

# The Physical Condition and Lifestyle Dimensions on Physical Fitness among College Students

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**Abstract:** The physical health of male and female students at Guangdong Ocean University is generally satisfactory, with their body mass indexes clustered around normal levels, forming a bell curve distribution. When examining total physical fitness scores, male students peak during their sophomore year but decline in their junior year, while female students excel in their senior year but face challenges during their freshman year. Both genders grapple with malnutrition and obesity, with a higher incidence of malnutrition among female students and a greater prevalence of pre-obesity and obesity among males. In terms of lifestyle, students at Guangdong Ocean University lean towards healthy habits. Female students slightly outperform males, although the distinction is not significant. Both genders excel in internet use, interpersonal relationships, coping styles, hygiene, and study habits but struggle with eating and sleep quality. Notably, there are significant differences across five dimensions: sleep quality, study habits, physical exercise, tobacco and alcohol use, and coping styles. In these categories, males outperform females in physical exercise, internet use, and coping styles, while females fare better in tobacco and alcohol use, study habits, and sleep quality. Student lifestyles vary with academic progress. Those in lower grades exhibit healthier lifestyles, with sophomores achieving the highest scores and seniors the lowest. Overall, lifestyle scores tend to decrease as academic levels rise. Crucially, a significant correlation exists between students' physical fitness indicators and their lifestyle dimensions. A stepwise regression analysis was employed to examine the impact of lifestyle on physical condition, using physical form, function, and quality indexes as dependent variables and ten lifestyle dimensions as independent variables. Among male students, hygiene and physical exercise affect physical form, physical exercise, tobacco and alcohol use, and dietary habits influence physical function, while sleep quality, dietary habits, physical exercise, and tobacco and alcohol use impact physical quality. For female students, dietary habits, sleep quality, and physical exercise influence physical form, dietary habits and physical exercise affect physical function, and sleep quality, dietary habits, and physical exercise play a role in physical quality. This study sheds light on the health and lifestyles of Guangdong Ocean University students, highlighting gender disparities in physical fitness and lifestyle habits. It emphasizes the importance of recognizing these variations and tailoring interventions to enhance the overall well-being of the student population.

**Keywords:** College Students; The Physical Condition; Lifestyle Dimensions.

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## 1. Introduction

Physical fitness is a fundamental aspect of human well-being, forming the basis for all-encompassing human development. In modern society, a healthy constitution is the sought-after goal. Zhongkai emphasizes that physical fitness underpins good health, reflecting the level of health to a certain extent. National physical condition not only impacts individual health but also the overall quality and economic development of a country or region. It is a crucial indicator of comprehensive strength and socialization. Developing a national constitution monitoring system and health promotion are vital to mitigate unhealthy behaviors and enhance physical and mental health.

China's rapid socio-economic growth has improved living standards but introduced health challenges. Unhealthy lifestyles like smoking, excessive technology use, malnutrition, sleep deprivation, and lack of exercise have led to lifestyle diseases that primarily affect the younger generation. Unhealthy lifestyles now pose a greater threat than biological and environmental factors.

Healthy physical fitness is essential for comprehensive human development and economic progress. A nation's prosperity and vitality are closely tied to the well-being and longevity of its citizens. Improving the physical fitness of people across ethnicities is a national strategy to harmonize public health, economy, and society. This aligns with global

health governance and the 2030 Agenda for Sustainable Development. Recent findings from the eighth national student physique and health survey reveal declining physical fitness among college students, marked by high rates of poor eyesight and increasing obesity. College life is pivotal for shaping future lifestyles, directly influencing students' health and the nation's development. Interventions are crucial.

### 1.1. Figures

Figure 1 outlines the demographic details of respondents, including age, gender, and grade level. Their physical condition, encompassing factors like body shape (height and weight), lung capacity, running performance, flexibility, and strength, was assessed. Additionally, their lifestyle, including eating habits, sleep quality, hygiene practices, study routines, physical activity, recreational pursuits, smoking, drinking, social interactions, internet usage, and coping strategies, were correlated with their physical well-being. These correlations informed the development of a fitness program for college students, underscoring the significant relationship between physique and lifestyle and the impact of diverse lifestyles on physical health.

