 4,23 pontos para a regulação do estresse. Entretanto, devido aos limites impostos pela infraestrutura local e ao fato de que o conteúdo do ensino on-line está ligeiramente adaptado à situação real, ainda exige adequações. **Conclusão:** As faculdades e universidades devem fortalecer a gestão de dados esportivos, administrar a situação e as necessidades físicas dos estudantes em tempo hábil, fornecendo orientação dirigida aos movimentos dos estudantes. Os ajustes de métodos e conteúdo ao ensino on-line devem considerar as necessidades reais dos estudantes, fornecendo um melhor apoio esportivo aos estudantes durante a epidemia. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

**Descritores:** COVID-19; Estudantes; Exercício Físico.

## RESUMEN

**Introducción:** La epidemia ha impactado en el ritmo de la enseñanza en colegios y universidades, especialmente en las clases prácticas de educación física. Tanto la educación física en línea como el ejercicio espontáneo de los estudiantes están restringidos por el espacio y la infraestructura, lo que hace necesario buscar directrices para ajustar el entrenamiento deportivo. **Objetivo:** Investigar el estado actual del ejercicio físico de los estudiantes universitarios durante el período epidémico, explorando estrategias de gestión de datos para una orientación de acciones en la práctica de ejercicio por parte de colegios y universidades. **Métodos:** Se realizó una encuesta por cuestionario en línea



entre estudiantes de colegios y universidades de diferentes regiones. Los datos en línea se introdujeron, clasificaron y analizaron utilizando la plataforma de cuestionarios correspondiente y el programa informático Excel. Resultados: Los estudiantes universitarios mantuvieron una frecuencia de ejercicio entre tres y siete sesiones semanales, con una duración media de 30 minutos a 90 minutos en cada sesión. En cuanto al efecto de los ejercicios realizados, tras el entrenamiento optimizado, la puntuación teórica del ejercicio fue de 3,74 puntos, la puntuación de la capacidad de ejercicio fue de 3,68 puntos y la puntuación de la capacidad de ejercicio real fue de 2,96 puntos. Se obtuvieron 3,89 puntos para la autorregulación y 4,23 puntos para la regulación del estrés. Sin embargo, debido a los límites impuestos por la infraestructura local y al hecho de que el contenido de la enseñanza en línea está ligeramente adaptado a la situación real, aún requiere ajustes. Conclusión: Los institutos y universidades deben reforzar la gestión de los datos deportivos, gestionar oportunamente la situación y las necesidades físicas de los estudiantes, y proporcionar orientación específica a los movimientos de los estudiantes. Los ajustes de métodos y contenidos a la enseñanza en línea deben considerar las necesidades reales de los estudiantes, proporcionando un mejor apoyo deportivo a los estudiantes durante la epidemia. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

**Descriptor:** COVID-19; Estudiantes; Ejercicio Físico.

DOI: [http://dx.doi.org/10.1590/1517-8692202329012023\\_0066](http://dx.doi.org/10.1590/1517-8692202329012023_0066)

Article received on 02/01/2023 accepted on 02/16/2023

## INTRODUCTION

Since 2020, COVID-19 has become the norm, but in the early 20 years of the outbreak, it is not clear about the specific situation of the virus, there is no effective targeted vaccine, the virus has strong infectious capacity and wide spread range.<sup>1</sup> Therefore, the government has taken various epidemic prevention measures, which more or less has an impact on the daily study and life of students. When colleges and universities postpone the opening of school, the measures of students' home-based online classes are more common.<sup>2</sup> The long-term home-based period has led to the loss of sports habits, the lack of physical exercise, the increase of screen time, the irregular work and rest of some students, the long-term lack of social and long-term depressed atmosphere, and even the same problems in the mental health of students.<sup>3</sup> The epidemic has brought many health risks to the majority of students. This has also brought a severe test to the sports health and mental health work of major colleges and universities.<sup>4</sup> How to solve the health problems of students is a topic worthy of study in Colleges and universities.<sup>5</sup> How to improve students' sports time, cultivate students' sports interest, guide students to scientific sports methods, improve students' sports participation and sports quality should be fundamentally solved. Colleges and universities should design efficient and practical sports health management methods as soon as possible to solve the problems faced by students, improve the overall physical quality of students and improve the physical health index of students. Guide in many aspects of psychology and body, create a positive sports atmosphere in Colleges and universities, and make the students meet the health standards in many aspects of body and mind.<sup>6</sup> In order to further analyze the physical exercise of college students during the epidemic and provide more suggestions for school sports data management, this paper has carried out research.

