

PHYSICAL FITNESS STATUS OF COLLEGE STUDENTS BY GENDER



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ESTADO DA APTIDÃO FÍSICA DOS ESTUDANTES UNIVERSITÁRIOS POR GÊNERO

ESTADO DE LA APTITUD FÍSICA DE LOS ESTUDIANTES UNIVERSITARIOS POR SEXO

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ABSTRACT

Introduction: The quality of Chinese college students' physical fitness has declined. This fact has concerned the policy developed to optimize the college student system and national physical fitness, seeking innovative solutions to this new challenging scenario. **Objective:** Analyze the current fitness status of college students by gender. **Methods:** A questionnaire was designed to survey the current situation. A total of 1546 valid questionnaires were obtained, including 822 male and 724 female college students. The results of the questionnaires were sorted, optimized, and statistically analyzed. **Results:** The physical fitness of college students is not in their optimal values; the proportion of good and excellent is low; the normal BMI of female students is 87.526%, slightly higher than 76.674% of male students; the overweight BMI of male students is 13.787%, slightly higher than 8.058% of female students. In college students' total physical health score, the failed male students accounted for 12.48%, and the female students 7.58%. Only 77.07% of male and 78.75% of female participants passed; the fraction of males with a good grade was 10.31%, and females were 11.7%; only 0.12% of males and 1.95% of females achieved excellent grades. **Conclusion:** University professors should design a targeted scientific training plan according to the student's physical condition. The training should combine sports motivation with psychological demands and promote students' enthusiasm for the sport. University students should also be encouraged to choose some exercise to maintain active participation, improving the overall health quality of Chinese university students. **Level of evidence II; Therapeutic studies - investigation of treatment outcomes.**

Keywords: Students; Universities; Exercise; Physical Fitness.

RESUMO

Introdução: A qualidade da aptidão física do estudante universitário chinês atualmente tem demonstrado uma queda e este fato tem preocupado a política que se desenvolve para otimizar o sistema de estudantes universitários e a aptidão física nacional, buscando soluções inovadoras para este novo cenário desafiador. **Objetivo:** Analisar o estado atual da aptidão física dos estudantes universitários por gênero. **Métodos:** Um questionário foi elaborado para levantamento da situação atual. Um total de 1546 questionários válidos foi obtido, incluindo 822 estudantes universitários do sexo masculino e 724 estudantes do sexo feminino. Os resultados dos questionários foram ordenados, otimizados e analisados estatisticamente. **Resultados:** A aptidão física dos estudantes universitários não está em seus valores ótimos, a proporção de bom e excelente é baixa, o IMC normal dos estudantes do sexo feminino é 87,526%, ligeiramente superior aos 76,674% dos estudantes do sexo masculino, o IMC acima do peso dos estudantes do sexo masculino é 13,787%, ligeiramente superior aos 8,058% dos estudantes do sexo feminino. Na pontuação total de saúde física dos estudantes universitários, os estudantes reprovados do sexo masculino representaram 12,48% e os estudantes do sexo feminino 7,58%. Foram aprovados apenas 77,07% dos participantes do sexo masculino e 78,75% do sexo feminino; a fração do sexo masculino com nota boa foi de 10,31% e o feminino de 11,7%; apenas 0,12% homens e 1,95% mulheres alcançaram as notas excelentes. **Conclusão:** Segundo a situação física dos estudantes, os professores universitários devem elaborar um plano de treinamento científico direcionado. Os treinamentos devem combinar a motivação esportiva dos estudantes com a demanda psicológica e promover o entusiasmo dos estudantes pelo esporte. Os próprios estudantes universitários também devem ser incentivados a escolher algum exercício para manter uma participação ativa, melhorando a qualidade geral da saúde dos estudantes universitários chineses. **Nível de evidência II; Estudos terapêuticos - investigação dos resultados do tratamento.**

Descritores: Estudantes; Universidades; Saúde física; Aptidão Física.

