



Research on using campus sports clubs to cultivate students' exercise behavior

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Date of Submission: 13-12-2024

Date of Acceptance: 26-12-2024

Abstract: This study explored the behaviors of college students participating in sports clubs and their impact on sports exercise behaviors through descriptive statistics, independent t-tests, and analysis of variance. The results showed that female participants slightly outnumbered males in the sample, and lower-grade students had higher participation rates. Ball sports clubs were the most popular, while fewer participants were in martial arts and leisure entertainment clubs. Students with a moderate participation frequency (2-3 times per week) exhibited more active sports exercise behaviors, while students with excessively high participation frequency (daily participation) had lower exercise behavior scores. The diversity of clubs and larger club sizes were positively correlated with more active sports exercise behaviors. Additionally, a reasonable activity duration (31-90 minutes) was particularly important for enhancing students' exercise behaviors. The study suggests that universities should strengthen guidance for lower-grade students participating in sports clubs, increase the variety of clubs, optimize activity duration, and encourage students to join multiple clubs to enhance their overall sports exercise level.

Keywords: sports clubs; sports exercise behavior; analysis of variance; independent samples T-test.

I. Introduction

With the transformation of global modern lifestyles and the acceleration of work pace, health issues are becoming increasingly prominent. The World Health Organization (WHO) points out that the lack of sufficient physical exercise has become a major threat to global health (WHO, 2020). The increase in obesity rates and chronic diseases has prompted governments and health organizations around the world to actively promote national physical fitness programs in order to improve physical fitness and reduce the burden of medical

care. Physical exercise is not only an important means of preventing chronic diseases, but also an effective way to improve mental health and promote social interaction.

In China, with the acceleration of economic development and urbanization, the amount of physical exercise time for college students is gradually decreasing, especially at the higher education stage. Although the country encourages universities to strengthen physical education through policies and advocates for college students to exercise every day, the participation rate remains insufficient. Some universities have low utilization rates of sports facilities, and sports clubs face many challenges (Li et al., 2021). As the backbone of the country's future development, the physical and mental health of college students directly affects the overall health level of society. Therefore, establishing and developing sports clubs in universities has become an important way to promote physical exercise among college students.

1.2 Main Research Content

This study will explore the influence of the following aspects on the physical exercise behavior of college students:

The influence of gender on physical exercise behaviors: Analyzing the behavioral differences and influencing factors of male and female college students in sports club participation.

The impact of guidance teachers' participation: Research on the promotion of college students' exercise behavior by guidance teachers' participation in sports club activities.

The relationship between activity frequency and exercise behavior: Investigating the impact of weekly participation in sports clubs on exercise behavior.

The impact of types of sports clubs: examining the influence of different types of sports clubs (such as team sports, individual sports) on exercise behavior.

Relationship of exercise duration: Analyzing the impact of the duration of each activity on exercise



behavior.

1.3 Research Objectives

This study aims to comprehensively analyze the impact of various aspects of university students' participation in sports clubs on their exercise behavior, clarify the factors that promote or hinder exercise motivation and effectiveness, and provide a scientific basis for the management and optimization of university sports clubs.

1.4 Research Significance.

Theoretical significance: This study deepens the understanding of the influencing factors of college students' exercise behavior and fills the empirical research gap in cultivating students' exercise habits in Chinese university sports associations (Zhang et al., 2022).

Significance of the study: The research findings will provide guidance for university administrators and educational policymakers to optimize the organization and management of sports clubs, increase participation in activities, meet the health needs of college students, and promote comprehensive development.

1.5 Research Scope

This study focuses on the sports clubs in some universities in Xi'an, analyzing the behavioral characteristics and motivation differences of students with different genders, grades, and majors when participating in clubs, providing references for other universities, and promoting the cultivation and popularization of exercise behaviors among college students.

II. Literature Review

2.1 Definition of Concepts

2.1.1 Sports Clubs

Sports clubs are non-profit organizations organized spontaneously by students or other members in schools or communities, aimed at participating in sports activities together. According to Chen Chunyan's (2015) research, sports clubs are an important part of campus sports culture, providing students with rich opportunities for sports activities and cultivating teamwork awareness and social interaction skills. Similarly, Smith et al. (2016) pointed out that sports clubs can enhance students' sense of belonging and participation, thereby promoting their comprehensive development.

