

## Effects of Sport on Mental Health of Preschool Children

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**Abstract:** The purpose of this study is to understand the mental health status and exercise status of preschool children, and to explore the impact of exercise on mental health, so as to provide a basis for formulating intervention strategies. Based on the questionnaire, 1832 questionnaires were collected from 4 districts in Chongqing, China. SPSS software was used for statistical analysis. The results showed that the number of preschool children with regular exercise was 33.7%, which was 619. Among them, 40.1% were in good mental health, 349 were in good mental health, only 2 had serious mental problems, only 0.3%. 1213 preschool children with irregular exercise accounted for 66.3% of the total, 370 people had good mental health, accounting for 30.4%, and 9 people had serious mental problems, accounting for 0.7%. From this we can see that long-term regular exercise can effectively promote the development of children's mental health, which has an important role in regulating mental health.

### 1. Introduction

The younger the child is, the more likely the intrinsic biological genes will expand outward, and the more plasticity they will have. On the one hand, it directly gave birth to some educational practices of shaping children's body and mind. On the other hand, physical activity or physical learning becomes a neglected content, forgetting the existence of the body itself, children will become "shaped" victims [1].

At present, we advocate taking the development of young children as the basis, and we should arrange the educational contents reasonably, but first of all, we should put the physical and mental health of young children in the first place [2]. However, as far as the current situation is concerned, the number of people with mental disorders and potential problems at different levels is increasing gradually, and the age is decreasing year by year, which makes education management more difficult. Therefore, it is urgent to strengthen the mental health education of preschool children. In recent years, many scholars have studied the relationship between exercise behavior and mental health from different perspectives in order to prove that exercise behavior can improve children's adaptability, overcome inferiority complex, improve their mental health level and prevent and treat preschool children's mental illness [3]. This study investigates and analyses the exercise behavior, mental health status and their relationship of preschool children in Chongqing, China, and puts forward relevant opinions to provide reference for preschool educators to build health education system and improve children's mental health.

Exercise can not only enhance physical fitness, but also play a good role in regulating people's mental health. However, due to various constraints, there are few studies on the relationship between

exercise and mental health, especially in the field of preschool education. And in the current educational situation, whether family or kindergarten for children's upbringing is more inclined to eat, eat and wear warm type of active care. Parents and other educators do not attach much importance to strengthening exercise awareness and improving comprehensive quality. The purpose of this study is to discuss the current situation and related impacts of sports and mental health. In order to maintain the mental health of preschool children and prevent their mental disorders or behavioral problems, and to promote their psychological adjustment ability, we should take the development of greater psychological efficacy of preschool children as the starting point. At the same time, let children live in the environment and constantly improve their psychological debugging ability, so as to provide help for them to better adapt to social life.

## 2. Research Method

Kindergartens in Shapingba District, Nanan District, Banan District and Jiangbei District, Chongqing City, China, were randomly selected to study preschool children in kindergartens. Through questionnaires, the final content of the questionnaire is determined through repeated confirmation and examination, focusing on the purpose, object and content of the research. A total of 2200 questionnaires were sent out and 1832 valid questionnaires were sent out, of which 973 were boys and 859 were girls. And all the questionnaires were filled in by real-name system without any repetition. The validity rate of the questionnaires was 83.2%. With the method of mathematical statistics, SPSS 17.0 statistical software is used to count, rank and calculate the data obtained from the questionnaire.

## 3. Results and Analysis

### 3.1 Sport Status of Preschool Children

According to the statistical results of this questionnaire survey, the number of preschool children who only participated in mild sports three times a week or more was 1130, accounting for 61.7%, among them, the largest proportion of sports days was only 3 days, of which the marked days were 0, that is, 78 children did not do related mild sports, accounting for 4.6% (Table 1). This analysis shows that 38.3% of children's sport time does not meet the advocacy criteria in light sport alone.

Table 1. Children's mild sport during a week.