RESUMEN

Introducción: La calidad de la aptitud física de los estudiantes universitarios chinos en la actualidad ha mostrado un declive y este hecho ha preocupado a la política que se desarrolla para optimizar el sistema estudiantil universitario y la aptitud física nacional, buscando soluciones innovadoras a este nuevo escenario desafiante. **Objetivo:** Analizar el estado actual de la aptitud física de los estudiantes universitarios en función de su sexo. **Métodos:** Se diseñó un cuestionario para sondear la situación actual. Se obtuvo un total de 1.546 cuestionarios válidos, de los que 822 eran hombres y 724 mujeres estudiantes universitarias. Los resultados de los cuestionarios se clasificaron, optimizaron y analizaron estadísticamente. **Resultados:** La aptitud física de los estudiantes universitarios no se encuentra en sus valores óptimos, la proporción de buena y excelente es baja, el IMC normal de las estudiantes femeninas es del 87,526%,



ligeramente superior al 76,674% de los estudiantes masculinos, el IMC de sobrepeso de los estudiantes masculinos es del 13,787%, ligeramente superior al 8,058% de las estudiantes femeninas. En la puntuación total de salud física de los estudiantes universitarios, los estudiantes varones suspensos representaron el 12,48% y las estudiantes mujeres el 7,58%. Sólo aprobaron el 77,07% de los hombres y el 78,75 de las mujeres; la fracción de hombres con buena nota fue del 10,31% y la de mujeres del 11,7%; sólo el 0,12% de los hombres y el 1,95% de las mujeres alcanzaron las notas excelentes. Conclusión: En función de la situación física de los alumnos, los profesores universitarios deben elaborar un plan de formación científica específico. Los entrenamientos deben combinar la motivación deportiva de los alumnos con la exigencia psicológica y fomentar el entusiasmo de los alumnos por el deporte. También se debería animar a los propios universitarios a elegir algún ejercicio para mantener una participación activa, mejorando la calidad general de la salud de los universitarios chinos. **Nivel de evidencia II; Estudios terapéuticos - investigación de los resultados del tratamiento.**

Descriptor: Estudiantes; Universidades; Ejercicio Físico; Aptitud Física.

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INTRODUCTION

College students are the reserve force of society. The development of their physique plays a very important role in the future development of Chinese society. Therefore, the state attaches great importance to the improvement of College Students' physique. In addition to strengthening physical education teaching, it also arranges annual physical testing activities, so as to facilitate physical education teachers to systematically design and arrange physical exercise teaching according to the current situation of College Students' physical health, targeted to improve the physique of college students.¹ From a physical point of view, physique is the quality of the human body. It is composed of congenital inheritance and acquired acquisition. It integrates the body structure, physiological function, psychological development, physical quality, sports ability and other aspects. It is characterized by comprehensive and relatively stable composition.² Physique is the most basic of all human activities. Different people have different physique levels. This difference is mainly reflected in body shape, physical quality, physiological function, psychological quality and adaptability.

It is not difficult to see that extracurricular physical exercise is not only a form of activity, but the continuation and supplement of college physical education curriculum, which is an important part of physical exercise.³ To sum up, relying solely on physical education cannot meet the requirements of improving students' physical health. Therefore, many college students will choose the combination of physical education teaching in class and after-school training.⁴ They also have many goals. Some are physical training for physical health, while others want to pursue a better figure or make friends on the basis of health, The motivation of these physical exercises promotes them to continuously carry out a number of physical exercises in their after-school life, so as to improve their comprehensive level. Therefore, with the help of school teachers, combined with students' physical test information and questionnaire survey, this paper analyzes the current situation of College Students' physical health and physical exercise, so as to have a better understanding of students' physical exercise after class, so as to facilitate the combination with physical education in class, provide more systematic physical education teaching and guidance for college students, and promote the physical health of college students.⁵

METHOD

Firstly, this paper uses the literature research method to sort out and collect the relevant literature of current news reports, so as to have a basic understanding of the current physical quality and physical exercise of college students. Then, using the experimental method and the physical test data of a university, this paper analyzes the current physical health

of college students. Finally, using the questionnaire survey method, this paper analyzes the physical exercise frequency and physical exercise motivation consciousness of college students, so as to have a more systematic understanding of the current physical health and physical exercise status of college students.

