

Comparative Study on Sports Behavior Habits of Middle School Students Between China and Singapore

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ABSTRACT

To understand the difference of sports behaviour of middle school students between China and Singapore. In this study, we recruited 130 students from middle schools in Singapore and 520 students from 8 middle schools in Wuhan, who were randomly selected by questionnaire. The internal influencing factors of the differences between Chinese and Singapore middle school students' sports behaviour habits have highly significant differences in all dimensions of the nine-factor model of exercise attitude-behaviour ($P < 0.01$). In line with the epidemic of COVID-19 in 2020, the public's fear for life and yearning for health, in order to better implement the national policy of "Healthy China", we call on the society to face up to and focus on solving the physical health problems of China's youth.

Keywords: Sports, Behaviour Habits, Middle School Students, Comparative Study.

1. BACKGROUND

A strong youth makes a strong nation. Adolescent physical health is not only closely related to personal growth and family happiness, but also closely related to the future of the country and the hope of the nation. In recent years, the physical health status of Chinese adolescents is not optimistic, with physical problems such as myopia, obesity and scoliosis becoming more and more serious, which is becoming an important public health issue of concern to the government and society. Studies have shown that the improvement of adolescents' physical activity level has a positive effect on reducing the risk of future chronic diseases. Therefore, based on the nine-factor exercise attitude-behaviour model proposed by Mao Rongjian, this study compared and analysed the sports behaviour habits, influencing factors and participation motivation of middle school students in China and Singapore. The purpose is to provide the basis for the intervention of middle school students' physical exercise behaviour and the education administrative department to formulate the good sports behaviour habit cultivation plan for middle school students, so as to improve the physical health level of middle school students in China.

2. OBJECTS AND METHODS

2.1. Objects

With the rapid development of the world economy, exchanges between countries and regions have become increasingly frequent and in-depth. This study recruited Singapore and China part of the primary and secondary school students in Wuhan as the research object. Using random sampling method, 130 students from middle schools in Singapore and 520 students from 8 common and key middle schools in Wuhan, Hubei Province, China were selected as the investigation objects. A total of 650 questionnaires were sent out with a recovery rate of 100%. Positive and negative questions were included in the questionnaire. After logical analysis and positive and negative questions test, the effective rate was 94.6%. Therefore, the effective sample size of this study is 615, including 500 Chinese questionnaires, including 258 males and 242 females, aged (15.14 ± 0.96) years old. There were 115 questionnaires from Singapore, including 62 male students and 53 female students, aged (14.78 ± 0.76) years old.

2.2. Methods

2.2.1. Questionnaire Survey

On the basis of reading relevant literature and soliciting relevant expert opinions, the Physical Exercise Attitude Scale developed by scholar Mao Rongjian for adolescents was selected as the questionnaire for this study. The retest reliability test was conducted by the scale. The test results showed that the retest reliability coefficient of each subscale was above 0.7, indicating that the scale had high stability, good retest reliability and reliable survey results. In addition, according to the related research achievements, the sports behaviour scale score was divided into three levels, respectively (low score < 30 points, said do not have sports behaviour), middle group (30 points scored 40 points or less, or less basic have sports behaviour), the high group (> 40 points, said sports behaviour has formed strong stability and high automation).

This questionnaire is authorized to the responsible persons of Singapore New Wushu Centre and Singapore Chinese Cultural Centre who are approved by the Singapore government to legally promote martial arts. The responsible persons will inform the relevant school leaders and distribute the questionnaire in the secondary schools such as Yi An, Tak Ming and Chung Cheng as well as the primary schools such as Lim King, Nanyang and Dung Nam.

2.2.2. Expert Interview

Discussions, telephone interviews and network consultation were conducted to consult experts and researchers at home and abroad on research ideas, cultural differences between China and Singapore, questionnaire structure, translation and statistical analysis.

Table 1. Statistical table of distribution of automation degree of sports behavior habits of primary and secondary school students in China and Singapore (%)

Sports behavior habit		Low	Middle	High	Average	t
		CHN	167(33.4)	255(51.0)	78(15.6)	32.44±7.63
SG	5(4.4)	81(70.4)	29(25.2)	37.57±4.44		

Note: * means p<0.05; ** indicates P <0.01

Table 2. Number of Days in which Middle School Students in China and Singapore Participate in Physical Activities for more than 30 minutes per week (%)

Countries	Num	0d	1d	2-3d	4-5d	6-7d
CHN	500	77(15.4)	106(21.2)	153(30.6)	114(22.8)	50(10)
SG	115	0	6(5.2)	34(29.6)	46(40)	29(25.2)

2.3. Statistical Processing

SPSS25.0 statistical software was used to conduct frequency statistics, independent sample t test and other statistical analysis methods for the survey data.