Sport days	Children Number	Percentage (%)
0	78	4.6
1	261	14.1
2	363	19.6
3	378	20.4
4	184	10.1
5	209	11.5
6	41	2.5
7	318	17.2

From Table 2, it can be seen that the highest proportion of preschool children in the survey area participated in mild sports events is the sports behavior caused by walking, skateboarding, cycling and playing games. There is no formal sports plan and arrangement for the above sports behavior. Among the mild sports, walking is the most important basic routine of daily life. It has a large randomness, and its activity can be self-regulated. Moreover, it has no intense and effective anti-sport effect. According to this survey, children's participation in mild sport is poor, and their choice of sport items is diversified and entertaining.

According to Table 3, 785 children participated in moderate and intensive sport three times a week or more, accounting for 42.8%, which was significantly lower than that of mild sport. However,

405 children (22.1%) who spent more than 90 minutes of moderate and intensive sport per week were enrolled. Compared with Table 2 and Table 3, there are several significant differences in the proportion of data. Among them, the proportion of "chase and fight" items is 60.5%, that of "running" items is 33.2%, and that of "hide-and-see" items is 29.3%. "Chasing and fighting" can reach 60.5% of the total, the largest proportion of moderate to severe sport. It can be seen that preschool children are very random in sports or sports activities, which also shows that, as far as families are concerned, their cognitive view is that the purpose of preschool children's sports behavior is mainly leisure and recreation, and there is no higher requirement for enhancing their physique and comprehensive literacy. Adults and children in the family do not have a basic sense of sport.

Table 2. Mild sports participation of preschool children.

Sport type	Children Number	Frequency	Percentage (%)
Take a walk	914	20.8%	48.5
Play ocean ball	161	3.7%	8.6
Play scooter	724	16.4%	38.4
Ball game	469	10.7%	24.9
Slide	495	11.2%	26.3
To swing	290	6.6%	15.4
Role-playing games	495	11.2%	26.3
Ride on a bicycle	527	12.0%	28.0
Other	328	7.4%	17.4

Table 3. Heavy sports participation of preschool children.

Take a walk	600	15.5%	33.2
Play ocean ball	401	10.3%	22.2
Play scooter	112	2.9%	6.2
Ball game	197	5.1%	10.9
Slide	388	10.0%	21.5
To swing	314	8.1%	17.4
Role-playing games	1093	28.2%	60.5
Ride on a bicycle	530	13.7%	29.3
Other	241	6.2%	13.3
Take a walk	600	15.5%	33.2

### 3.2 Influencing Factors of Children's Sports Behavior

Tables 4 and 5 show that the frequency of encouraging children to go out for sport in their families is higher, reaching 48.5%, but the corresponding screen time also occupies most of the daily life of preschool children. Except 48.5% of the children spent less than 30 minutes sitting, 51.5% of the children spent more than 30 minutes sitting at home. This shows that preschool children's sports time is not uniform, and the main purpose of sports behavior is to play, leisure and entertainment. According to statistics, the prevalence of mental disorders among children under 18 in mainland China ranges from 21.6% to 32.0% [4]. In the current society, every family advocates high-quality education, and most of the students' leisure time is used to complete various activities, participate in various training courses and so on. Their goal is more focused on social interaction, personal skills, specialty training and so on. Under the cruel competition of examination-oriented education, the time for physical sport and games that preschool children are indispensable can not be fundamentally guaranteed. The concept of "everything starts from dolls" is firmly rooted in the hearts of numerous educators, thus neglecting the physical and mental health development of preschool children, and even bringing harm to the physical and mental health of children.

Table 4. The proportion of children's meditation time.

Occupancy time	Content	
	Sedentary condition	Screen time
<30 min	48.5%	28.6%
31-60 min	36.6%	42.4%
61-90 min	10.7%	18.0%
91-120 min	2.7%	7.5%
≥120 min	1.5%	3.5%

Table 5. Encouraging children to sport and go out.