2.1.2 Campus Sports Clubs

The campus sports clubs are sports organizations established by students themselves or supported by schools on university campuses. Bai et al. (2022) suggested that these clubs enrich students' extracurricular lives through specific sports such as

basketball and football, playing a positive role in improving physical fitness, relieving study pressure, and promoting mental health. Research has shown that students who participate in campus sports clubs demonstrate better mental health and social skills (Jones & Smith, 2018).

2.1.3 Sports and Exercise Behaviors

The behavior of physical exercise refers to how individuals or groups enhance physical fitness, promote health, or engage in entertainment through physical activities. He Xiaoyi (2022) pointed out that active exercise behavior significantly reduces the risk of chronic diseases among college students. According to the study by Biddle et al. (2019), regular physical exercise not only contributes to physical health but also enhances the level of mental health.

2.2 Research on Sports Clubs

The role of sports clubs in college sports activities has become a hot research topic. Guo Chengcheng (2022) pointed out that sports clubs can stimulate students' interest in sports and enhance sports skills and teamwork through interaction and competition. Liu Huaicheng's (2018) research shows that students participating in sports clubs generally perform better in physical fitness tests than non-participants, indicating that sports clubs have a positive effect on promoting physical health.

2.3 Studies on Sports Exercise Behavior

Research on sports exercise behavior mainly focuses on influencing factors and exercise effects. Wei and Yang (2015) found that factors such as gender, grade, and major significantly influence students' exercise behavior, with male students more inclined to participate in high-intensity activities. Li (2023) studies have shown that regular physical exercise is closely related to the psychological health status of college students and can effectively alleviate symptoms of anxiety and depression.

2.4 Study of the relationship between the two.

The relationship between sports clubs and sports exercise behavior has been a hot research topic in recent years. Chu Nan (2016) pointed out that students who participate in sports clubs show more positive behaviors in exercise, and the collective atmosphere and mutual encouragement within the clubs are important factors that motivate students to adhere to exercise. In addition, Gao Changhua's (2020) study indicated that the involvement of supervising teachers has a significant impact on students' exercise behavior. In clubs where teachers



are involved, students' frequency and intensity of exercise are significantly increased. Overall, sports clubs significantly promote exercise behavior among college students through various mechanisms. Through the above research, we can see that sports clubs play an important role in promoting the physical and mental health of college students, enhancing their social skills, and are worth further promotion and development in universities.

III. Research Methodology

3.2.1 Literature review method

To investigate the influence of university sports clubs in Shaanxi Province on college students' physical exercise behaviors, the author first searched and retrieved over 100 relevant literatures through CNKI, Web of Science, Google Scholar, and Baidu Scholar using keywords such as "university sports clubs," "college students' sports clubs," and "physical exercise behaviors." After reading, browsing, and screening, the author summarized the existing research results, forming a relatively systematic theoretical foundation. These literatures include research results from different perspectives and levels, providing solid theoretical support for this study.

3.2.2 Questionnaire Survey

This study used a survey questionnaire to investigate non-sports major college students from three universities in Xi'an. The questionnaire mainly consisted of two parts: the first part was about demographic statistics and student participation in sports clubs, and the second part was a questionnaire about physical exercise behavior.

In the fitness behavior questionnaire section, the questionnaire uses the "Exercise Behavior Scale" compiled and validated by Mao Rongjian. The scale is based on the Exercise Attitude-Behavior Nine-Factor Model, which includes three dimensions:

Behavioral cognition: 7 items, Behavioral intention: 8 items, Behavioral habits: 10 items.

The total of 25 items were all positively

scored, using a 5-point rating scale. The sum of the scores for each dimension reflects the effectiveness of that indicator, with higher scores indicating more positive exercise behavior. For the internal consistency of the exercise behavior scale, the Cronbach's α coefficient test was used, and the result showed an α coefficient of 0.808, indicating good scale reliability and meeting the requirements for use⁵⁶.

3.3 Data Analysis Methods

In data analysis, start by downloading the survey results from Wenjuanxing and importing them into Excel for preliminary data cleaning and analysis, including identifying outliers and handling missing values. After initial data cleaning, conduct a comprehensive analysis of the relevant data using SPSS 26.0 software. Descriptive statistics, independent samples t-test, and one-way analysis of variance are the main statistical analysis methods, with specific steps as follows:

Descriptive statistics: Describe the basic information of the sample, such as gender, grade, participation in sports clubs, etc.

Independent samples t-test: comparing differences in physical activity behavior across groups. One-way analysis of variance: Analyzing differences among various groups on multiple dimensions to identify significant influencing factors.

