Academic Education Publishing House -AEPH-

Research on the Relationship Between MBTI and Physical Education Course Selection of Secondary School Students

Rui Yan

GeZhi Senior High School of Shanghai China (Fengxian Campus), Shanghai, China

Abstract: Middle school students have a tendency to choose physical education courses, and middle school students with different personality types prefer different physical education courses. This study uses 114 middle school students as samples, and adopts a comprehensive literature research method and questionnaire survey method to systematically explore the relationship between middle school students' personality type and physical education course selection. The results show that middle school students have a tendency to choose physical education courses. The most preferred course in class is badminton, and the extracurricular courses tend to choose swimming, fencing, karate and golf; in terms of personality type, the most respondents have the campaigner personality, and the number of explorer personality, mediator personality and protagonist personality is also relatively large; the correlation between personality dimensions and in-class course selection is weak, and only extroverts prefer table tennis; in extracurricular course selection, the correlation with personality dimensions is high, extroverts are more likely to choose golf, students with high realistic dimensions tend to choose swimming, rational people prefer rugby and fencing, and judges prefer karate; in the relationship between personality type and physical education course selection, explorer personality dislikes physical confrontation projects, while logistician personality prefers multi-person projects. Finally, based on the study of the relationship between personality type and physical education course selection, this study puts forward targeted suggestions for optimizing physical education course selection and improving the compatibility of physical education course selection with students' personalities in the future.

1. Introduction

Physical education courses accompany our primary and secondary schools and even higher education, and play a vital role in maintaining students' physical health. However, people often have difficulties in choosing sports. " Mothers force their children to participate in sports that are not suitable for them, which leads to unnecessary family conflicts", "I want to participate in multi-person sports, but I find that I can't fit in that circle", "The school requires students to choose a sport as a major in physical training courses, but after choosing the subject, they find that they don't like it at all". Choosing a sport that is not suitable for you will take a few weeks or even months to adjust, or even lead to doubts about your own abilities, frustration of self-esteem and additional injuries. Individuals with different personalities may also be suitable for and good at different sports. Especially for middle school students, how to make good use of limited time to choose suitable physical education courses for physical exercise is crucial to maintaining physical and mental health in addition to intense study. So, how should schools set up physical education electives? How should middle school students choose appropriate physical education courses based on their personality characteristics? These issues deserve our further attention.

Many literatures have discussed the topic of physical education course selection for middle school students. These studies mainly focus on the importance, current situation and problems of physical education course selection for middle school students, as well as models for optimizing course selection. Some scholars, such as Wang Xu[5], pointed out that physical education elective courses

are of great significance to high school physical education teaching. However, for high school physical education teachers and students, this is still a relatively unfamiliar field. The study also emphasized that understanding the importance of physical education elective courses and guiding them in teaching practice will have a far-reaching impact on the smooth implementation of elective course teaching and the promotion of new high school textbook reform. Sun Yinan [4] emphasized in his research that with the advancement of quality education and the need to improve students' personal abilities, many schools have begun to innovate teaching methods. Due to the generally high academic pressure on high school students, physical education classes are often occupied, which has become a widespread problem. In response to this situation, many schools have opened high school physical education elective courses and innovated the teaching model to better meet the needs of students. Another part of the research focuses on the current situation of physical education course selection for middle school students and its existing problems. Cheng Jiafei and Qu Fuhuan[1] found that most high school students were not fully prepared before choosing physical education courses. The motivation for choosing courses was mainly based on cognitive intrinsic drive, while affiliation intrinsic drive and self-improvement intrinsic drive were not dominant, resulting in unsatisfactory course selection results. Liu Wenli [3]'s research showed that the daily exercise time of middle school students still did not meet the standard of "at least one hour of exercise every day". Current sports activities are mainly physical education classes and radio exercises. It is common for classes to organize independently. When students participate in sunshine sports projects, ball games are the most common. The lack of teaching staff and the shortage of venue equipment funds have become the main obstacles to the development of sunshine sports. In addition, there is an imbalance in the ratio of male and female students in cheerleading courses, and students pay attention to routines and ignore theoretical knowledge. Another part of the research is dedicated to exploring how to optimize the model of physical education course selection

for middle school students. Liu Lei [2] established a corresponding evaluation index system by investigating and analyzing the physical education course selection of high school students, and constructed an application model using the analytic hierarchy process (AHP). Combined with actual cases, the study provides an effective evaluation method for high school students to scientifically and reasonably choose physical education courses. Huang [6] also used the hierarchical analysis method to establish a hierarchical analysis model that affects the selection of elective courses for high school students. By comparing the weights, the preference of high school students for physical education courses was calculated, and various factors affecting course selection such as students themselves, teachers, teaching process, management, venue availability and equipment were analyzed in detail. Nagovitsyn et al. [7] explored the course selection problem of martial arts in depth based on the regression analysis model and developed a new course selection method. Platonov [8]

discussed in detail the theoretical basis of sports talent identification and development, emphasizing the analysis of personal potential, ability and tendency to find potential sports talents suitable for long-term training and appropriate direction.

