

The Relationship between Body Image and Sports Behavior: Taking the Public Sports Students of Nanchang University in Jiangxi as an Example

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Abstract: This research was to explore the relationship between body image and sports behavior of college students. This research conducted a questionnaire survey on a total of 240 freshmen and sophomores in physical education elective course. The research instrument uses the body image and sports behavior scale to collect data. After statistical analysis of SPSS 18.0, the results of the study were as follows: 1. College students of different genders have significant differences in body image and exercise behavior; 2. Exercise frequency, exercise time, and exercise degree have significant differences in body image; 3. Body image The appearance evaluation, body part satisfaction and sports behavior reached a significant and moderately positive correlation. The conclusion points out that strengthening college students' awareness of good body image will enhance their participation in sports and promote good exercise habits.

Keywords: body image, exercise behavior, physical education elective course

1. INTRODUCTION

College students are the future of a country and determine the destiny of a country. The results of the fifth national large-scale student health test conducted by the Chinese Ministry of Education showed that the physical fitness of college students continued to decline, such as endurance, strength, and speed. The ills continue to rise, and chronic and non-communicable diseases tend to be younger. (Ministry of Education, 2014) ¹. China Youth Sports Development Report indicated (National Department of Sport, 2016) ² : Many sports items showed that the physical quality of

college students was not as good as that of middle school students. The sports performance of middle school students has continued to rise, but the physical quality of college students has continued to decline. Why is the physique of college students inferior to middle school students? The reasons are complicated. The main reason is that college students are a "serious lack of physical exercise" and "unhealthy lifestyle". Therefore, factors affecting college students' sports participation behavior are the key to improving college students' physical health.

2.BACKGROUND

In recent years, relevant researches on the influence of body image on sports activities have been highly concerned by domestic and foreign scholars in the fields of sports and psychology. Previous studies have focused on the impact of body image on certain sports and explored the impact of daily exercise intensity on people. Research on the impact of lack of body image on sports behavior of college students is lacking. Therefore, this research intends to explore the relationship between body image and sports behavior of college students.

Body image refers to the size, shape, body shape, and feelings of these features and body parts presented in people's minds. The body image is composed of two parts. One is the perception part, that is, body perception, which is the correctness of estimating the size of the body; the other is the attitude part, that is, the concept of the body, which refers to the attitude and emotion of one's body. (Cashtf, 1990; Sladepd, 1994)^{3,4}. Exercise behavior is a dynamic and continuous process, including the length of time of exercise, exercising frequency, and the level of exercise. Scholars such as Baumeiste (2003)⁵, Gillen (2015)⁶, Andrew (2016)⁷ pointed out that exercise behavior is subjective Factors, objective factors, environmental factors, and multiple factors, college students' sports participation behavior is a determining factor. Some studies have pointed out that there is a certain connection between body image and sports behavior, such as the degree of sports behavior that is affected by body image (Furnham, 1994 ; Xu, 2009)^{8,9}. Most people participate in sports to maintain a good body shape, change the figure, increase personal charm, and stay healthy is the last reason. Therefore, many foreign researchers have introduced the concept of body image to observe the continuity of sports participating behavior. In summary, the purpose of this research is to understand the difference between body image and sports behavior of college students with different backgrounds and sports behavior patterns and to understand the relationship between college students' body image and sports behavior.

3.METHODS

3.1 Participants

In this study, students in the first and second grades of Nanchang University in Jiangxi Province who are electives for public sports were selected as the participants, with a total of 240 college students. Among them, there are 197 males with an average age of 18.75 ± 0.78 and 43 females with an average age of 18.37 ± 0.69 .

3.2 Research hypothesis

According to the purpose of the research, the hypotheses of this research are as follows:

- (1) Male and female college students have differences in body image and sports behavior.
- (2) Freshman and sophomore students have differences in body image and sports behavior.
- (3) The body image of college students has a significant correlation with sports behavior.

3.2 Research Tool

The tools of this research included basic personal background information, body image scale, and exercise behavior scale of college students. These research tools were described as follows:

(1) Basic personal information

This study will be based on participants' gender (male and female), grade (one and two), and exercise behavior frequency (1 to 6 times a week), time (30 minutes to 2 hours each time) Degree (not very tired-very tired)) survey as the basic data content.