These methods make data analysis more scientific and comprehensive, helping to reveal the true impact of sports clubs on college students' sports exercise behavior.

IV. Result Analysis

4.1 Descriptive Statistical Analysis

Descriptive statistics is a branch of statistics that involves the collection, organization, summarization, and presentation of data. Its main purpose is to provide a summary or description of the data so that researchers can quickly understand the basic characteristics of the dataset.

Table 1 Analysis of undergraduate students' participation in Xi'an City sports clubs

Independent Variable	Category	Frequency	Percentage	Cumulative Percentage
Gender	Male	151	44.20	44.20
	Female	191	55.80	100.00
Grade	Freshman	99	28.90	28.90
	Sophomore	113	33.00	62.00
	Junior	81	23.70	85.70
	Senior	49	14.30	100.00
Activity Type	Ball sports	118	34.50	34.50
	Martial arts	73	21.35	55.85



Frequency of Participating in Sports Clubs per Week	Fitness	82	23.98	79.82
	Recreational	69	20.18	100.00
	0-1 time	142	41.50	41.50
	2-3 times	97	28.40	69.90
	4-5 times	85	24.90	94.70
	Daily	18	5.30	100.00
Duration of each Sports Club Activity	Under 30 minutes	37	10.80	10.80
	31-60 minutes	107	31.30	42.10
	61-90 minutes	159	46.50	88.60
	Over 90 minutes	39	11.40	100.00
Presence of a Teaching Instructor	Yes	173	50.60	50.60
	No	169	49.40	100.00

Gender distribution: The sample included 151 males, accounting for 44.20% of the total; 191 females, making up 55.80%, showed that female participants slightly outnumbered males.

Grade distribution: The sample involved students from different grades, with freshmen accounting for 28.90%, sophomores accounting for 33.00%, juniors accounting for 23.70%, and seniors accounting for 14.30%. It can be seen that the students surveyed are mainly freshmen, especially with sophomores having the highest proportion.

Club types: Participants mainly joined the following four types of sports clubs: ball sports (34.50%), combat sports (21.35%), fitness and bodybuilding (23.98%), and recreational entertainment (20.18%). Ball sports clubs are the most popular, with the highest number of members.

Percentage of students participating in sports clubs per week: 41.50% of students participate in 0-1 sports club activities per week, 28.40% participate in 2-3 times, 24.90% participate in 4-5 times, and only 5.30% participate in sports club activities every day. This indicates that the majority of students have a low frequency of participation,

once a week or less.

The duration of each participation in sports club activities: 46.50% of students participate in club activities for 61-90 minutes each time, which is the most common duration. 31.30% of students participate for 31-60 minutes, 10.80% of students participate for less than 30 minutes, and 11.40% of students participate for over 90 minutes.

Whether there is a guiding teacher: Among the students involved, 50.60% of students stated that their sports clubs have a guiding teacher, while 49.40% of students in other clubs do not have guiding teachers, indicating that the presence or absence of guiding teachers in student clubs is close to equal.

The above statistics description reveals the participation of college students in sports clubs, as well as the distribution of different types of clubs, participation frequency, and scale. These data lay the foundation for subsequent in-depth analysis, helping us understand the differences in sports participation behavior and their influencing factors among different genders, grades, and types of clubs.

Table 2 Statistical analysis of independent variable of physical exercise behavior

Case number	Valid	342.000
	Missing	0.000
Mean		3.150
Standard deviation		0.772
Skewness		0.061
Skewness standard error		0.132
Kurtosis		0.238
Kurtosis standard error		0.263
Minimum		1.000



Through Table 2, we found that in this study, there were 342 valid questionnaires with no missing values, and the average score for physical exercise behavior was 3.150. According to the Likert five-level scale, this level indicates that the level of physical exercise behavior of the college students participating in sports clubs in Xi'an, Shaanxi Province is at a moderate level. The standard deviation is 0.772, indicating that the differences among individuals are not very large. With a skewness of 0.061 and kurtosis of 0.238, it indicates that the distribution of physical exercise behavior is close to a normal distribution.

4.2 Independent Samples T-Test

4.2.1 The gender differences in sports club participation and their impact on exercise behaviors.

The table shows the average values of physical exercise behavior for different genders. The average for females is 3.11, and for males, it is 3.18. The difference between the two is very small, suggesting that gender may not have a significant impact on physical exercise behavior. The results of

Levene's test for equality of variances show an F value of 0.00, with a corresponding p-value of 0.992. Since the p-value is greater than 0.05, we fail to reject the hypothesis of equal variances, indicating that the variances in physical exercise behavior between females and males are equal.

