

# Study on the Factors of Hyperactivity in Preschool Children

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**Abstract:** In order to gain a deeper understanding of the influencing factors of hyperactivity in preschool children, and to explore effective suggestions for coping with hyperactivity in preschool children, 680 3-6 year old preschool children in three kindergartens in X City were selected as the subjects of the investigation. According to the Conner ADHD Rating Scale (CTRS) and self-made questionnaire of influencing factors, it is distributed to kindergarten teachers and parents of young children to analyze and evaluate the behavior of preschool children. The survey results show that there are many factors influencing the hyperactivity tendency of preschool children, and it is basically found that children's gender, age, birth weight and other aspects have a certain impact on their hyperactivity tendency. At the same time, preschool children's hyperactivity tends to have a significant impact on aspects such as lifestyle, feeding habits, and family environment. Therefore, if the preschool children's tendency to hyperactivity is reduced, it is necessary to strengthen the coordination and cooperation of all parties. Parents need to take scientific precautions in all aspects of early childhood education and living environment to minimize the incidence of preschool children's bad behavior.

**Keywords:** Hyperactivity tendency, preschool children, influencing factors

## 1. Introduction

Attention deficit hyperactivity disorder (ADHD), what we commonly call hyperactivity disorder, is a common neuropsychological disease in childhood. The age of onset is concentrated at 6-12 years old, and the onset period is generally in the preschool age stage. In general, the long course of ADHD will have serious adverse effects on the growth and development of children. If the treatment cannot be given in time, it will affect its mental health and academic conduct. The research and analysis of the influencing factors and countermeasures of preschool children's hyperactivity tendencies have an important role in effective suppression, timely diagnosis, and early intervention in children with ADHD. This paper analyzes the factors that affect preschool children's hyperactivity tendency, strengthens the importance of children's hyperactivity tendency, coordinates and adopts scientific methods to educate children, corrects and treats children with hyperactivity tendency in a timely manner, and escorts their future healthy growth.

## 2. Design and implementation of survey plan

### 2.1 Investigation plan design

In this survey, a cluster random sampling method was adopted, and 680 preschool children in three kindergartens in X city were selected as the survey object. The content of the survey includes the basic conditions of identification, usual behavioral performance, growth and development, living habits, family conditions, as well as the mother's pregnancy, the psychological characteristics of children and parents, and the personality characteristics of children.

The questionnaire adopts the most widely used Conner ADHD rating scale in the ADHD scale. It mainly uses the Conner's Concise Symptom Scale Score (ASQ) and the self-made ADHD Impression Factor Questionnaire for comprehensive evaluation. The main advantage of ASQ is that it has passed the test of reliability and validity, with high consistency and simplicity. Among the 10 items, they were divided into four grades (0-3) according to their behavioral performance, and those with a total score of 15 or more were hyperactive. The content of the self-made influencing factor questionnaire includes the

investigation of children's basic information, growth status, psychological characteristics, and parents' family conditions.

## 2.2 Implementation of investigation plan

The questionnaires are distributed to kindergarten teachers and parents. The kindergarten teachers will distribute them to parents through parent meetings and other forms, and explain the importance of the survey, explain the questionnaire content, and guide the filling method. After the parents fill in, they will take them back together. In this questionnaire survey, a total of 680 questionnaires were distributed, 678 questionnaires were retrieved, the questionnaire recovery rate was 99.7%, the effective questionnaires were 675, and the effective rate was 99.3%. Among them, 364 effective boys and 311 girls were investigated.

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## 3. Analysis of survey results

### 3.1 The influence of children's gender, age and birth weight on children's hyperactivity tendency

A total of 124 children with hyperactivity were detected in the questionnaire, and the detection rate was 18.24%. The analysis of the influence of children's gender, age and birth weight on children's hyperactivity tendency is shown in Table 1.