(2) Body Image Scale:

This study uses the "Multidimensional Body-Self Relation Questionnaire" (MBSRQ) (Multidimensional Body-Self Relation Questionnaire, MBSRQ) translated from Cash (1990) by You Yanyan (2002)¹⁰ as a tool for measuring body image. There are 27 questions on the MBSRQ scale. The three subscales are "Appearance Evaluation" Cronbach's α value of .84, "Appearance Orientation" Cronbach's α value of .77, and "Body Part Satisfaction" Cronbach's α value of .83, indicating that the reliability of the scale is internally consistent. The total variance explained by the three factors of the validity of this scale is 61.90%, and its characteristic values are 11.74, 3.75, and 1.17 respectively, which are all larger than 1. The load of factor 1 "appearance evaluation" is 0.63 to 0.73, the load of factor 2 "appearance orientation" is 0.57 to 0.71, and the load of factor 3 "body part satisfaction" is 0.50 to 0.76. The above 27 questions are all greater than the absolute value of 0.40, and all meet the requirements of validity. The scoring method adopts Likert's 5-point scoring method, ranging from "strongly disagree" to "strongly agree" from 1 to 5 points. The higher the score, the higher the degree of satisfaction with the body image.

(3) Exercise Behavior Scale:

This research adopts the exercise behavior scale revised by Fox (1987) for the concept of fitness exercise behavior. The exercise behaviors of the participants were measured, including the frequency of weekly exercise, time of the weekly exercise, and the degree of weekly exercise. Then use Fox's exercise behavior formula: exercise participation level = frequency \times (average intensity + duration). Calculate the total score of each sport. The higher the number, the higher the participants' participation in fitness activities. SPSS software was used to analyze the collected data, and the significant level of a statistical test was set as $\alpha = .05$.

3.3 Data Analysis and Processing

The analysis method was as follows:

(1). Descriptive statistics: use the mean (M) and standard deviation (SD) to analyze the basic data of college students, including gender and grade. The difference between body image and fitness exercise behavior.

(2) Independent sample t-test (t-test) Analyze the difference between the body image of college students by gender and grade and fitness exercise behavior.

(3) A single factor independent sample ANOVA analysis was used to analyze the differences in the body image of college students' movement patterns (frequency, time and degree).

(4) Analyze the correlation between college students' body image and fitness behavior with Pearson correlation.

4. RESULTS AND DISCUSSION

Based on the research purpose and hypothesis, the following research results are analyzed in this research:

4.1 Differences in body image and fitness behavior of college students of different genders

Analyzing the results of independent sample t-test analysis (see Table 1), it is found that college students of different genders have body image [$t(239)=2.19$, $p=.029<.05$] and fitness exercise behavior [$t(239)=2.12$, $p=.035<.05$] up to a significant difference. Therefore, in the degree of body image, male college students ($M=3.07$, $SD=.49$) are higher than female college students ($M=2.89$, $SD=.44$), indicating that men are more satisfied with their appearance than women. In terms of fitness behavior, male college students ($M=17.69$, $SD=7.21$) are higher than female college students ($M=15.16$, $SD=6.83$), indicating that men have more fitness behaviors than women.

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Table 1 The *t*-test of college students' gender in body image and sports behavior

	M (SD)		df	<i>t</i> -value	<i>p</i>
	male (<i>N</i> =197)	female (<i>N</i> =44)			
Body Image	3.07(.49)	2.89(.44)	238	2.19*	.029
Sports Behavior	17.69(7.21)	15.16(6.83)		2.12*	.035

p*<.05 *p*<.01 ****p*<.001

4.2 Differences in body image and fitness behavior of college students of different grades

Analyzing the results of independent sample *t* test (see Table 2), it is found that college students of different grades have body image [*t*(238)= -.58, *p*=.56>.05] and fitness exercise behavior [*t*(238)= -1.56, *p*=.12>.05], there is no significant difference, which means that there is no difference in the degree of body image and fitness behavior between freshman and sophomore students.

