



## Original Research Article

# An Investigation on the Influence of Physical Education on Middle School Students' Mental Health---- Longnan city as an example

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### ABSTRACT

Henan Province is located in China's Central Plains region, is China's education province, basic education penetration rate. Under the guidance of the national macroeconomic policy, the idea of physical education is gradually expanded with the concept of 'health first' and 'lifelong sports'. This paper selects eight high schools with typical and representative Nanyang as a research sample, this paper makes a deep research on the mental health of middle school students in Nanyang middle school physical education by using the method of literature, questionnaire survey and mathematical statistics.

**KEYWORDS:** physical education; middle school students; mental health

## 1. Introduction

With the growing of the only child in our country population, among high school students is on the rise in the number of psychological barriers. Therefore, stages of psychological health education have become a widespread attention and urgent problems to be solved. The Ministry of National Education promulgated the Guidance Outline of Mental Health Education in Primary and Secondary Schools in 2002, which clearly pointed out that good psychological quality is an important part of people's overall quality, psychological health education is to improve the psychological quality of middle school students, is an important part of implement quality education. With the progress of times, people's awareness on the concept of health is not confined to the physical aspects. Consensus on the present, health factors include: physical health, mental health, social adaptation, moral health, and reproductive health. However, people often ignore effects of incentives on their own mental pressure adjust, resulting in interpersonal relationship discord, learning tension, employment mate and so on. The resulting mental illness has become a major factor affecting the health of adolescents. Therefore, our PE teachers is necessary to explore the effect of physical education on middle school student's mental health education, on how to use the physical education to study the mental health education of the students, so that the students can promote the growth of mental health while strengthening the physical constitution. It is not only possible to improve the effect and function of mental health education in physical education in middle school, but also to provide reference for the future education of mental health education in the future, through the study and the experience of Nanyang physical education on the mental health of middle school students.

## 2. Materials and methods

### 2.1 Subjects

In this study, random sampling method was used to select Nanyang city middle school students as the survey object. A total of 130 questionnaires were distributed to 130 were recovered. The questionnaire recovered rate was 100%. Through careful screening, 7 valid questionnaires were removed and 123 valid questionnaires were obtained. The effective rate of the questionnaire was 94.6%. Details are as follows:

As can be seen from Table 1, the proportion of secondary students is not even more uniform, the proportion of men and women were 50.4% and 49.6%. In the case of frequent participation in sports, the proportion of the gap is very large, respectively 85.4%, 14.6%.

## **2.2 Research methods**

Using Wang Yisheng professors prepared by the Chinese middle school students mental health scale to investigate. The scale includes 10 factors, such as obsessive-compulsive, hostile, interpersonal, interpersonal stress and depression, anxiety, learning stress, maladaptation, emotional instability, mental imbalance, each factor has 6 projects, a total of 60 projects, by the subjects on their own recent psychological state of self-evaluation. Each project using 5 score, the reaction was not counted as 1 minute, occasionally counted as 2 points, sometimes counted as 3 points, often for 4 points, always counted as 5 points. The scores of the factors are simple to determine the factor of the mental health problem of the factor, 2-2.99 is divided into the mild problem of the factor, 3-3.99 is divided into the problem of moderate problem, 4-5 divided into the factor of serious problems, the higher the average factor, the more serious the problem.

**Table 1.** Basic information on valid subjects

Sample	Type	Number	%
Sex	Male	62	50.4%
	Female	61	49.6%
Sports	Yes	105	85.4%
	No	18	14.6%

## **2.3 Data processing**

All data were recorded, statistically analyzed by SPSS 17.0 software.