3. RESULTS

3.1. Comparison of the Formation of Sports Behaviour Habits of Middle School Students in China and Singapore

According to the independent sample t test, the results are shown in Table 1. The average total score of sports behaviour habits of Chinese students is (32.44±7.63), and that of Singapore students is (37.57±4.44), and the difference is statistically significant (t = -9.557, P < 0.01). The scores of sports behaviour habits of Singapore students are mainly distributed in the middle group (81,70.4%) and the high group (29,25.2%), while the Chinese students are mainly distributed in the low group (167,33.4%) and the middle group (255,51%). In the aspect of sports behaviour habit formation, 70.4% of Singapore students have the basic sports behaviour habit, only 4.4% of students do not have the sports behaviour habit; Among the Chinese students, 51% have basic sports behaviour habits, 33.4% do not have sports behaviour habits.

As can be seen from Table 2, the frequency of Chinese students engaging in physical exercise for more than 30 minutes per week is generally lower than that of Singaporean students. The number of days that Chinese students participate in sports activities for more than 30 minutes per week is mainly distributed between 2 and 3 days, accounting for 30.6% of the total distribution.

3.2. Comparison of Perceived Behavioural Control among China and Singapore Middle School Students

As can be seen from Table 3. The distribution of sports skills is mainly concentrated in 1-2 and 3-4,

accounting for 51.5% of the overall distribution. Among Singaporean students, 98.3% have mastered one or more sports skills, and only 1.7% have not mastered any sports skills. The distribution of sports skills is also mainly concentrated in 1-2 and 3-4, accounting for 93.1% of the total distribution, 41.6% higher than that of Chinese students.

Table 3. Number of Sports Skills Mastered by Middle School Students in China and Singapore (%)

Countries	Num	0	1-2	3-4	≥5
CHN	500	109(17.7)	179(29.1)	138(22.4)	74(12)
SG	115	2(1.7)	80(69.6)	27(23.5)	6(5.2)

3.3. Comparison of Influencing Factors of Sports Behaviour among Middle School Students in China and Singapore

(1) Subjective factors

As shown in Table 4, among the middle school students from China and Singapore, the average score of Singapore students in all dimensions of the model was higher than that of Chinese students, and the difference was highly significant (P<0.01).

Table 4. Comparison of Different Model Factor Scores between Chinese and Singapore School Students

Countries	Number	Behavior target	Cognitive	Consciousness	Emotion	control	Subjective	
CHN	500	25.80±6.56	37.59±8.4	24.91±5.2	25.62±5.9	33.98±7.1	23.94±5.5	22.27±4.9
SG	115	31.26±3.70	45.02±6.0	27.74±4.0	28.23±3.9	36.38±4.9	29.01±4.4	27.08±4.0
t		-12.058**	-10.896**	-6.361**	-5.767**	-4.314**	-10.565**	-11.061**

Note: * means p<0.05; ** indicates P<0.01

(2) Objective factors

As can be seen from Figure 1, tight study, more homework and lack of time are the main objective factors affecting the participation of middle school students in physical exercise in China and Singapore, accounting for 50.6% and 88.7% of the total number of tested students in China and Singapore respectively. In addition, compared with Singaporean students, Chinese students are more affected by objective factors such as exercise venues, seasons, sports equipment, teachers' guidance, and lack of sports skills and knowledge.