Table 2 The *t*-test of college students' grades on body image and motor behavior

	Mean (standard deviation)		df	<i>t</i> value	<i>p</i>
	Freshman (<i>N</i> =109)	sophomore (<i>N</i> =131)			
Body Image	3.01(.49)	3.05(.48)	238	-.58	.56
Sports Behavior	16.44(7.14)	17.89(7.24)		-1.56	.12

p*<.05 *p*<.01 ****p*<.001

4.3. Differences in body image of college students' exercise frequency, exercise time, and degree of exercise

In this study, a single factor independent sample ANOVA was used to analyze the results (as shown in Table 3). It found that undergraduates' exercise frequency [*F*(5,190)=3.09, *p*=.011<.05, η^2 =.075] and exercise time [*F*(4,190) =3.43, *p*=.009<.01, η^2 =.067] There is a significant difference, and the degree of exercise [*F*(4,190)=1.23, *p*=.298>.05, η^2 =.067] has no significant difference. It indicates that there is a difference in the body image of the exercise frequency and exercise time of college students.

Table 3 ANOVA analysis of physical image of college students' exercise frequency, time, and degree

Source of variation	SS	df	MS	F	p	η_p^2
Exercise frequency	3.062	5	0.612	3.09*	0.011	.075
excercise time	2.723	4	0.681	3.43**	0.009	.067
Degree of exercise	0.980	4	0.245	1.23	0.298	.025
error	37.702	190				
sum	56.035					

* $p < .05$ ** $p < .01$ *** $p < .001$

4.4. Undergraduates' body image related to sports behavior.

This study used Pearson correlation to analyze the results (Table 5) and found that appearance evaluation [$r(238) = .199$, $p = 0.002 < .01$], body part satisfaction [$r(238) = .216$, $p = 0.001 < .01$] has a significant correlation with sports behavior, and is a moderately positive correlation, indicating that the higher the appearance evaluation of the body image and the satisfaction degree of the body parts of college students, the higher the degree of sports behavior, and vice versa; besides, the appearance orientation [$r(238) = .199$, $p > .05$] is not significantly related to sports behavior.

Table 5 Correlation matrix of body image to sports behavior (N = 240)

	1	2	3
1.Appearance evaluation	-		
2.Appearance orientation	-0.059	-	
3.Body parts satisfaction	.758**	-0.003	-
4. Exercise behavior	.199**	-0.055	.216**

* $p < .05$ ** $p < .01$ *** $p < .001$

5.CONCLUSIONS

5.1. Differences in body image and fitness exercises of college students of different genders and grades

The results of this study show that college students of different genders have significant differences in body image and fitness behavior, and male college students are higher than female

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college students; college students of different grades have no significant differences in body image and fitness behavior, but sophomores slightly Higher than a freshman.

In the part of the difference in body image of college students of different genders, the results of this research and the recent survey of body image of college students, Lin, & Lin (2018)¹¹ research pointed out that the evaluation of body image and body satisfaction of college males is significantly higher than that of females. Get support. Nevertheless, some scholars have put forward different arguments from the results of this study (Garner, 1997; Botta, 2003; Huang Xiuying, 2012)^{12,13,14}.