This paper questions several problems most commonly encountered in the process of College Students' exercise, designs a questionnaire, and analyzes the current situation and awareness of College Students' physical exercise. The study and all the participants were reviewed and approved by Ethics Committee of Wuxi Taihu University (NO.2018WXTHU-069). The offline questionnaire is distributed to the students of the colleges and universities in which they are located, and the online questionnaire collects data from college students all over the country through the network. At present, a total of 320 offline questionnaires are distributed and 304 are recovered, including 297 valid questionnaires and 1276 online questionnaires, including 1249 valid questionnaires. A total of 1546 questionnaires were obtained, including 822 male college students and 724 female college students.

This paper uses Excel software to sort out and analyze the data obtained, including the evaluation of the total score of physical health and the division of College Students' physical exercise status and exercise motivation. In order to make the research results more obvious and facilitate comparison and analysis, this paper uses the drawing tools brought by Excel to sort the data into the form of pictures, which is convenient for the next research and makes the research results more intuitive.

RESULT

Survey results of basic physical health of College Students

Figure 1 shows the analysis of BMI scores of college students. In terms of the overall proportion, there is little difference between boys and girls, with normal BMI accounting for the vast majority. However, it can be found that the normal BMI value of girls is 87.526%, which is slightly higher than 76.674% of boys, and the overweight BMI value of boys is 13.787%, which is slightly higher than 8.058% of girls. It can be seen from the overall figure that the BMI index of college students is still in a relatively stable range, but the overweight problem of boys is slightly obvious. Therefore, we should pay attention to the improvement of relevant aspects in physical exercise.

As shown in Figure 2, the result analysis of vital capacity score of college students is shown. From the comparison between male and female students, it can be seen that the proportion of boys' failing grades is higher than that of girls, while the proportion of girls' excellent grades is higher than that of boys. Therefore, the overall vital capacity quality of girls is better than that of boys. It can be seen from Figure 2 that the proportion of partial vital capacity grades of boys is qualified > good >

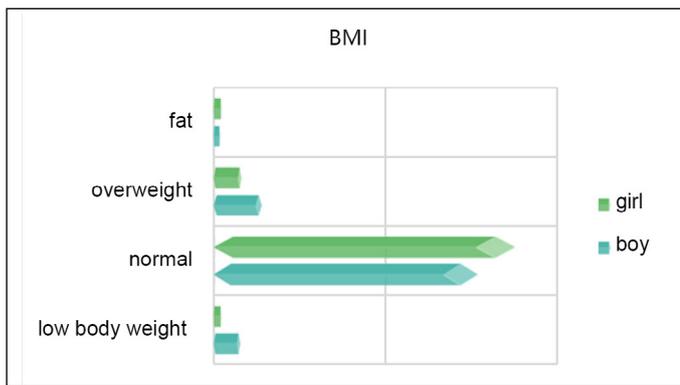


Figure 1. Analysis of BMI scores of College Students.

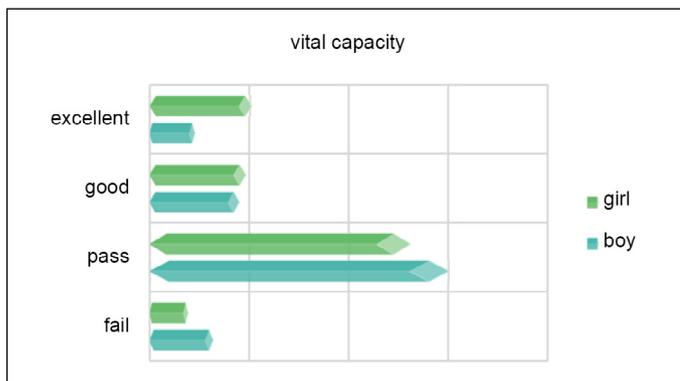


Figure 2. Analysis of vital capacity score of College Students.

failed > excellent, and the proportion of partial vital capacity grades of girls is qualified > good > excellent > failed. Both of them have a large proportion of passing grades. This shows that there are some deficiencies in the level of vital capacity of college students, which will have a certain impact on other physical qualities, so it needs further targeted training.