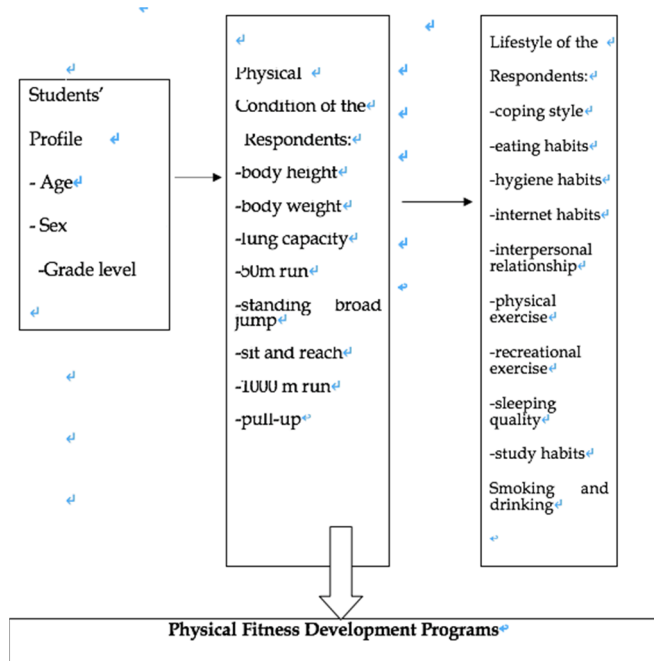


Figure 1. Research Paradigm

## 1.2. Research Design

Materialists believe that every element is interconnected, with varying degrees of direct or indirect associations. To examine the link between college students' physique and lifestyle, quantitative correlation analysis was applied. The study adopted a comparative correlational research design, using literature from the China Journal Network and Eric to shape the research's theoretical basis. Data was collected from the 2023 physical fitness test at Guangdong Ocean University, and a questionnaire based on the Institute of Psychology, Chinese Academy of Sciences' adolescent life questionnaire was used, scored on a 5-point Likert scale to assess lifestyle health.

The study took place at Guangdong Ocean University's Western stadium, where the physical fitness test occurred between February and April 2023. This involved 50 trained teachers and staff. Data from college students was collected through cluster sampling during the physical fitness test, which included interviews and the distribution of lifestyle questionnaires on-site.

The physical fitness test occurred from February to April 2023, with 50 trained teachers and staff participating. All students involved were volunteers with no history of heart, lung, or infectious diseases. The university's total student population is 35,616, comprising 20,193 males and 15,423 females. The study used stratified random sampling to select 423 students, including 240 males and 183 females, based on class year.

The data analysis will involve statistical treatment using SPSS, with significance levels set at 0.05. If the computed significance value is below 0.05, the null hypothesis will be rejected; otherwise, it will be accepted.

College students participating in the fitness test were healthy and had no acute diseases, heart or lung conditions, normal blood pressure, and no infectious diseases. Informed consent was obtained for interviews and questionnaires, respecting privacy and anonymity. Participants had the freedom to withdraw from the study. Validated, non-offensive questionnaires were used, and proper citation followed the APA 7th edition. The research maintained a high level of

objectivity.

## 2. Literature References

Research on college students' physical health comprises measurement indicators and influencing factors. Wu Jian noted China's adolescents have low cardiorespiratory function, rising obesity and myopia rates, and stagnant growth in physical indicators. Peng Zhenyu found monitoring and follow-up measures for physical health were lacking, rendering test results unhelpful. Zhao Yingying highlighted students' lack of fitness awareness, unsuitable curricula, and equipment shortages. Gao Yi observed declining physical qualities and rising obesity rates. Shen Jingang and Li Shugang critiqued centralized and inflexible physical tests, impacting students' physical quality. Experts advise promoting fitness awareness, improving exercise environments, and guiding students toward healthier lifestyles.

China's diverse regions and cultural values result in varying levels of physical fitness among college students. Factors contributing to declining physical health include environmental changes, parental overprotection, academic stress, limited physical education, insufficient awareness, and a lack of exercise motivation. Gender differences, Internet addiction, and socioeconomic factors also play a role. Strategies to enhance physical health encompass fitness education, improved exercise environments, and tailored interventions. Research has identified physical disparities between urban and rural students, highlighting the need for targeted fitness programs to bridge the gap. Efforts are ongoing to address declining physical health in college students.