## **3. Results and discussion**

### **3.1 Mental health of middle school students in Nanyang City**

The frequency distribution of each project shows that the overall response tendency is 'no' and the response to 'often' and 'always' is the least. With the increase of the degree, the proportion of the reaction is gradually reduced. But the seriousness of the project still shows that there are a certain proportion of serious problems on the project students, such as often have suicide thoughts projects, regardless of boys and girls, in all levels have responded. Nearly half (49.96%) of secondary school students had mild or more serious mental health problems with the highest rates of obsessive-compulsive symptoms, learning stress, and emotional instability. The proportion of moderate problems on each factor is about 5% -17%, of the most serious problems is learning pressure and anxiety. This is the survey of the population of the psychological characteristics of the population are closely related, they are in adolescence, also in a critical period of intense school education, this time is the second physiological and self-consciousness development of peak, parents, teachers, peers, schools, learning and other life constitutes of attitude also in dramatic attitude, from junior high school to high school of new environment, new tasks, new life also directly affect the adolescent youth evaluation of the external environment. Individuals are more concerned about the outside world and the inner world, and are more susceptible to emotional fluctuations. This requires educators, not only teachers, also including families, societies, schools and other environments to give students more attentive, and positive encouragement, too reduce its learning anxiety, cultivate self-regulation, control negative emotions, maintain positive emotions, improve its academic performance, so that it can learn the pressure to form a more reasonable of cognitive and emotional.

### **3.2 The difference between the comparison of psychological health in students who participate in sports activities**

As can be seen from Table 3, boys often participate in the proportion of sports reached 93.55%, girls only 26.23% of people often participate in sports, the difference is very mysterious. Table 4 shows that the average value of each factor in girls is higher than that of boys, and there are significant differences in the factors such as obsessive-compulsive symptoms, hostility, interpersonal sensitivity, depression, anxiety, learning pressure and others. There are also significant differences in mean values. This shows that more girls are more serious mental health problems than boys, especially in the degree of depression, girls are more likely to fall into depression emotional distress. Boys often participate in sports, will focus on the sport to ease the release of the pressure, while girls do not often participate in sports, often closed themselves in a small space, cannot transfer attention, which will appear a lot of psychological problems. Therefore, in physical education should pay attention to the psychological gap between men and women, often change the mode of physical education, teaching methods, to encourage girls to participate more in sports, so that it is conducive to their mental health, individualized, to achieve the desired results.

**Table 2.** Percentage of mental health problems of single factor in secondary school students

Factor	Light	Mild	Moderate	Total
Forced	59.02%	13.66%	0.64%	73.32%
Paranoia	35.6%	7.22%	1.06%	43.88%
Hostile	30.71%	7.01%	0.64%	38.36%
Interpersonal	39.56%	9.98%	1.77%	51.31%
Depression	36.45%	8.78%	1.06%	46.28%
Anxiety	40.69%	12.46%	3.26%	56.4%
Learning	43.38%	17.27%	4.67%	65.32%
Adaptation	44.8%	9.79%	0.64%	55.13%
Emotion	44.52%	13.3%	1.7%	59.52%
Balance	31.78%	5.02%	0.42%	37.23%
Overall	44.73%	5.02%	0.21	49.96%

Note: The name of the subscale part of the abbreviated, forced = forced symptoms, interpersonal relationships and interpersonal tension and sensitivity, learning = learning stress, adaptation = maladaptation, emotional = emotional instability, balance = psychological imbalance, the same below.

**Table 3.** Differences in number and percentage of gender whether to participate in sports frequently

Gender	Often Participate	Seldom Participate
Male	58 93.55%	4 6.45%
Female	16 26.23%	45 73.77%

**Table 4.** Does often to participate in physical activity on the Mental Health Scale

Factor	Always Participate--Yes(mean)	Always Participate--No (mean)	F
Forced	2.21	2.35	5.01**
Paranoia	1.81	2.08	15.64***
Hostile	1.71	1.93	9.27***
Interpersonal	1.9	2.18	12.83***
Depression	1.77	2.2	35.51***
Anxiety	1.91	2.33	23.95***
Learning	2.02	2.59	41.03***
Adaptation	1.92	2.17	11.98***
Emotion	1.89	2.38	39.21***
Balance	1.69	1.91	11.16***
Overall	1.88	2.21	32.04***