## METHOD

In this paper, the online questionnaire survey is used to carry out the questionnaire survey to the students of many colleges and universities in different regions through the strategies of platform questionnaire promotion and circle of friends release. The study and all the participants were reviewed and approved by Ethics Committee of Inner Mongolia Normal University (NO.IMNUZD005). After a week of questionnaire sorting and recovery, a total of 1307 questionnaires were obtained. After excluding 9 invalid questionnaires, a total of 1294 valid questionnaires were obtained. The study and all the participants were reviewed and approved by Ethics Committee of Wenzhou University (NO.20WZUN401). The questionnaire

survey includes two parts. The first is the physical exercise of students during the epidemic, including the frequency of physical exercise, single time length, exercise attitude and infrastructure construction in relevant areas, so as to have a more detailed understanding of students' physical exercise during the closure of the current school epidemic, so as to provide preliminary data support for sports data management. Secondly, the students' scores on the improvement of their sports ability and school sports management, including 5 points for very satisfied, 4 points for relatively satisfied, 3 points for general, 2 points for less satisfied and 1 point for dissatisfaction. The average value is taken through the 5-point system, so as to have a more concrete understanding of the completion degree of relevant contents.

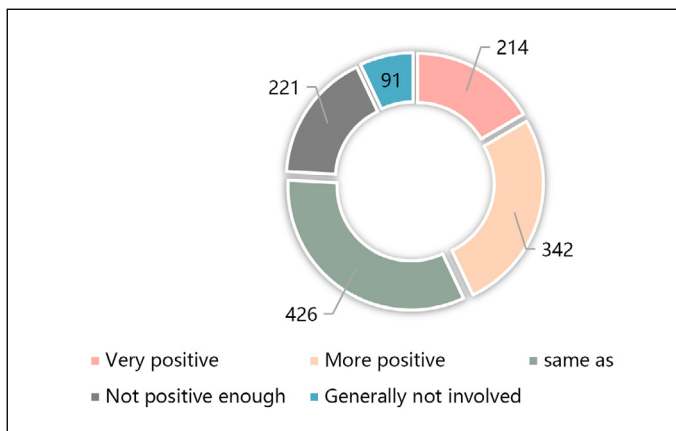
In terms of data statistics and analysis, this paper inputs, arranges and analyzes the online messy data through the relevant questionnaire platform and Excel software, and summarizes each data. In order to more intuitively obtain the research results, this paper uses the drawing software brought by Excel to draw the pictures of relevant data, so as to make it more convenient to observe in the research process.

## RESULTS

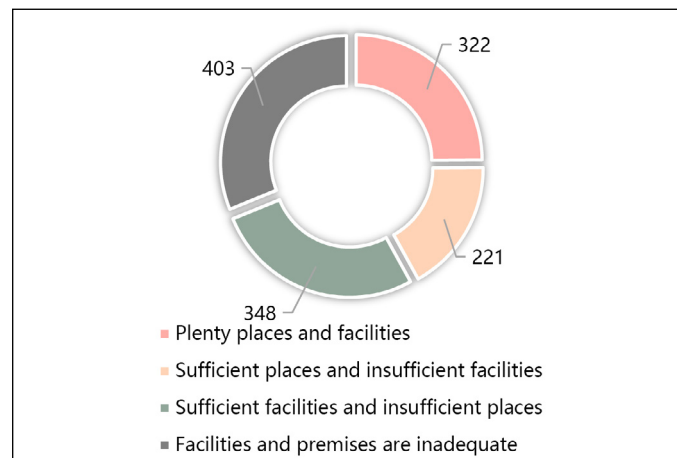
### Physical exercise of college students during the epidemic

Set more than 7 times a week as "very positive", 5-7 times a week as "more positive", 3-5 times a week as "average", 2-3 times a week as "not active", and less than 1 time a week as "general non participation". As shown in Figure 1, among the 1294 students during the current normalization of epidemic prevention and control, the number of students with "very active" physical exercise frequency was 214, accounting for 16.54% of the total; The number of students with "more active" physical exercise frequency was 342, accounting for 26.43% of the total; The number of students with "average" physical exercise frequency was 426, accounting for 32.92% of the total; The number of students whose physical exercise frequency is "not active enough" is 221, accounting for 17.08% of the total; The number of students whose physical exercise frequency is "generally not participating" is 91, accounting for 7.03% of the total.