Although many studies have focused on the phenomenon of physical education course selection among middle school students, the research mainly focuses on the importance, current situation and problems of physical education course selection among middle school students, as well as the model for optimizing physical education course selection among middle school students, ignoring the relationship between middle school students' own personality characteristics and physical education course selection. Students choosing appropriate physical education courses according to their own personality characteristics not only helps students choose appropriate physical education courses, but also helps guide schools to optimize and set up physical education courses, which is crucial for the benign optimization of physical education course selection. This study starts from the students' personality characteristics (MBTI)

and explores its relationship with physical education course selection, hoping to provide targeted theoretical guidance for future students to choose physical education courses and school physical education course setting.

2. Research Process

2.1 Research Methods

2.1.1 Research design methods

This study adopted a combination of literature research and questionnaire survey methods, and designed the research into four research questions: (1) the type of physical education course selection of middle school students, (2) MBTI personality classification, (3) the relationship between personality dimensions and physical education course selection, and (4) the relationship between personality types and physical education course selection. For the second question, a combination of literature research and survey research methods was adopted. Through literature analysis, the personality dimensions of MBTI were summarized, and the personality type classification of the sample group was investigated. For the remaining first, third, and fourth questions, survey research methods were used. Through self-designed questionnaires, online surveys were conducted to collect data, and the data were processed to draw research conclusions.

2.1.2 Data Statistical Methods

This study mainly needs to organize and statistically analyze the results of literature research and survey data. In terms of literature research results, it is only necessary to organize the MBTI personality classification, mainly by inserting a table in Word. The data processing of the survey research mainly uses Excel and Spss software for data analysis. Exporting data from Questionnaire Star, preprocessing data, and making charts for processed data are all done in Excel. Spss is mainly used for statistical tests. Specifically, for the two questions of " types of physical education course selection for middle school students " and " MBTI personality classification ", this article mainly uses descriptive statistical analysis , for the question of " the relationship between personality dimensions and physical education course selection " , a correlation analysis is used , and for the question of " the

relationship between personality type and physical education course selection " , an independent sample t- test is used.

2.2 Study Procedure

2.2.1 Material preparation procedures

The literature research part does not require the preparation of research materials, but only requires the review of MBTI classification literature. In the questionnaire survey part, the MBTI personality type test mainly adopts the internationally used MBTI personality type test. Because there are many versions of the MBTI test, in order to ensure the accuracy of the test and reduce the burden of answering questions for the respondents, this study selected the 60- question version of MBTI (link: https://www.16personalities.com/ch/). The remaining questions are mainly collected by self-compiled questionnaires. In the questionnaire, demographic variables such as gender, age group and education level are first designed. Secondly, small questions are designed for the type of physical education course selection of middle school students, MBTI personality classification, the relationship between personality dimensions and physical education course selection, and the relationship between personality types and physical education course selection. In the process of questionnaire preparation, the existing authoritative questionnaires were referenced. Some questions use the Likert five-point scale to quantify the subjective feelings of the respondents. The options range from 1 to 5, representing " very unwilling " to " very willing". For example, I am willing to choose badminton for physical education. The complete questionnaire is shown in the appendix.

2.2.2 Data collection procedures

This study mainly collects sample data through Wenjuxing. The researchers entered the compiled survey questionnaire into Wenjuxing, and published it after forming an electronic questionnaire in Wenjuxing. The measurement of MBTI is placed after the instructions. The respondents need to click on the link to conduct the MBTI personality type survey, take a screenshot to save their personality type and the score of each dimension, and then return to the questionnaire again, and enter their personality type classification and score into

the questionnaire of Wenjuxing. Because the research subjects of this study have group restrictions, only middle school students can participate in the survey, and the author happens to be a middle school student, so the sampling process can mainly obtain enough samples through the snowball method. Specifically, the researcher posted the Wenjuxing link in the circle of friends and classmates, and sent it to relatives and friends who are close to them at a fixed point, and then shared it again through classmates and friends to obtain more samples.