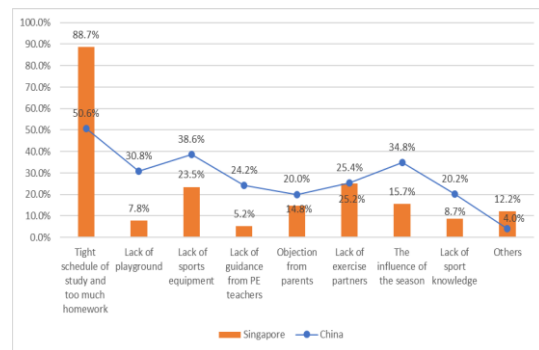


Figure 2 Motivation of middle school students to participate in physical exercise in China and Singapore

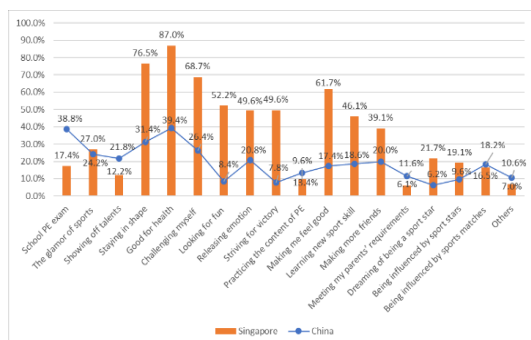


Figure 1 Influencing factors of Chinese and Singapore middle school students' participation in physical exercise

3.4. Comparison of sports participation motivation between Chinese and Singapore middle school students

As can be seen from Figure 2, Chinese students' sports participation motives mainly focus on four aspects: physical health, school sports examination, keeping fit and challenging themselves. The sports participation motivation of Singapore students mainly focuses on four aspects, namely, keeping fit, challenging themselves and making themselves feel good.

4. DISCUSSION

The results show that the average score of Singapore students in the nine factors model of exercise attitude and behaviour is higher than that of Chinese students, and the difference is highly significant ($P < 0.01$). This shows that Singaporean students have more explicit exercise goals and exercise motivation than Chinese students, have clearer cognition and higher evaluation of their own participation in physical exercise, and have stronger willingness to participate in physical exercise than Chinese students. The main reason for the above results is the difference in the educational environment between Chinese and Singaporean middle school students.

In Singapore, through scientific top-level design, solid financial support, perfect rules and regulations, the government protects the physical health of young people in an all-round way. Among them, curriculum assisted activity (CCA), which is most closely related to the physical health of teenagers and school physical education, plays an important role in the curriculum system of basic education in Singapore. In terms of the school education system, students have enough time to participate in physical exercises. There are many contents in the four main categories of curriculum supporting activities stipulated by the Ministry of Education. In terms of financial support, solid financial support ensures the continuous and stable implementation of CCA.

In contrast, in China. High school entrance examination and college entrance examination are the focus of the work of primary and secondary schools, while non-entrance examination subjects such as physical education cannot be paid due attention. The school physical education rules and regulations and related measures are difficult to be effectively implemented because of the goal of enrollment rate, performance and so on.

In the aspect of family education, the over-protective parenting style such as spoiling and pampering caused by intergenerational upbringing restricts the time and space for teenagers to participate in physical exercise, which makes teenagers lack the necessary sports stimulation in the natural growth and development process. In the aspect of students themselves, the special environment causes the students lack of hardship spirit in physical exercise.

In terms of sports participation motivation, the pursuit of physical health is the common value pursuit of Chinese and Singapore students to participate in physical exercise. However, according to the survey results, 87.0% and 39.4% of Singaporean and Chinese middle school students hope to have a healthy body through physical exercise respectively. It is not difficult to see that Singaporean students have a clearer understanding of life and health than Chinese students.

Suggestions: At the level of the state and governments at all levels: the state has issued a series of top-level designs in order to improve the physical health of adolescents. It is urgent to implement how to increase the financial input of governments at all levels to physical health education of adolescents and to establish a perfect school sports safety guarantee system and supervision and evaluation mechanism. School level: school leadership, teachers should change ideas, from the public for the fear of life, yearning for health perspective, seriously implement the state's education policy promulgated policy, reasonably adjust the teaching focus, attaches great importance to the physical health condition of adolescent, strengthen the construction of teachers team, site equipment external security. Family level: parents should change the concept of children's growth and success, buckle the first button of children's life. From subjective support and implementation to objective guidance, the "increasing burden" of sports should be raised. Individual level: students should establish a correct view of life and health, take the initiative to participate in physical exercise, establish their own firm belief, form self-discipline behavior habits.

5. CONCLUSION

In line with the epidemic of COVID-19 in 2020, the public's fear for life and yearning for health, in order to better implement the national policy of "Healthy China", we call on the society to face up to and focus on solving the physical health problems of China's youth. The government, schools and families should make joint efforts to improve the physical health of middle school students in our country.

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