Table 1: Statistics of children's basic data

INFLUENCING FACTORS	NUMBER OF PEOPLE	NUMBER OF DETECTED	PROPORTION (%)	X <sup>2</sup>	P
<b>GENDER</b>					
MALE	364	80	21.98	6.835	0.01
FEMALE	311	44	14.15		
<b>AGE</b>					
3YEARS	14	6	42.86	14.323	0.00
4YEARS	258	58	22.48		
5YEARS	336	53	15.77		
6YEARS	67	7	10.45		
<b>BIRTH WEIGHT</b>					
<2.5KG	50	17	34.00	10.462	0.01
2.5-3KG	186	34	18.28		
3-4KG	411	67	16.30		
>4KG	28	6	21.43		

From Table 1 above:

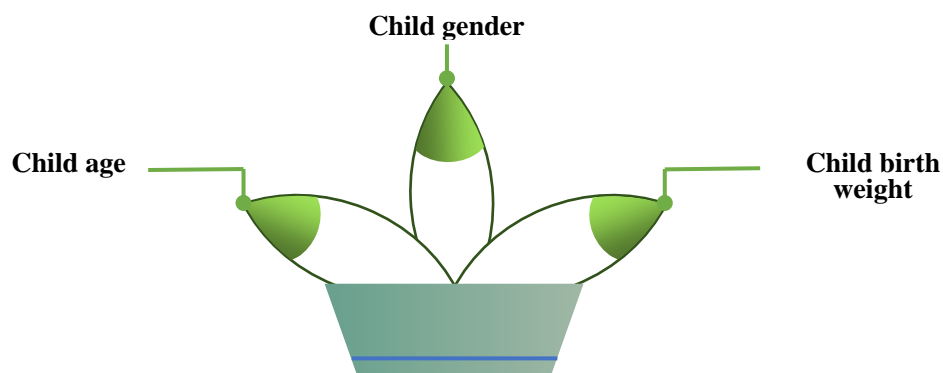


Figure 1: The influence of children's gender, age and birth weight on children's hyperactivity tendency

### 3.1.1 Gender factors affect preschool children's hyperactivity tendency

The detection rate of hyperactivity tendencies of boys is significantly higher than that of girls. It is speculated that the main reasons are the differences between boys and women in personality tendencies, behaviors, and family upbringing under the influence of traditional gender concepts.

### 3.1.2 Age factors affect preschool children's hyperactivity tendency

With the increase of children's age, their hyperactivity tends to decline significantly. It is speculated that the main reason is that with the increase of children's age, their neurological development gradually improves, brain function gradually improves, and self-control ability gradually improves.

### 3.1.3 Children's birth weight is too low or too high will affect their hyperactivity tendency

It is speculated that due to low birth weight, children may have abnormal neurodevelopment and increased risk of hyperactivity; Large children often require surgical midwifery without squeezing the brain through the birth canal, which may increase the hyperactivity tendency of young children in growth.

## 3.2 Analysis of Factors Influencing Preschool Children's Hyperactivity Tendency

At this stage, most of the relevant studies believe that ADHD is caused by a combination of genetic, environmental, dietary habits, social impact and other factors. This survey found that preschool children's hyperactivity tendency is closely related to family feeding styles and lifestyle habits. The details are shown in Table 2.

Table 2: Statistics of children's life schedule data

INFLUENCING FACTORS	NUMBER OF PEOPLE	NUMBER OF DETECTED	PROPORTION (%)	X <sup>2</sup>	P
<b>BAD EATING HABITS</b>				10.624	0.00
YES	358	81	22.63		
NO	317	43	13.56		
<b>WATCHING TV TIME EVERY DAY</b>				20.361	0.00
0	78	10	12.82		
<1 HOUR	230	27	11.74		
1-2 HOURS	268	57	21.27		
2-3HOURS	68	17	25.00		
>3 HOURS	31	13	41.94		
<b>LIFE SCHEDULE</b>				17.698	0.00
REGULAR	611	98	16.34		
IRREGULAR	64	26	40.63		

From Table 2 above:

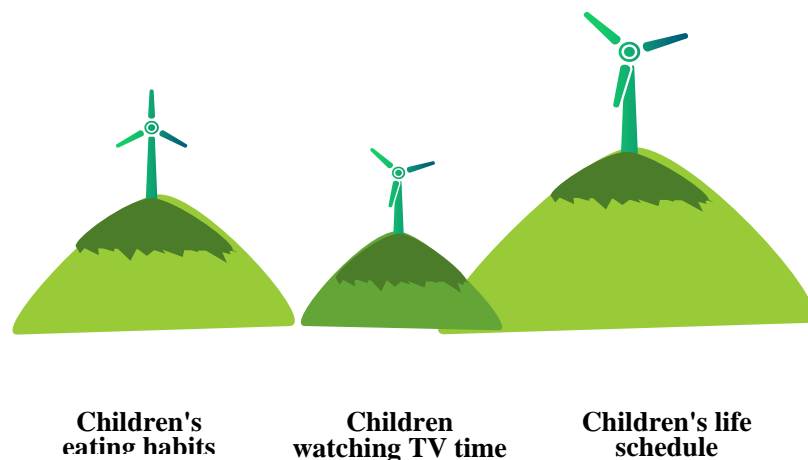


Figure 2: Analysis of factors influencing preschool children's hyperactivity tendency