Figure 3 shows the total score analysis of physical health of college students. Among them, boys accounted for 12.48% and girls accounted for 7.58% in the “failed” grade; In the “pass” grade, boys accounted for 77.07% and girls accounted for 78.75%; In the “good” grade, boys accounted for 10.31% and girls accounted for 11.7; In the “excellent” grade, boys account for 0.12% and girls account for 1.95%. Although in the intra group comparison, there is little difference in the proportion of boys and girls in their respective grades, and most of them belong to the scope of passing, on the whole, the proportion of boys who fail is higher, the proportion of girls is lower, and the proportion of girls in excellent grades is higher and the proportion of boys is lower. This shows that in the current physical health of college students, girls’ physique is slightly better than boys, which shows that girls’ awareness and action of physical health are slightly higher than boys. But on the whole, the physique of college students is not optimistic, and the proportion of good and excellent is low. Therefore, it is also necessary to systematically and integrally strengthen the physical health education and training of college students, so as to improve the physique of college students.

Analysis on the current situation of physical exercise of College Students

This section investigates the basic situation of College Students’ physical exercise, including their weekly exercise frequency, duration of each exercise and favorite sports during exercise, and collects and arranges the data.

Figure 4 shows the analysis of physical exercise frequency of college students. Among them, the proportion of physical exercise frequency of male college students is “uncertain” accounting for 37.821%, the proportion

of “one to three times” accounting for 33.7441%, the proportion of “three to five times” accounting for 23.6461%, and the proportion of “more than six times” accounting for 4.7891%; “The proportion of physical exercise frequency of female college students is “uncertain” accounting for 42.6311%, one to three times” accounting for 26.8451%, three to five times” accounting for 15.8571%, and “more than six times” accounting for 14.6671%. It can be seen from the figure that at present, due to the busy schoolwork burden of college students and the instability of time, Therefore, the proportion of “uncertain” is the highest, and college students often choose the frequency of exercise according to their actual situation. The proportion of 1 ~ 3 times and 3 ~ 5 times is the second, and the proportion of more than 6 times a week is relatively low, which shows that although college students have a certain awareness of exercise, they are rarely able to exercise every day due to their own conditions, and often exercise according to their actual situation and needs at a certain frequency.

Figure 5 shows the analysis of physical exercise duration of college students. Among them, the proportion of physical exercise duration of male college students is “within 30min”, accounting for 33.744%, “uncertain” accounting for 27.821%, “30-60min” accounting for 23.646%,

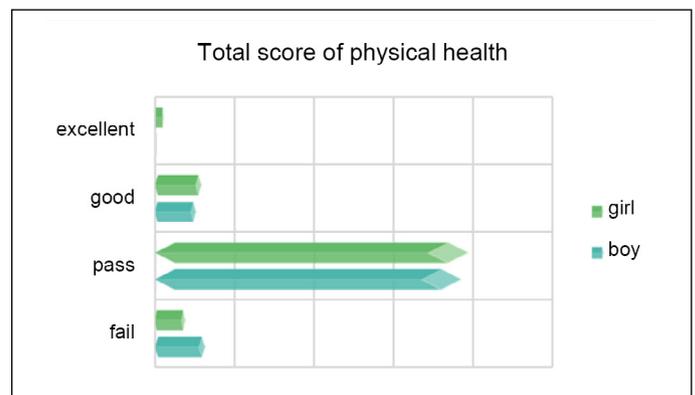


Figure 3. Analysis on the total score of physical health of College Students.