Assuming equal variances, the t-test results show a t-value of -0.772, with a degree of freedom of 340, and a corresponding p-value of 0.441. Regardless of whether we assume equal variances, the p-value from the t-test is greater than 0.05. This suggests that there is no significant difference in the average physical exercise behavior between different genders. The results indicate that gender does not have a significant impact on the physical exercise behavior of students participating in sports clubs. Whether female or male, the average values of physical exercise behavior are very close, and the t-test results show no statistically significant difference. Therefore, it can be concluded that gender is not a major factor influencing the physical exercise behavior of students in sports clubs

Table3 Analysis of Gender's Impact on Physical Exercise Behavior in Students Participating in Sports Clubs

Physical Exercise Behavior	Average Exercise Behavior		Levene's Test for Equality of Variances	Test for Equality of		t-test for Equality of Means	
	Female N=191	Male N=151		F	P	T	P
	3.11	3.18	assuming unequal variances	0.000	0.992	-0.772	0.4441
			assuming unequal variances			0.306	0.759

4.2.2 Analysis of the influence of guidance teachers on sports exercise behavior in participating in sports clubs.

Table 4 shows the impact of having a sports teacher's guidance on college students' exercise behavior, with average scores of 2.74 (no guidance) and 3.55 (guidance). In terms of average scores, students with sports teacher guidance have higher scores in exercise behavior, indicating that sports teacher guidance may have a positive impact on students' exercise behavior. The result of Levene's test for homogeneity of variances showed an F value of 31.693, with a corresponding p-value of 0.000. Since the p-value is less than 0.05, we reject the hypothesis of variance homogeneity, meaning that the variances between the two groups are not equal. Homogeneity of means t-test: Table 4.3 provides the

results of two t-tests: assuming equal variances: $t = 11.374$, $p\text{-value} = 0.000$. Assuming unequal variances: $t = 11.411$, the p-value is also 0.000. Regardless of the assumption of equal variances, the p-values of the t-tests are less than 0.05, indicating a very high level of significance ($p = 0.000$). This suggests that the difference between the two groups is significant whether assuming equal variances or not.

The results showed that guidance teachers have a significant positive impact on college students' physical exercise behavior. Students with guidance teachers scored significantly higher in physical exercise behavior compared to those without guidance teachers. This finding supports the important role of physical education teachers in students' physical exercise and further indicates that exercise activities with guidance teachers may be



more structured and effective, thus enhancing students' exercise behavior performance.

Table 4 The influence of guidance teachers on college students' physical exercise behavior

Exercise behavior	Mean with no sports teacher guidance		Levene's test for homogeneity of variance		Independent samples t-test for means	
	F	P	T	P		
1 No N=16 9	2 Yes N=173	Assuming homogeneity of variances	31.693	0.00	11.374	0.000

4.3 Analysis of Variance

4.3.1 The impact analysis of the number of times college students participate in sports clubs activities per week on their physical exercise behavior.

To investigate whether there are differences in physical exercise behavior based on the number of times college students participate in sports clubs, with physical exercise behavior as the dependent variable and the number of times college students participate in sports clubs per week as the independent variable, a one-way analysis of variance was conducted. Descriptive statistics showed that the average value of physical exercise behavior for the group participating 2-3 times per week was the highest (3.326), while the group participating every day had the lowest average value (2.676), indicating that physical exercise behavior does not simply increase linearly with the number of participations. The analysis of variance (ANOVA) results showed an F value of 5.023 and a p value of 0.002. Since the p value is less than 0.05, it suggests significant differences in physical exercise behavior among groups with different participation frequencies. This result indicates that at least one group differs significantly from the others in terms of physical exercise behavior.

The follow-up results of LSD showed that students

who participated in sports clubs every day (Group 4) scored significantly lower in physical exercise behavior compared to other groups (Group 1, Group 2). Those who participated 2-3 times a week (Group 2) scored significantly higher than (Group 3, Group 4). This suggests that students who participate in club activities daily score significantly lower in physical exercise behavior compared to those who participate 0-1 times, 2-3 times, or 4-5 times a week.

Usually, more frequent participation in clubs is believed to better promote physical exercise behavior. However, this study found that students who participate in sports clubs every day have significantly lower scores in physical exercise behavior compared to other groups. This counterintuitive finding may indicate that participating in club activities every day could lead to physical fatigue or time allocation issues, thereby affecting overall physical exercise behavior.