### 3.2.1 Eating habits are influencing factors of hyperactivity in preschool children

Bad eating habits include picky eating and partial eating. Through the investigation, this paper can

develop the detection rate of hyperactivity tendency in children with bad eating habits is significantly higher than that of children without bad habits. It is mainly because the diet is the main way for children to ingest nutrients, and the nutrients in food vary. The richer the diet structure, the more nutritional supplements can be more adequate. Children's unhealthy eating habits such as picky eating and partial eating will cause insufficient intake of certain vitamins, proteins, trace elements and other nutrients required for their growth, which will affect the normal development of the brain and may cause changes in children's physical functions. With the deepening of research on children's ADHD in recent years, it has been found that children's ADHD is closely related to various trace elements such as calcium, iron, zinc, copper, and lead in the human body. Excessive lead content, or insufficient calcium, iron, zinc and other elements are important reasons for hyperactivity and triggering hyperactivity; Vitamin B, folic acid and other nutrients play a key role in the development of young children's nervous system. Omega.3 fatty acid deficiency will also increase the incidence of hyperactivity in children.

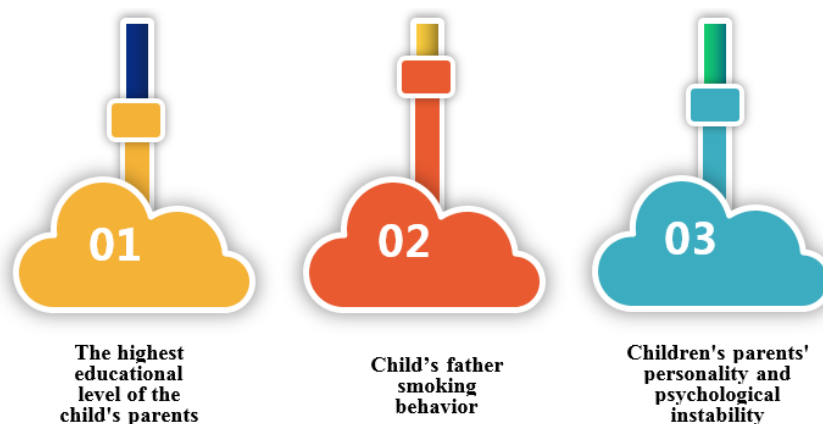
### ***3.2.2 Watching TV time is an influencing factor of hyperactivity in preschool children***

The more time a child spends watching TV every day, the greater the likelihood of hyperactivity. Relevant research shows that during the process of watching TV, the prefrontal lobe in the brain responsible for advanced mental activities is almost in a state of stagnation. However, under the same stimulation for a long time, the prefrontal function will be degraded due to insufficient exercise. Therefore, pre-school children watch TV for a long time, there will be attention, memory loss, poor time concept, gradually impulsive personality, irritability, irritability, lack of patience and so on. In terms of self-discipline and self-discipline, they will show a marked asymmetry with their psychological age, resulting in hyperactivity. Therefore, during the upbringing process, parents of pre-school children need to reasonably control their children's TV watching time, and pay attention to the scientific selection of TV programs.

### ***3.2.3 Children's life schedule is factors influencing children's hyperactivity***

According to the investigation and development, children with regular life and rest tend to be more hyperactive than children with irregular life and rest. Children are in a critical period of growth and development, and the regularity of their daily life and rest is of great significance to the normal development of their bodies, which is conducive to children to develop good habits. Research shows that the regularity of children's bedtime has a decisive influence on children's natural circadian rhythm. Irregular bedtimes can cause children's lack of sleep, so children's brain development can hinder their ability to control their specific behaviors. For example, children are unable to concentrate in the classroom, make loud noises during breaks, etc., their behaviors are untimely, and they tend to be hyperactive. In addition, the irregular life and rest of pre-school children will not only cause a variety of children's tendencies, but also due to behavior problems and emotional disorders. It causes difficulties in communicating with peers and encounters interpersonal problems, which is not conducive to the healthy growth of children.