**Table 5.** Comparison of different sexes in the Mental Health Scale

Factor	Female	Male	F
Forced	2.36	2.25	3.88***
Paranoia	1.98	1.92	1.69
Hostile	1.89	1.80	2.57**
Interpersonal	2.11	2.03	2.22*
Depression	2.09	1.89	5.79***
Anxiety	2.23	2.08	3.62**
Learning	2.39	2.25	3.22**
Adaptation	2.08	2.08	0.08
Emotion	2.19	2.16	0.72
Balance	1.86	1.80	1.92
Overall	2.12	2.02	3.35***

Note: \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, the same below.

From Table 5 we can see that students often participate in sports, psychological problems appear less, students who do not participate regularly in sport, psychological problems appear more. After the single factor analysis of variance, there were significant differences among the factors and the total score. Especially in the studying stress, emotional instability, depression, anxiety and other aspects of the performance were more prominent, often to participate in sports more often affect the students' mental health level. It can be seen that the high level of mental health of middle school students who regularly participate in sports is low, and the level of mental health of students who do not often participate in sports is low. This is because in sports can relieve stress, relax, sports to the mind to remove the heavy burden, therefore, to participate in sports on the mental health of high school students is very important.

## 4. Conclusions

### (A) Conclusion

The level of mental health of middle school students in this study is not optimistic, the general response to learning pressure, emotional instability, anxiety, self-regulation ability is poor. Often the regular participation in sports on the physical health of boys and girls in the school is very different, girl's psychological problems are more serious psychological problems than boys. Regular participation in sports has a significant impact on the mental health of middle school students. Especially in the studying stress, emotional instability, depression, anxiety and other aspects of the performance were more prominent.

### (B) Recommendations

1, To develop students good physical exercise habits and promote students' mental health

Sports in order to achieve greater psychological health effects, students must develop good exercise habits. Because the sport caused by the human body structure and function of the significant changes, not short-term will be effective and only after a long time of systematic training, students physical and psychological level can be significantly enhanced. If the interruption of exercise, the body of the organs and systems of the structure and its function will gradually fade. In addition, the formation of sports habits, students can become the internal motivation of physical exercise behavior. In this regard, the physical education teachers to cultivate students' interest in sports, because interest is the prerequisite for habitual development; two to strengthen supervision and management, requiring students to exercise every day for 30 minutes, so that students form a sports psychological formula, into the important guarantee of the exercise habit. In the course of sports activities, the psychology of students has been in the dynamic, the practicality, competitiveness, openness, synergy and collectiveness of sports have determined that sports activities play a special role in promoting the development of mental health, as a physical education teacher should actively grasp the characteristics of students' mental health, in the classroom teaching purposefully carry out the activities, so that each student has a pure psychological sky.

## 2, To strengthen the content of mental health education teaching

To take full advantages of sports theory lessons, teach the basic knowledge of sports and health care in the classroom at the same time, teaching mental health knowledge, enable students to master the scientific psychological without pride, lose with grace, courageously fight, learn to help others, care about the collective good psychological health care and psychological illness prevention knowledge, enabling it when necessary, timely and appropriate their own psychological state to adjust. Such as gymnastics and ball class teaching, training students team spirit, to win quality; use of long-distance running, high jump teaching student's courage, perseverance, decisiveness, perseverance, forge ahead, pioneering and enterprising, hard-work and other good psychological quality [11].

## 3, Give full play to role of physical education teachers

The process of physical education activities at the same time is the process of mental activity, physical education activities itself and must consciously or unconsciously carried out psychological education. This requires physical education teachers to teach education activities to enhance the sense of psychological education and actively play a good psychological quality, mining the role of psychological potential. At the same time, we must improve the way of education and teaching methods, to avoid the students in the teaching and teaching activities intentionally or unintentionally to create students' psychological barriers to help students improve their psychological quality, improve personality, enhance the ability to withstand setbacks, adapt to the environment, improving the overall quality of the student.

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