Balance of frequency and effect: The highest exercise behavior scores were achieved by participants with a frequency of 2-3 times per group, indicating that moderately frequent club activities may be more effective in promoting students' physical exercise. This may be related to the structural nature of club activities, students' physical recovery time, and exercise motivation.

Table 5 ANOVA test on the frequency of participation in sports clubs in sports exercise behaviors

Frequency per Week	Mean	Standard Deviation
Average 0-1 times N=143	3.171	0.753
Average 2-3 times N=101	3.326	0.800
Average 4-5 times N=80	3.014	0.707
Everyday N=18	2.676	0.802
ANOVA	F=5.023	P=0.002
LSD	1>4; 2>3,4;4<1,2	

Note: 1 = average 0-1 times; 2 = average 2-3 times; 3 = average 4-5 times; 4 = every time

4.3.2 Analysis of the impact of the types of college students' participation in sports clubs on sports exercise behavior

The differences in physical exercise behaviors among university students participating in

different types of sports clubs. Table 6 data show the mean and standard deviation of physical exercise behaviors of participants in different types of sports clubs. The average scores of physical exercise behaviors in different types of clubs are slightly



different from these means, with the highest score in recreational clubs and the lowest score in ball games clubs. However, the results of the analysis of variance show an F value of 0.709 and a p value of 0.547. The p value is greater than 0.05, indicating that the differences in physical exercise behavior

scores among different types of clubs are not statistically significant. This means that there is no significant difference in physical exercise behavior among students participating in different types of sports clubs.

Table 6 ANOVA test on participation in sports club types on exercise behavior

Type of Association	Mean	Standard Deviation
Ball sports N=118	3.098	0.669
Combat sports N=73	3.161	0.825
Fitness and bodybuilding N=82	3.115	0.835
Leisure and entertainment N=69	3.266	0.758
ANOVA	F=0.755	P=0.520

4.3.4 The impact of the average duration of sports activities per college student's participation in sports clubs on their exercise behavior.

From these data, the physical exercise scores corresponding to the participation durations of 31-60 minutes and 61-90 minutes are higher, while the scores for durations of less than 30 minutes and over 91 minutes are lower. ANOVA test shows an F value of 10.032, and a p value of 0.000, indicating a statistically significant difference in physical exercise scores among different participation durations (p < 0.05). Post-hoc LSD test results show that the exercise scores for durations of less than 30 minutes are significantly lower than the 31-60 minutes and

61-90 minutes groups. The exercise scores for durations over 91 minutes are also significantly lower than the 31-60 minutes and 61-90 minutes groups.

The results showed that the scores of exercise behaviors peaked during the participation durations of 31-60 minutes and 61-90 minutes. Shorter (less than 30 minutes) and longer (more than 91 minutes) participation durations, on the other hand, showed lower scores of exercise behaviors. This might reflect that within a reasonable duration range (31-90 minutes), students can engage better in physical exercise and maintain a higher level of exercise behavior.

Table 7 ANOVA test on the duration of participating in sports clubs on sports exercise behavior

Duration	Mean	Standard Deviation
Within 30 minutes N=37	2.663	0.728
31-60 minutes N=107	3.225	0.789
61-90 minutes N=159	3.292	0.736
Above 91 minutes N=39	2.828	0.640
ANOVA	F=10.032	P=0.000
LSD	1<2,3; 4<2,3	

Note: 1=within 30 minutes; 2=31-60 minutes; 3=61-90 minutes; 4=more than 91 minutes5.

V. Conclusion and Recommendations

5.1 Conclusion and Recommendations for Descriptive Statistics and Independent T-test.

This study presents conclusions and recommendations based on descriptive statistics and an independent T-test on the participation of undergraduate students in sports clubs in Xi'an City.

Gender distribution: There were 151 male participants, accounting for 44.20% of the total; 191 female participants, accounting for 55.80%, showing that there were slightly more female participants than males. This is consistent with the results of other studies that show women are more inclined to participate in social and team activities.

Grade distribution: The sample involves students from different grades, with 28.90% of freshmen, 33.00% of sophomores, 23.70% of juniors, and 14.30% of seniors. It can be seen that the students surveyed are mainly from lower grades, especially with the highest percentage from sophomores, while seniors have the lowest participation rate. This may be due to the fact that senior students face more academic and employment pressures, leading to a lower level of participation in sports clubs and activities. Therefore, it is recommended to strengthen guidance and incentives for sports club participation during the freshman and sophomore years to help students maintain positive



exercise habits in the future.