## ***3.3 The Influence of Preschool Children's Family Environment on Children's Hyperactivity Tendency***



*Figure 3: The Influence of Preschool Children's Family Environment on Children's Hyperactivity Tendency*

The family environment has a key influence on the growth of preschool children. Parents' education

level, living habits, psychological and personality characteristics are all important factors that affect the preschool children's hyperactivity tendency. The details are shown in Table 3.

Table 3: Statistics of children's family environment data

INFLUENCING FACTORS	NUMBER OF PEOPLE	NUMBER OF DETECTED	PROPORTION (%)	X <sup>2</sup>	P
<b>PARENTAL EDUCATION</b>					
<b>POSTGRADUATE AND ABOVE</b>	42	12	28.57	8.601	0.03
<b>UNDERGRADUATE</b>	298	42	14.09		
COLLEGE	206	40	19.42		
<b>HIGH SCHOOL AND BELOW</b>	129	30	23.26		
<b>FATHER SMOKING</b>					
<b>NONE</b>	416	73	17.55	8.028	0.01
<10 PCS/DAY	114	13	11.40		
>10 PCS/DAY	145	38	26.21		
<b>FATHER CHARACTER</b>					
<b>MILD AND STABLE</b>	374	48	12.83	18.395	0.00
<b>IRRITABILITY AND INSTABILITY</b>	63	20	31.75		
<b>MIXING</b>	238	56	23.53		
<b>MOTHER'S PSYCHOLOGICAL STABILITY</b>					
<b>YES</b>	647	114	17.62	5.687	0.01
<b>NO</b>	28	10	35.71		

From Table 3 above:

### 3.3.1 Parents' highest education level is the influencing factor of hyperactivity in preschool children

The highest educational level of parents refers to the highest educational level of one parent. The survey found that the highest education level of the parents is the highest or the lowest, and the influence on the hyperactivity tendency of the children is more obvious. This is mainly because, if one parent's education level is postgraduate or higher, they may have stricter requirements for the upbringing of their children and be more sensitive to children's behavioral problems. As a result, children's sensitivity to their own behavior increases, forming a tense and sensitive mental state, and their ability to control their own behavior decreases, resulting in an increased tendency to hyperactivity. If one parent's education level is high school or below, the child's upbringing may be excessively spoiled, or the extreme way of education is simple and rough. Improper parenting methods are all risk factors for children's hyperactivity tendency.

### 3.3.2 Father's smoking behavior is an influencing factor of hyperactivity in preschool children

The survey results show that the higher the frequency of father smoking, the higher the detection rate of children's hyperactivity tendency. It is mainly due to the large amount of nicotine ingested, which may cause brain damage to the fetus and have a serious adverse effect on the normal development of the children's nervous system, leading to neurological dysfunction and triggering hyperactivity.

### 3.3.3 Parental personality and psychological instability are influencing factors of hyperactivity in preschool children

Parental personality characteristics and psychological state directly affect the harmony of the family environment and have a direct impact on the growth of children. The survey shows that the more stable the personality traits and mental state of the parents, the lower the detection rate of children's hyperactivity tendency. When the father has a fierce personality, has obvious obsessive tendencies, or the mother's mental state is unstable, and has anxiety and depression tendencies, the child receives a negative and extreme message, which leads to a deviation in the child's cognition and psychological. Both health and behavioral health have serious effects. If children are in an unstable family environment for a long time, they will lead to excessive mental stress in children. They will be in a state of high tension for a long time, causing them to unconsciously vent their bad emotions through hyperactive behavior, thereby increasing the tendency to hyperactivity.