2.3 Sample Characteristics

This study obtained a total of 114 valid samples, and the results are shown in Table 1. In terms of gender, boys (68 people, accounting for 59.65%) slightly outnumber girls (46 people, accounting for 40.35%). In terms of age, the largest number of people are aged 17-18 (60 people, accounting for 52.63%), accounting for more than half, 14-16 years old (44 people, accounting for 38.6%) are in the middle, and 10-13 years old (10 people, accounting for 8.77%) are relatively small. In terms of education, the majority are high school students (94 people, accounting for 82.46%), supplemented by junior high school students (20 people, accounting for 17.54%). The reason why most of the high school students are aged 17-18 may be that the author himself is a high school student aged 17-18, and when forwarding, the main ones are classmates and friends around him, so he is also in this group.

Table 1. Sample Characteristics.

variable	Classification	Frequency	frequency
gender	male	6 8	59.65%
	female	4 6	40.35%
age	10-13 years old	1 0	8.77%
	14-16 years old	4 4	38.6%
	17-19 years old	6 0	52.63%
Education	junior high school	2 0	17.54%
	high school	9 4	82.46%

3. Research Results

3.1 Middle School Students' Preferences for Physical Education Courses

In order to understand the type of physical education course selection tendency of middle school students, this study conducted a survey and statistical analysis on the common extracurricular and in-class courses selected by middle school students. The results are shown in Figure 1. As shown in Figure 1, in terms of in-class course selection, middle school students are most inclined to badminton, reaching 3.96. Table tennis (3.65), table tennis (3.51), basketball (3.39) have medium tendencies, while football (3.04) and volleyball (3.09) have low tendencies. The possible reason why badminton is the highest is that the gender role classification of badminton in China is not obvious, and both boys and girls can play this sport. Although girls can also play table tennis, basketball and football, they are more considered to be male sports, while volleyball is more regarded as a female sport.
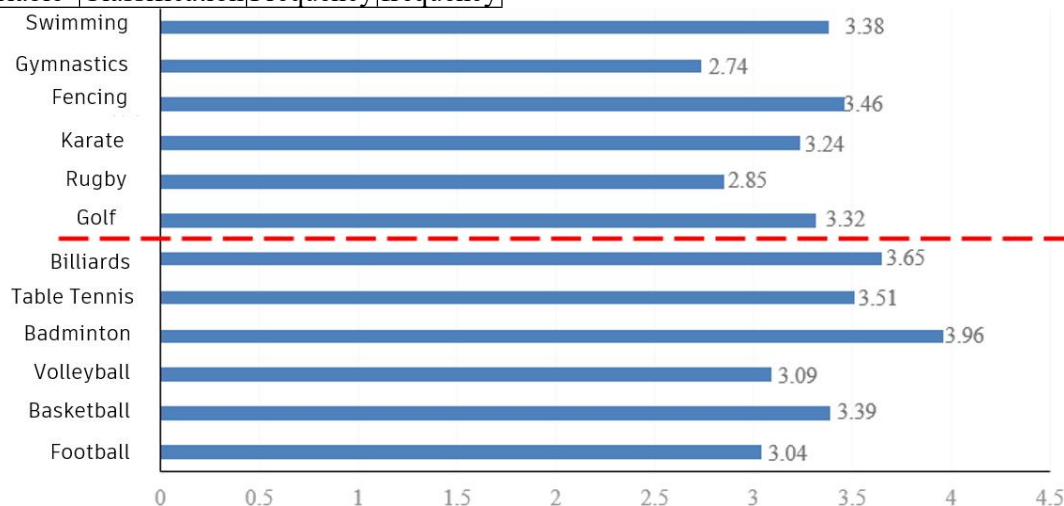

Figure 1. Types of Physical Education Electives

3. 2 MBTI Personality Classification

MBTI personality classification is a personality classification system based on four dimensions, which are the source of driving force (extroversion (E) or introversion (I)), the way of receiving information (sensation (S) or intuition (N) , the way of decision-making (thinking (T) or feeling (F)), and the attitude towards uncertainty (judgment (J) or perception (P). The combination of these four dimensions forms 16 different personality types. Each personality type has its own unique characteristics and behavior patterns. The following is an introduction to some specific personality types in table 2.