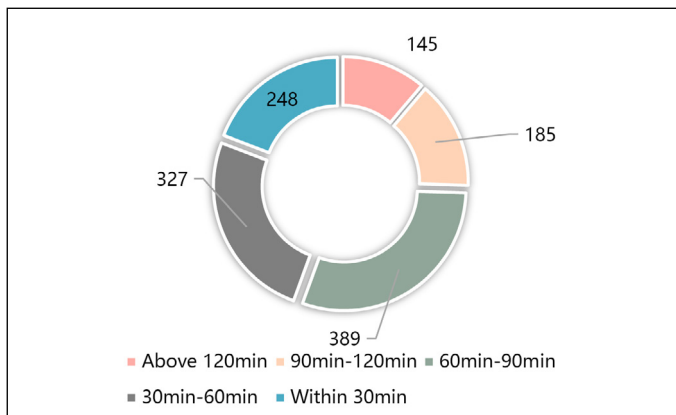
In the process of investigating the single time length of physical exercise of college students during the epidemic period, as shown in Figure 2, 145 students said that the single time length of their exercise was more than 120min, accounting for 11.21%; 185 students said that the single time length of their exercise was 90min-120min, accounting for 14.30%; 389 students said that the single time length of their exercise was 60min-90min, accounting for 30.06%; 327 students said that the



**Figure 1.** Physical exercise frequency of college students during the epidemic.



**Figure 3.** Physical exercise infrastructure of college students during the epidemic.



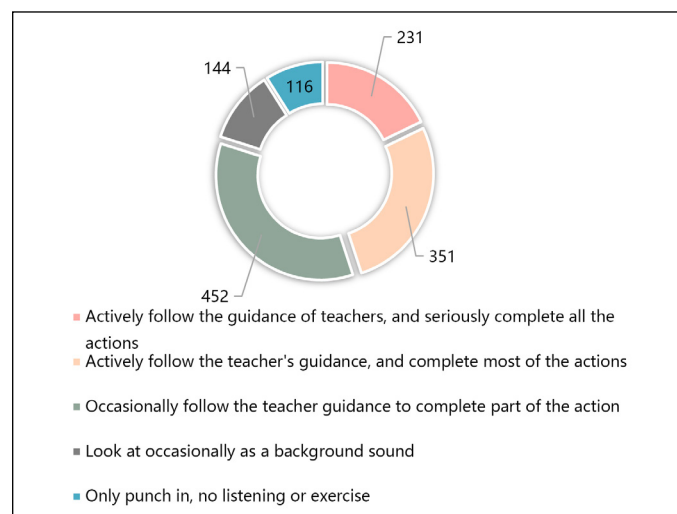
**Figure 2.** Single time length of physical exercise of college students during the epidemic.

single time length of their exercise was 30min-60min, accounting for 25.27%; 248 students said that the single time length of their exercise was within 30min, accounting for 19.17%.

It can be seen that during the epidemic period, college students generally maintained the exercise frequency of 3-7 times a week, 30-90 minutes each time, which not only adhered to a certain exercise frequency, but also did not exercise too much. This is related to the psychology of students during the current epidemic. Through the epidemic, students understand the importance of physical exercise, but too much exercise is not only limited to the narrow indoor space, but also affected by the policy of going out, and too frequent outdoor exercise is also easy to increase the risk of infection. Therefore, during this epidemic period, the frequency and duration of physical exercise of college students remain relatively midstream, This not only ensures good health, but also reduces the risk of infection as much as possible.

In the process of investigating the physical exercise infrastructure of college students during the epidemic period, as shown in Figure 3, 322 students believed that the places and facilities in their campus were sufficient, accounting for 24.88% of the total number; 221 students believed that their campus had sufficient places and insufficient facilities, accounting for 17.08% of the total; 348 students believed that their campus had sufficient facilities and insufficient places, accounting for 26.89% of the total; 403 students thought that the facilities and places on their campus were insufficient, accounting for 31.14% of the total.

In the process of investigating the learning attitude of college students in online physical education during the epidemic period, as shown in Figure 4, 231 students believed that they actively followed the guidance of teachers and carefully completed all actions in the process of online teaching, accounting for 17.85% of the total number; 351 students believed that they actively followed the teacher's guidance and completed most of



**Figure 4.** Learning attitude of college students in online physical education during the epidemic.

the actions in the online teaching process, accounting for 27.13% of the total; 452 students thought that they occasionally followed the teacher's guidance to complete some actions in the process of online teaching, accounting for 34.93% of the total; 144 students thought they used it as a background sound during online teaching, accounting for 11.13% of the total; 116 students thought that they only punch in and do not listen to classes or exercise during online teaching, accounting for 8.96% of the total.