Outgoing situation	Content	
	Encourage sports	Screen time
Never	0.9%	0.8%
Very seldom	11.3%	6.5%
Occasionally	32.3%	17.9%
Often	48.5%	60.4%
Always	7.0%	14.4%

### 3.3 Mental Health Status of Preschool Children

People with mental health have long-term sport habits, and mental health is the basis of all activities and an important part of the modern concept of health [5]. From Table 6 and Table 7, it can be seen that 74.0% of the children in the survey had attention deficit, 17.0% had defecation problems, 16.9% had sleeping problems, 25.9% still had finger biting, 23.0% were in an uncoordinated situation, and 7.8% were in a long-term situation. The proportion of children with over-dependence tendencies was 16.8%; 17.8% of children with adaptation problems were unable to adapt to the environment; 1.6% of children with serious behavioral deviation; 55.4% of children with over-concentration. This indicates that the mental health of preschool children has become an important factor affecting the health of preschool children.

Table 6. List of children's health problems.

Physical health problem	Children Number	Frequency	Percentage (%)
Headache	21	1.4%	1.6%
Inattention	990	65.8%	74.0%
Frequent vomiting or nausea	40	2.7%	3.0%
Defecation problem	228	15.1%	17.0%
Sleep problem	226	15.0%	16.9%

Table 7. List of mental health problems of children.

Mental health problem	Children Number	Frequency	Percentage (%)
Some little action	48	20.8%	25.9%
Not sociable	14	6.1%	7.6%
Overdependence	31	13.4%	16.8%
Poor adaptability	33	14.3%	17.8%
Conduct problems	3	1.3%	1.6%
Easy distraction	102	44.2%	55.1%

### 3.4 Psychological Health Status and Influence of Children with Sports Behavior

Sports behavior refers to the behavior of regularly exercising limbs [6]. In the study, the subjects were divided into the following two types: the first type of regular sports, preschool children with

regular sport, and the second type of unconventional sports, preschool children with irregular sport. Children who sport more than three times a week for 90 minutes or more are identified as regular sports, and vice versa. Then the results of the questionnaire were scored in five dimensions: emotional control, personality and will, social adaptation, interpersonal communication, and conduct habits. Choosing "1" to get 0 points, choosing "2" to get 1 point, choosing "3" to get 2 points, choosing "4" to get 3 points, and choosing "5" to get 4 points, so as to calculate and integrate them. Compare them and judge the children's mental health level. According to the results, the proportion of regular sport children in good mental condition is higher than that of irregular sport children.

Based on the results of the questionnaire, it can be concluded that there are 113 preschool children who sport irregularly, accounting for 66.3%, and 619 children who sport regularly, accounting for 33.7% of the total. Among the preschool children with regular sport, only 0.3% of them, namely 2, have a severe psychological condition. 349 of them have good mental health, accounting for 40.1%. The proportion of preschool children with good mental health was 30.4%, 370, and 0.7% in irregular sport. Nine of them had serious mental problems. This research data clearly shows that the occurrence rate of psychological problems of preschool children who sport regularly is lower than that of those who sport irregularly, and the mental health level of preschool children who sport regularly is better than that of preschool children who sport unconventionally. It shows that persisting in regular and planned sports has obvious effect in promoting the mental health development of preschool children, and has an important regulatory role.

#### **4. Conclusion**

According to the survey and research, preschool children take part in mild sport 2-3 times a week, the sport time is between 30-90 minutes, the number of moderate and severe sport is basically 1-2 times a week, the sport time is between 20-60 minutes, the proportion is small and the load of sport is mainly light. The mental health level of preschool children who sport regularly is better than that of preschool children who sport irregularly, and their mental problems are also lower than those of those who sport irregularly. The incidence of mental health problems of preschool children who sport regularly is lower than that of children who sport irregularly. It can be concluded that regular sport can effectively promote the mental health development of preschool children and play an important regulatory role.

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