Table 2. Introduction to MBTI Personality Classification.

type	name	Introduction
1	ISTJ	Practical and fact-oriented, emphasizing logic and order; reliable and loyal, good at executing tasks.
2	ISFJ (Guardian)	A dedicated and warm guardian who is willing to protect those he loves; meticulous and attentive to the needs of others.
3	INFJ (Initiator)	Introvert and mysterious, but very inspiring, a tireless idealist; insightful.
4	INTJ (Architect Personality)	Imaginative and strategic thinking, good at planning; independent and decisive in decision-making.
5	ISTP (The Connoisseur)	A bold and pragmatic experimenter who is good at using various tools; he has strong analytical skills and is flexible and adaptable.
6	ISFP (Explorer Personality)	A flexible and charming artist who loves to explore and experience new things; sensitive and seeking harmony.
7	INFP (Mediator Personality)	Kind and compassionate idealist, committed to mediating harmony; has strong personal values.
8	INTP (Logician Personality)	Innovative and curious thinker who enjoys in-depth analysis and understanding of complex issues; independent and rational.
9	ESTP (Entrepreneurial Personality)	A resourceful and energetic adventurer who is good at improvisation; he loves a challenge and fast action.
10	ESFP (The Performer)	An outgoing and optimistic entertainer who enjoys bringing joy to others; infectious and enjoys the present moment.
11	ENFP (The Campaigner Personality)	Enthusiastic and creative motivator who is good at inspiring others; interested in new ideas and enjoys exploring possibilities.
12	ENTP	A smart and argumentative thinker who enjoys challenging conventional wisdom; innovative and willing to explore new ideas.
13	ESTJ (Executive Personality)	Practical and detail-oriented organizer who excels at management and execution; enjoys creating structure and order.
14	ESFJ	Sociable and responsible supportive person who is willing to help others; values traditions and social norms.
15	ENFJ (Heroic Personality)	An inspirer with charisma, good at motivating others; caring about others and focusing on teamwork.
16	ENTJ (Commander Personality)	Decisive and visionary leader who is good at developing strategies and managing resources; pursues efficiency and likes to be in control.

3.3 The Relationship Between Personality Dimensions and Physical Education Course Selection

3.3.1 The relationship between personality dimensions and physical education course selection

Differences in scores on a certain personality dimension may affect differences in course selection

methods within physical education classes. For example, rational people may be more willing to choose gambling sports, such as table tennis. In order to understand the relationship between personality dimensions and course selection within physical education classes, this study conducted a correlation analysis on personality dimension scores and course selection within physical education classes. The results are shown in Table 3. As

shown in Table 3, extroverts prefer billiards (r=0.19, p<0.05). There is no significant relationship between other personality

dimensions and course selection in physical education classes.

Table 3. The Relationship Between Personality Dimensions and Course Selection in Physical Education Classes.

	1	2	3	4	5	6	7	8	9
1. Outgoing									
2. Reality	0.25**								
3. Rationality	0.10	0.35***							
4. Judging	0.25**	0.38***	0.31***						
5. Football	0.08	-0.01	0.16	0.10					
6. Basketball	0.15	-0.002	0.09	0.07	0.57***				
7. Volleyball	0.07	-0.09	0.003	-0.05	0.37***	0.32***			
8. Badminton	0.09	-0.05	-0.17	0.04	0.14	0.23*	0.43***		
9. Table tennis	0.08	0.01	0.09	0.03	0.31***	0.19*	0.50***	0.38***	
1 0. Table tennis	0.19*	-0.02	0.03	-0.06	0.25**	0.06	0.35***	0.26**	0.56***

Note: * represents p <0.05, 1% ** 1/1000* *

3.3.2 The relationship between personality dimensions and extracurricular sports courses
The scores of personality dimensions will not only affect the selection of physical education courses, but also, when faced with a large number of extra-curricular physical education courses, individuals with different personalities tend to choose different physical education courses. This study also conducted a correlation analysis on the relationship between personality dimension scores and extra-curricular physical education courses, and the results are shown in Table 3. As shown in Table 3, extroverts are more likely to choose golf (r=0.20, p<0.05) , students with high realistic dimensions are more likely to choose swimming (r=0.19, p<0.05) , rational people prefer rugby (r=0.22, p<0.05) and fencing (r=0.27, p<0.01) , and judges prefer karate (r=0.19, p<0.05) in table 4.

Table 4. The Relationship Between Personality Dimensions and Extracurricular Sports Courses.