In the past research, Huang Xiuying (2012)¹⁴ also found in the research that there is no significant difference between male college students' and female college students' satisfaction with body image. Besides, Garner's (1997)¹² longitudinal study pointed out that men's dissatisfaction with overall appearance increased three times (15%-43%) from 1972 to 1996, and the proportion of men dissatisfied with their bodies, Has also become very close to women. And there is an increasing trend for men who are dissatisfied with their body image. In addition, the trend of showing masculinity (Botta, 2003)¹³ that suggests that having strong muscles is the masculine charm highlights the dissatisfaction of males with body image. Therefore, the gender difference in satisfaction with body image of college students may change with the trend of the times and the evolution of social atmosphere. Besides, the trend of showing masculinity (Botta, 2003)¹³ that suggests that having strong muscles is the masculine charm highlights the dissatisfaction of males with body image. Therefore, the gender difference in satisfaction with the body image of college students may change with the trend of the times and the evolution of the social atmosphere. The difference may change with the trend of the times and the evolution of the social atmosphere. In the part of the differences in sports behaviors of college students of different genders, the results of this study show that college students have significant differences in sports behaviors, and male college students are significantly higher than female college students. The results of this study are supported by some scholars' research (Li Caihua, 1998; Buckworth & Nigg, 2004; Xie Zongda, 2004; Zhao Guoxin, 2005; Xie Weixiong, 2010; Huang Xiuying, 2012;)^{14,15,16,17,18,19}. Li Caihua (1998)¹⁵ took middle school students in Taipei City as the research object and found that there are significant differences in physical activity due to gender, and the amount of physical activity of men is significantly higher than that of women. Buckworth & Nigg (2004)¹⁶ aimed at the relationship between physical activity, exercise and sedentary behavior of 493 college students. The study pointed out that the gender difference in exercise behavior was significantly higher for men than for women; Zhao Guoxin (2005)¹⁸ aimed at Taipei City July 8 A study of junior

middle school students in grades showed that male students had a significantly higher regular exercise pattern than female students. Xie Weixiong (2010)¹⁹ The results of a study on the body mass index, self-esteem, body image, social influencing factors and exercise behavior of college students pointed out that the exercise behavior of male college students was significantly higher than that of female college students. Xie Zongda (2004)¹⁷ and Huang Xiuying (2012)¹⁴ also found that male sports participation is higher than female participants. Therefore, this study points out from previous research investigations that gender behavior in sports will not change due to the evolution of the trend of the times and the social atmosphere. On the differences in body image and fitness behavior of college students of different grades, the results of this research are supported by some scholars' research (Xue Linfeng, 2009; Guo Qigui, etc., 2017)^{20,21}. Xue Linfeng (2009)²⁰ explored the current situation and relationship of college students' sports behavior, personal background factors, and body image, and pointed out that there are no significant differences in body image satisfaction and fitness behavior of college students in adjacent grades, and they are on the rise with the increase of grade. Therefore, this study points out from previous research investigations that the body image satisfaction and fitness behavior of college students may undergo positive changes with the increase of school age.

5.2. Differences in body image of college students in terms of exercise frequency, exercise time, and exercise level

The question of this research is to explore the differences in the physical image of college students in terms of exercise frequency, exercise time, and exercise level. The research results show that there are differences in the physical image of college students' exercise frequency and exercise time. The higher the number of exercises per week and the longer the exercise time, the higher the degree of physical intention of college students. Pan Mingrong (2010)²² pointed out in an earlier study that regular exercise helps to improve the degree of body image of college students, and that sufficient physical activity has a significant effect on the body intention of college students.

5.3 Relevant situation of college students' body image to fitness exercise behavior

The question of this research is to explore the relationship between the body image of college students and the fitness exercise behavior. Appearance evaluation, body part satisfaction and sports behavior are significantly correlated, and are moderately positive, indicating that the higher the appearance evaluation and body part satisfaction degree, the higher the degree of sports behavior, and vice versa; appearance orientation is not related to sports behavior. Significant correlation. The results of this study are partly consistent with the conclusions of the Guo Qigui

(2017)²¹ study. Appearance evaluation and body part satisfaction have a significant positive effect on sports participation. It shows that the more active the body image of college students is, the higher the enthusiasm for participating in physical exercise and the higher the amount of exercise. That is to say, the more college students pay more attention to appearance, they will actively participate in physical exercises, thereby enhancing individual self-evaluation. The study of Wang Zhengsong (2005)²³ pointed out that body image has a negative influence on the degree of participation in sports, which is inconsistent with the results of this study. The reason for this difference may be the choice of scales and the different research objects and the influence of the development of the times. The research objects are Female college students, this research covers all gender roles, so the conclusions drawn may be different.

Based on the motivational theory, when an individual has a positive evaluation of appearance and physical fitness, the individual will have a sense of pride and superiority, while maintaining the durability of physical exercise.

In summary, using active guidance to cultivate the healthy body image of college students has a positive effect on enhancing the degree of them in sports.

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