#### 4. Countermeasures to prevent hyperactivity in preschool children

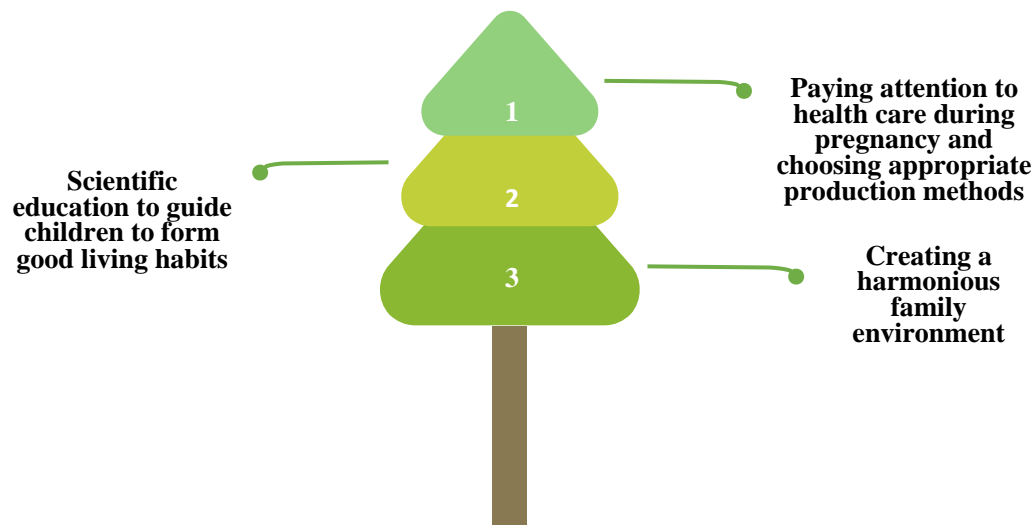


Figure 4: Countermeasures to prevent hyperactivity in preschool children

##### 4.1 Paying attention to health care during pregnancy and choosing appropriate production methods

Mothers should pay attention to pregnancy care during pregnancy. Pregnant women should not only ensure adequate nutrition, but also avoid excessive supplementation, reasonably control the weight of the fetus, and prevent the fetus from being too large or too small, affecting health. At the same time, when choosing the mode of production, pregnant women try to ensure full-term fetal birth and use natural childbirth to provide children with healthy growth and effectively control the development of hyperactivity.

##### 4.2 Scientific education to guide children to form good living habits

The scientific nature of parental upbringing directly affects children's hyperactivity tendency. Therefore, it is necessary to improve the parental education level, implement scientific education, and guide children to form good living habits. First, scientific feeding eliminates children's bad eating habits. Parents should breastfeed their babies as much as possible during the child feeding process. At the same time, during the feeding period of the children, parents should try to ensure the children's in-depth nutritional balance, by enriching the food production styles and methods, guiding children to a balanced diet, and changing the habits of picky eating and partial eating. Second, increase parent-child interaction time and reduce children's TV watching time. Parents should have enough parent-child interaction time with children every day, through parent-child games, parent-child reading and other activities. Parents should shorten the time for children to watch TV, and strictly screen and control the program content to ensure that it is suitable for children to watch. Finally, parents strictly require children to live and rest regularly. Parents need to strictly stipulate the children's rest and rest time, go to bed at that time, get up on time, and guide children to develop regular lifestyle habits, so as to provide protection for their healthy physical development.

##### 4.3 Creating a harmonious family environment

Parental behavior has a direct impact on children, and a harmonious family environment is an important aspect of ensuring children's healthy growth and reducing hyperactivity. On the one hand, fathers should pay attention to the harm of smoking to children's health and the negative impact on children's hyperactivity. Parents try not to smoke or smoke less at home as much as possible to create a healthy living environment for their children. On the other hand, the instability of the parents' personality characteristics and mental state greatly increases the hyperactivity of children. Parents should establish a family environment of mutual trust, mutual care, and harmony in daily life. Faced with family conflicts, we should actively communicate and coordinate, especially parents can not make excessive behavior in front of children, affecting children's mental health. Parents should adjust themselves to maintain emotional stability. Parents should create a harmonious and healthy psychological atmosphere for children, reduce the occurrence of hyperactivity and reduce hyperactivity tendency of children.

## 5. Conclusion

In summary, the development of preschool children's hyperactivity tends to be related to children's gender, age, birth weight and other basic conditions to a certain extent, but more importantly, various factors such as children's lifestyle and family environment are influential. The main reason for children's hyperactivity tendency. Poor eating habits, long hours of watching TV every day, irregular daily life and rest, high or low parental education, father smoking, stability of father's personality characteristics, stability of mother's mental state, all of which cause hyperactivity in children risk factors. Therefore, the suppression of hyperactivity in pre-school children needs to pay more attention to the above-mentioned risk factors, and parents need to take effective measures to make timely improvements to provide an important guarantee for the healthy growth of children and the overall development of their body and mind.

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