	1	2	3	4	5	6	7	8	9
1. Outgoing									
2. Reality	0.25**								
3. Rationality	0.10	0.35***							
4. Judging	0.25**	0.38***	0.31***						
5. Golf	0.20*	0.02	0.19*	-0.003					
6. Rugby	0.09	0.09	0.22*	0.08	0.54***				
7. Karate	0.06	0.11	0.16	0.19*	0.24*	0.42***			
8. Fencing	0.13	0.12	0.27**	0.12	0.37***	0.35***	0.55***		
9. Gymnastics	0.12	-0.02	0.11	0.04	0.34***	0.34***	0.36***	0.31***	
10. Swimming	0.12	0.19*	0.13	0.09	0.20*	0.30**	0.46***	0.34***	0.43***

3.4 The relationship Between Personality Type and Physical Education Course Selection

There are also some differences in the sports courses that people tend to choose according to personality types. This study divided sports courses into physical confrontation projects and non-physical confrontation projects, multi-person projects and single-person projects. Independent sample t-tests were conducted between personality types and sports projects to explore whether individuals belonging to a certain personality type prefer physical confrontation projects and multi-person projects. As shown in Table 5, the explorer personality is less fond of physical confrontation projects (t = -2.10, p < 0.05), while the logistician personality prefers multi-person projects (t = 2.00 , p < 0.05).

Table 5. The Relationship Between Personality Type and Physical Education Course Selection.

Personality Type	Physical confrontation events		Multiplayer Project	
	t	p	t	p
ISTJ	1.94	0.06	2 .00*	0.05

The Guardian (ISFJ)	0.12	0 .91	0.07	0.95
The Initiator (INFJ)	- 0.78	0.44	- 0.62	0.54
INTJ	0.90	0.37	1 .14	0.26
The Connoisseur (ISTP)	- 1.08	0.28	- 1.67	0.10
Explorer Personality (ISFP)	- 2.10*	0.04	- 1.44	0.15
INFP	- 0.99	0.32	- 1.27	0.21
INTP	- 0.76	0.45	- 1.05	0.30
Entrepreneurial Personality (ESTP)	- 0.05	0.96	- 0.48	0.63
ESFP	- 0.63	0.53	- 0.64	0.53
The Entrepreneur Personality (ENFP)	0.54	0.59	1 .13	0.26
The Debater (ENTP)	- 0.63	0.53	- 1.15	0.25
Executive Personality (ESTJ)	0.31	0.76	0.24	0.81
ESFJ	- 0.09	0.93	- 0.32	0.75
ENFJ	- 0.40	0.69	0.15	0.88
Commander Personality (ENTJ)	1.86	0.07	1.08	0.28

4. Conclusions

This study systematically explored the relationship between middle school students' personality types and physical education course selection by using literature research and questionnaire survey methods. The results show that middle school students' physical education course selection has a tendency. The most in-class course selection is badminton, and the extracurricular course selection tends to be swimming, fencing, karate and golf. In terms of personality type, the respondents have the most campaigner personality, and the number of explorer personality, mediator personality and protagonist personality is also relatively large. The correlation between personality dimensions and in-class course selection is weak, and only extroverts prefer table tennis. In extracurricular course selection, the correlation with personality dimensions is high. Extroverts are more likely to choose golf, students with high realistic dimensions tend to choose swimming, rational people prefer rugby and fencing, and judges prefer karate. In terms of the relationship between personality type and physical education course selection, explorer personality dislikes physical confrontation projects, while logistician personality prefers multiplayer projects.

References

[1]Cheng Jiafei, Qu Fuhuan. Investigation and research on the current situation of high school students' physical education elective course selection: A case study of Hefei City[J]. Bulletin of Sports Science and Technology Literature, 2020, 28(10):5-10.

[2]Liu Lei. Research on high school students' physical education course selection based on analytic hierarchy process [J]. New Education Era Electronic Magazine: Teacher Edition, 2017, 13(10):140-141.

[3]Liu Wenli. Research on the integration of cheerleading into the sunshine sports of Wuhan high schools [D]. Wuhan Institute of Physical Education [2024-08-02].

[4]Sun Yinan. Some thoughts on the folk dance class, an elective course in physical education for ordinary high schools[J]. 2021, 10(3):7-10.

[5]Wang Xu. A feasibility study on offering physical education elective courses to high school students[J]. 2015, 9(7):8-11.

[6]Huang C. Analytic hierarchy process-based university students sports elective course development and influence factors research[J]. The Open Cybernetics & Systemics Journal, 2015, 9(1).

[7]Nagovitsyn R S, Zekrin F H, Fendel T V, et al. Sports selection in martial arts based on the harmonic stability of results at competitions[J]. 2019.

[8]Platonov V. Theoretical and methodological background for sports selection and orientation in modern elite sports[J]. Science in Olympic Sport, 2018, 3: 24-51.