Club Types: Ball sports clubs are the most popular, with the highest number of members (34.50%). This may be because ball sports activities are generally more mainstream and easier to attract students from different backgrounds. Participation in combat sports and leisure and entertainment clubs is relatively low, indicating that these clubs have specific interests and skill thresholds. Therefore, the school can increase the variety of sports club types, promote and guide more students to participate in combat sports and leisure and entertainment clubs.

Percentage of students participating each week: 41.50% of students participate in sports clubs and activities 0-1 times per week, 28.40% participate 2-3 times per week, 24.90% participate 4-5 times per week, and only 5.30% participate in sports clubs and activities every day. This indicates that the majority of students have a low frequency of physical exercise. It may be beneficial to develop more attractive club activity plans for students to increase participation frequency.

The duration of each participation in the activity: 46.50% of students participate in club activities for 61-90 minutes each time, which is the most common duration; 31.30% of students participate for 31-60 minutes, 10.80% of students participate for less than 30 minutes, and 11.40% of students participate for more than 90 minutes. Longer activity durations are beneficial for health, but excessive fatigue should also be prevented. The presence of guiding teachers: 50.60% of students indicated that their sports clubs have guiding teachers, while 49.40% of students do not have guiding teachers¹. The lack of professional guiding teachers may result in the lack of systematic and professional activities in the clubs. It is suggested that schools provide more professional guiding teacher support for clubs to ensure the effectiveness of activities and the quality of participants' training.

5.2 Conclusion and recommendations for analysis of variance

5.2.1 The frequency of college students' participation in sports clubs on their physical exercise behavior.

The inverse relationship between participation frequency and exercise behavior: Data shows that students who participate in sports clubs every day have the lowest scores in physical exercise behavior. This may be due to students who frequently participate in club activities finding the activities too frequent and time-consuming, leading to a lack of time or motivation to independently engage in physical exercise at other times, resulting in overall

low exercise behavior scores. Studies indicate that students who participate in sports clubs 2-3 times a week score the highest, indicating that moderate club participation helps to foster more positive physical exercise behavior. This frequency can maintain exercise habits without occupying too much time, affecting other forms of exercise or personal life².

Countermeasure suggestions:

Optimize the frequency of club activities: Universities should optimize the frequency of club activities to avoid the negative impact that excessively frequent activities may bring, ensuring that students can achieve the best exercise effect with moderate participation.

Balance time allocation: Encourage students to balance their participation in extracurricular activities by scheduling independent exercise time and other academic activities appropriately to avoid insufficient exercise time due to activity conflicts.

5.2.2 Types of college students participating in sports clubs and their sports exercise behaviors

Uniformity of exercise behaviors: Although different types of clubs show some mean differences in exercise behaviors, these differences do not reach statistical significance. Whether it's ball sports, combat sports, fitness, and bodybuilding, or leisure and entertainment clubs, students' exercise behaviors overall appear similar. This reflects the relative uniformity of different types of clubs in promoting exercise behaviors.

Countermeasure suggestions:

Diversified club activities: Schools should encourage students to participate in a wide range of sports clubs without focusing too much on the influence of club types on exercise behavior, ensuring that the design of all club activities is balanced and provides sufficient opportunities and incentives.

The content of activities should be balanced: ensuring that the designs of various sports clubs' activities are balanced, in line with students' interests and needs, so that students can receive exercise in every type of club.

5.2.3 Duration of physical exercise and sports participation of college students in sports clubs

The analysis shows that the duration of exercise from 31 to 90 minutes is most beneficial for students' physical exercise behavior, as it can fully stimulate participation enthusiasm and exercise effects while avoiding excessive fatigue or boredom. Activity durations of less than 30 minutes may not be sufficient for students to fully participate in physical activities, while durations of more than 91 minutes



may lead to fatigue or boredom, reducing the willingness to exercise.

Countermeasure suggestions:

Reasonably arrange the duration of activities: Colleges and sports clubs should control the duration of activities between 31-90 minutes to ensure the effectiveness of the activities, prevent excessive fatigue, and enhance students' physical exercise behavior.

The importance of moderate participation: supporting the "optimal moderation theory," the duration of physical exercise should be kept within a moderate range, too short or too long a duration may be detrimental to exercise behavior. Moderate participation frequency helps maintain exercise motivation and effectiveness. WHO. (2020). Global Action Plan on Physical Activity 2018-2030: More Active People for a Healthier World. World Health Organization.

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