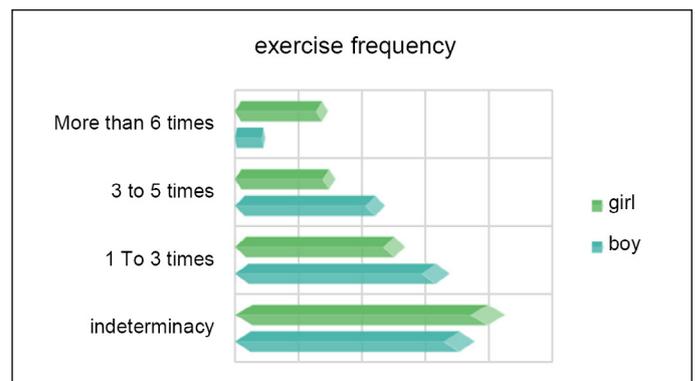


Figure 4. Analysis of physical exercise frequency of College Students.

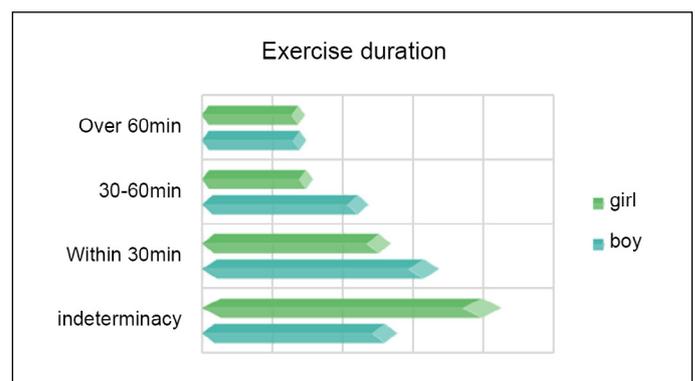


Figure 5. Analysis on the length of physical exercise of College Students.

“more than 60min” accounting for 14.789%; The proportion of physical exercise duration of female college students is “uncertain”, accounting for 42.631%, 26.845%, 15.857% and 14.667% respectively. As can be seen from Figure 5, due to the pressure of schoolwork burden and the uncertainty of time, the proportion of uncertain selection time is relatively high, and girls are significantly higher than boys. Among boys, the proportion of exercise within 30 minutes is the highest. The proportion difference between 30 ~ 60 minutes and more than 60 minutes is not particularly obvious. It often makes a certain distinction because of the type of exercise, intensity and intensity of exercise you choose.

Analysis of College Students’ awareness of physical exercise

Through a questionnaire survey, this paper allows college students to choose the most representative motivation in their after-school exercise, The results obtained are shown in Table 1.

Table 1 shows the analysis of College Students’ physical exercise motivation. It can be seen from the research results that among the 822 male college students, the top three motivation of physical exercise are: good health, 321 people, accounting for 39.051%; To release the pressure, 224 people were selected, accounting for 27.251%; To shape the figure, 156 people were selected, accounting for 18.978%. It shows that boys pay more attention to their own health. In terms of the goal of physical exercise, a large part of the choice is to release the pressure, which is also related to the boys’ choice of table tennis, basketball, football, badminton and other antagonistic ball games. Through high-intensity antagonistic sports, we can effectively alleviate the pressure. Among the 724 female college students, the top three motivation of physical exercise was to shape the body, and the number of choices was 334, accounting for 46.133%; In good health, 212 people were selected, accounting for 29.282%; For interpersonal communication, 96 people were selected, accounting for 13.260%. It can be seen that girls have a high demand for the optimization of their body posture. Nearly half of girls have the purpose of shaping their body, and interpersonal communication is also a goal with a relatively high proportion in girls’ physical exercise. By completing some sports together, girls can effectively promote communication and communication, so as to meet more friends, expand the social circle and enrich their after-school life.