Yang Jun's study revealed unhealthy behaviors among college students, with nearly half of boys smoking and 2/3 drinking alcohol. Both genders experienced insufficient sleep, poor sleep quality, and a high prevalence of staying up late. Girls exhibited more regular breakfast habits but tended to have an irregular diet and consume fast food. Boys engaged in more physical exercise than girls. Wang Lisen's research in Anhui Province identified smoking, unhealthy diets, and safety neglect as common unhealthy behaviors in boys, while girls displayed less physical activity, high-sugar diets, and irregular eating habits. Studies by Qin Bin, Huang Yongkang, and others reported gender disparities in smoking, drinking, and exercise habits. Xue Xingang's research revealed declining lifestyle quality with age, emphasizing the challenges faced by college students. Liu Baiqing's study found high school students slept less, engaged in less physical activity, and exhibited unhealthy eating habits compared to junior high school students. Xiang Yang's questionnaire survey at Xinjiang Medical University highlighted a higher prevalence of unhealthy behaviors with increasing grade levels among students.

Qiao Yanbin conducted a stratified survey on college students' physical fitness in Nanjing. Results showed 5.6% failed, 52.6% passed, 37.8% had good fitness, and 4.0% had excellent fitness. Gender, origin, grade, only child status, exercise frequency, duration, high-fat diet, and obesity correlated with physical fitness. The study suggests increasing exercise, maintaining a healthy diet, and controlling BMI are vital for better physique and health.

Additionally, Xu Zuhua found dietary factors like sweets, fried food, and lack of vegetables relate to increased adolescent BMI, while Xu Bo highlighted the health threat of

high-salt diets. Zhang Wenjing pointed out that obese students often consumed carbonated beverages, sweets, and fast food. Wang Mingxia discovered students' dietary nutrition failed to meet standards, impacting physical health indicators. Millen's research supported the health benefits of consuming vegetables, fruits, whole grains, low-fat milk, and essential vitamins.

### 3. Results

The overall physical condition of male and female college students in Guangdong Ocean University is at the passing level, and the body mass index is concentrated between normal weight, and both show a normal curve change of high in the middle and low on both sides. In terms of total physical fitness score, male students have the best physical fitness status in sophomore year and the worst in junior year; female students have the best in senior year and the worst in freshman year. In terms of body shape, students all have more serious malnutrition and obesity, and the percentage of malnutrition is higher in female students than in male students, and the percentage of pre-obesity, degree I and degree II obesity is greater in male students than in female students.

College students in Guangdong Ocean University have a relatively healthy lifestyle in general, and female students have a slightly better lifestyle than male students, but there is no significant difference. Male and female college students scored higher in Internet use habits, interpersonal relationships, coping styles, hygiene habits and study habits, and lower in eating habits and sleep quality. Students scored statistically significant and significant on all five dimensions: sleep quality, study habits, physical exercise, tobacco and alcohol use, and coping style. Boys scored higher than girls in the three dimensions of physical exercise internet habits and coping styles, indicating a better lifestyle than girls in these three dimensions. Girls scored higher than boys in the three dimensions of tobacco and alcohol use, study habits, and sleep quality, indicating that girls are better than boys in these lifestyle dimensions. Students' lifestyles also have certain differences depending on their grades. Students in lower grades have higher lifestyles scores than those in higher grades, which means that students in lower grades have better lifestyles, students in sophomore grades have the highest lifestyles scores, which means that students in sophomore grades have the best lifestyles, and students in senior grades have the worst lifestyles scores, which means that students in senior grades have the worst lifestyles. In general, the lifestyle scores of Guangdong Ocean University students show a decreasing trend as the grade level increases.

The correlation between the physical fitness indexes of Guangdong Ocean University students and their lifestyle dimensions was significant, and the results of the study were learned by using stepwise regression analysis with students' physical form, function and quality indexes as dependent variables and 10 dimensions of lifestyle as independent variables. The lifestyle dimensions that affect the physical form of male students include hygiene habits and physical exercise, those that affect physical function include physical exercise, tobacco and alcohol use and dietary habits, and those that affect physical quality include sleep quality, dietary habits, physical exercise and tobacco and alcohol use. The lifestyle dimensions affecting the physical form of girls were dietary habits, sleep quality and physical exercise, those

affecting physical function were dietary habits, physical exercise and tobacco and alcohol use, and those affecting physical quality were sleep quality, dietary habits and physical exercise.

### 4. Conclusion

Male and female college students at Guangdong Ocean University generally have a satisfactory physical condition, with normal body mass indexes. Best physical fitness occurs in sophomore and senior years for males and females, respectively. Malnutrition and obesity are prevalent, particularly among females. Students lead relatively healthy lives with higher scores in various aspects like internet use habits, interpersonal relationships, and hygiene. Lifestyle quality varies by grade, declining as students advance. A strong correlation exists between students' physical fitness and various lifestyle dimensions, with specific effects on males and females.

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