From the current situation of students' physical exercise infrastructure and the investigation of online physical education learning attitude, it can be seen that during the epidemic period, due to the difficulties in infrastructure construction and certain restrictions on the scope of students' activities, although the school's online physical education has been improved to meet the needs of students, the response is still relatively general, and most students still pay little attention to online teaching, It is impossible to follow the teacher's state for training in the whole process. This is not only related to the inherent limitations of physical education online classes, but also related to the current lack of physical exercise infrastructure. Therefore, the school management needs to further adjust this to make the online physical education content meet the infrastructure construction of students' location and students' actual needs as much as possible.

### Evaluation of students' physical exercise based on sports data management

In the process of scoring the improvement of students' sports ability, the score of thinking that they have improved the learning ability of

sports theory in the process of physical education teaching during the epidemic period is 3.746, the score of thinking that they have improved the learning ability of sports skills in the process of physical education teaching during the epidemic period is 3.687, and the score of thinking that they have improved the actual sports ability in the process of physical education teaching during the epidemic period is 2.963, The score of self-regulation ability in physical education teaching during the epidemic period is 3.894 points, and the score of stress regulation ability in physical education teaching during the epidemic period is 4.231 points. Thus, online physical education can effectively adjust students' psychological pressure and deepen the study of sports theory. However, due to the limitations of various conditions, the improvement of actual sports ability is not ideal and needs to be further improved.

In the process of scoring school physical education management, students who think that their campus has complete sports facilities are scored as 2.746 points, those who think that their school physical education online teaching content conforms to the current situation are scored as 3.887 points, those who think that their school physical education teaching objectives are fully and effectively designed are scored as 3.737 points, and those who think that their school physical education teaching fully arouses students' enthusiasm for exercise are scored as 3.324 points, The score of thinking that physical education teaching in our school can effectively regulate students' negative psychology is 3.677.

## DISCUSSION

Under the background of the epidemic situation, the guidance of College Students' group sports can be carried out from the following aspects: (1) improve the duration of students' group sports. (2) Cultivate students' sports habits. (3) Cultivate students' interest in sports. (4) Create a good sports environment. (5) Establish a professional team of physical education teachers.

Carry out student data collection and student ability assessment safely, orderly and accurately. During school, personal physical data collection and ability test and assessment shall be carried out in batches to ensure that the number of people in each batch is safe under the requirements of epidemic prevention. During the stay at home period, for the data collection work, the students' parents can assist in the measurement, and upload it to the teachers for collection through the teaching communication platform in

time. Ability judgment and assessment, you can find a nearby sports venue for testing. Through the video recording mode, finally upload the video, and the teacher will judge its sports ability. Teachers classify, sort out and analyze the collected data. Based on students' data, design relevant physical education curriculum contents and provide targeted teaching for students' health problems. Sports health management should vary from person to person. According to the different situations of different students, formulate effective sports plans to improve the health problems of individual students. Colleges and universities should periodically carry out the collection and updating of students' physical data and real-time body side scores, analyze the changes of students' physical health through the changes of students' data, and provide students with analysis reports. Guide students with health problems to carry out professional physical recovery training to improve the overall health level of college students. During the severe period of the epidemic, the teacher team should formulate a scientific diet plan, rest time and exercise time for students to provide reference for students, so as to avoid the decline of physical function of students at home.

## CONCLUSION

From the results of this study, we can see that students' attitude towards physical training is relatively complicated during the current epidemic situation. COVID-19's continuous development has made students realize the importance of strengthening sports and strengthening physical fitness. Therefore, many students have consciously increased the frequency and intensity of physical exercise. For schools, strengthening the management of sports data, with the help of online physical education teaching and the application of relevant sports software, can better collect the physical exercise data of relevant students, and professional teachers can check the students' physical exercise, supervise the students who lack sports, and timely teach the students who have incorrect Sports or have certain sports injury and infection risk, So as to strengthen the safety and effectiveness of physical exercise of college students, promote the enhancement of students' physique, improve immunity, improve negative mentality and promote their physical and mental health during the epidemic.

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The author declare no potential conflict of interest related to this article

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**AUTHORS' CONTRIBUTIONS:** The author has completed the writing of the article or the critical review of its knowledge content. This paper can be used as the final draft of the manuscript. Every author has made an important contribution to this manuscript. Huisheng Zhang: writing and execution.

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