DISCUSSION

In order to deepen students’ awareness of exercise, colleges and universities should increase the teaching of students’ sports related knowledge, let students master more knowledge about exercise, and tell them that exercise is not only for their own health, but also for the construction of socialist cause. Every citizen has the responsibility and obligation to closely link his own development with the development of the country and the nation. Only when everyone continuously improves his physical and mental quality can the overall quality of the country and the nation be improved. In addition, colleges and universities need to make reasonable arrangements for the physical education teaching content, guide students to independently design scientific and reasonable physical exercise content after class, and require the physical education teaching content of colleges and universities to extend to students’ extracurricular exercise links, so as to stimulate their interest in sports and lay the foundation for their lifelong sports life style.

Table 1. Analysis of physical exercise motivation of College Students.

Option		Good health	Release pressure	Build a figure	Interpersonal communication	Enrich life
Male	Number	321	224	156	54	67
	Percentage	39.051%	27.251%	18.978%	6.569%	8.151%
Female	Number	212	32	334	96	50
	Percentage	29.282%	4.420%	46.133%	13.260%	6.906%
Total	Number	533	256	490	150	117
	Percentage	34.476%	16.559%	31.695%	9.702%	7.568%

College education is the last stage of school education in life and a bridge for students to work and society. Therefore, the setting of teaching objectives, teaching fields and teaching methods in Colleges and universities should focus on this process. College physical education is also an important organic part of college education. Therefore, physical education in Colleges and universities should focus on how to better and more deeply cultivate students’ special ability, so as to make them better participate in social work. Colleges and universities need to make students understand that the sports meeting will become an important way of life in their future. Finally, we should establish the concept of lifelong exercise among students, strengthen the cultivation of students’ exercise concept, develop students’ reserve of exercise scientific knowledge, and improve the quality of classroom teaching.

CONCLUSION

From the research of this paper, we can see that the current physical quality of Chinese college students is not optimistic, and most students are only in a qualified state, which has a certain adverse impact on the optimization of college student system and the development of national fitness policy, which the state also attaches great importance to. Through the investigation of College Students’ after-school physical exercise, we can see that although the current college students’ physical exercise has achieved certain results, there is still an uncertain situation. Therefore, college teachers should actively design scientific training programs according to the physical status of students, and promote them purposefully in combination with the psychological needs and sports motivation of college students, so as to promote the enthusiasm of College Students’ physical exercise and improve their sports efficiency. College students themselves should also clarify their own exercise needs and correct their attitude towards physical exercise, Recognize the importance of physical exercise to physical health and physical and psychological development, so as to actively participate in physical exercise, improve the overall system quality of Chinese college students, and provide more healthy and all-round development talents for the society.

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REFERENCES

1. Imas YV, Dutchak MV, Andrijeieva OV, Kashuba VO, Kentsytska IL, Sadovskiy O. O. Modern approaches to the problem of values’ formation of students’ healthy lifestyle in the course of physical training. *Phys Educ Stud.* 2018;22(4):182-9.
2. Jia J, Li B. Physical health of teenagers and the biological characteristics affecting sports-related physical fitness. *Netw Model Anal Health Inform Bioinform.* 2021;10(1):1-12.
3. Zhao F, Sun S, Xiong J, Zheng G. The effect of Baduanjin exercise on health-related physical fitness of college students: study protocol for a randomized controlled trial. *Trials.* 2019;20(1):569.
4. Kim I, Ward P, Sineelnikov O, Ko B, Iserbyt P, Li W, et al. The influence of content knowledge on pedagogical content knowledge: An evidence-based practice for physical education. *J Teach Phys Educ.* 2018;37(2):133-43.
5. van de Kop JH, van Kernebeek WG, Otten RH, Toussaint HM, Verhoeff AP. School-based physical activity interventions in prevocational adolescents: a systematic review and meta-analyses. *J Adolesc Health.* 2019;65(2):185-94.