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Retrospective Study

Association of preschool children behavior and emotional problems with the parenting behavior of both parents

Su-Mei Wang, Shuang-Qin Yan, Fang-Fang Xie, Zhi-Ling Cai, Guo-Peng Gao, Ting-Ting Weng, Fang-Biao Tao

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Abstract

BACKGROUND

Parental behaviors are key in shaping children's psychological and behavioral development, crucial for early identification and prevention of mental health issues, reducing psychological trauma in childhood.

AIM

To investigate the relationship between parenting behaviors and behavioral and emotional issues in preschool children.

METHODS

From October 2017 to May 2018, 7 kindergartens in Ma'anshan City were selected to conduct a parent self-filled questionnaire - Health Development Survey of Preschool Children. Children's Strength and Difficulties Questionnaire (Parent Version) was applied to measures the children's behavioral and emotional performance. Parenting behavior was evaluated using the Parental Behavior Inventory. Binomial logistic regression model was used to analyze the association between the detection rate of preschool children's behavior and emotional problems and their parenting behaviors.

RESULTS

High level of parental support/participation was negatively correlated with conduct problems, abnormal hyperactivity, abnormal total difficulty scores and abnormal prosocial behavior problems. High level of maternal support/participation was negatively correlated with abnormal emotional symptoms and abnormal peer interaction in children. High level of parental hostility/coercion was positively correlated with abnormal emotional symptoms, abnormal conduct

problems, abnormal hyperactivity, abnormal peer interaction, and abnormal total difficulty scores in children (all $P < 0.05$). Moreover, paternal parenting behaviors had similarly effects on behavior and emotional problems of preschool children compared with maternal parenting behaviors (all $P > 0.05$), after calculating ratio of odds ratio values.

CONCLUSION

Our study found that parenting behaviors are associated with behavioral and emotional issues in preschool children. Overall, the more supportive or involved the parents are, the fewer behavioral and emotional problems the children experience; conversely, the more hostile or controlling the parents are, the more behavioral and emotional problems the children face. Moreover, the impact of fathers' parenting behaviors on preschool children's behavior and emotions is no less significant than that of mothers' parenting behaviors.

Key Words: Children; Preschool age; Parenting; Behavioral; Parenting problems

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Core Tip: Seven kindergartens in Ma'anshan City were selected to conduct a questionnaire survey. The purpose of this study was to analyze the behavioral and emotional problems of preschool children in Ma'anshan City and to explore the relationship between parenting behavior and behavior and emotional problems of preschool children. The emotional and behavioral problems of preschool children in Ma'anshan City are high, and the parenting style is closely related to the emotional and behavioral problems of children. Targeted health education should be carried out to encourage the active participation of fathers to ensure the healthy physical and mental development of children.

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INTRODUCTION

In recent years, children's behavior and emotional problems has been the focus of research at home and abroad, and its main behavioral problems (externalized) such as aggressive behavior, illegal and criminal behavior, emotional problems (internalized) such as anxiety, depression[1-3]. Parenting behaviors play a crucial role in shaping children's psychological and behavioral development. Different parenting styles, such as authoritative, authoritarian, permissive, and uninvolved, have been linked to various outcomes in children[4-6]. It is alarming that more than half of the psycho behavioral problems originate in early childhood[7,8], in which the pre-school years are the key period of psychological development and personality formation[9].

World Health Organization (WHO) underscores the critical significance of early education and nurturing in shaping the psychological and behavioral well-being of children, particularly within the pivotal initial five years of their lives[10]. Education guidance and support for parents and caregivers are instrumental in fostering children's mental health and developmental progress[11]. Currently, programs that concentrate on parenting techniques and the dynamics of parent-child interactions, like the parent skills training programme, are designed to assist parents in cultivating appropriate educational approaches and enhancing their parenting skills[12]. The international community stresses the importance of preventing child abuse and violence in order to protect children's mental health[13,14].

Children's behavioral and emotional problems can negatively affect their daily lives and mental health in adolescence and even adulthood. Preschoolers are in the early stage of growth and development, and are susceptible to the family environment, and children's behavioral and emotional problems is closely related to the parenting style. Therefore, researching the influence of parental behaviors on the psychological and behavioral growth of children is advantageous both for society and parents. Our study aids in the early detection and prevention of mental health concerns in children, ultimately contributing to the minimization of psychological trauma during their developmental years.

MATERIALS AND METHODS

Object

Using a random cluster sampling method, from October 2017 and May 2018, seven kindergartens were randomly selected from those directly jurisdiction by Ma'anshan City. All preschool children in the kindergartens were selected as the survey participants, and their parents were investigated with the questionnaire - Survey on the Health Development of Preschool Children, developed by Anhui Medical University. The survey included a total of 75 classes, with 2427

questionnaires distributed and 2253 valid questionnaires collected, resulting in a 92.83% response rate. Among the respondents, there were 1200 boys and 1053 girls. All parents of the preschool children signed an informed consent form prior to the survey.

Research content and methods

Basic information of children: The basic information of children includes the gender, age, residence, family economic status, whether the only child, father's education level, father's age, mother's education level, mother's age, *etc.*

Behavioural and emotional problems in children: Children's Strength and Difficulties Questionnaire (Parent Version) [15] was utilized to measure the children's behavioral and emotional performance. This scale encompasses five domains: emotional problems, conduct problems, hyperactivity problems, peer interaction problems, and pro-social behavior, with a total of 25 items. Each item is scored based on the child's performance over the past 6 months, with ratings of 0, 1, and 2 points assigned for responses categorized as inconsistent, somewhat consistent, and completely consistent, respectively. Notably, the scoring for the pro-social behavior dimension is done in a reverse manner. The total score of emotional problems was 0-3 as normal, 4 as marginal, and 5-10 as abnormal. The total score of conduct problems was 0-2 as normal, 3 as marginal, and 4-10 as abnormal. The total score of hyperactivities was 0-5 as normal, 6 as marginal, and 7-10 as abnormal. The total score of peer interaction problems was 0-2 as normal, 3 as marginal, and 4-10 as abnormal. The total score of difficult problems is 0-13 for normal, 14-16 for marginal, and 17-40 for abnormal. The total score of prosocial behavior was 6-10 normal, 5 marginal, and 0-4 abnormal.

Parenting behavior: Using the Parental Behavior Inventory, from CNKI (national knowledge infrastructure, www.cnki.net) to evaluate the parenting behavior of the parents of preschool children. The scale is closely related to the evaluation of parents' emotions, parenting pressure, and children's behavior problems, and has good reliability and validity. The scale was divided into 2 dimensions: support/participation and hostility/coercion, including 10 entries each. According to the frequency of occurrence in daily life, each entry was scored as never, occasionally, sometimes, medium, regular, and always, with 0, 1, 2, 3, 4, and 5 points. The score range of each dimension is 0-50 points, the higher the score, the deeper the degree of this dimension. The total score for father and mother in both dimensions was calculated separately and then grouped by percentiles: $\leq P_{25}$ for low levels, $P_{25}-P_{75}$ for the moderate level, $\geq P_{75}$ for a high level.

Survey method: The survey organizers provided unified training for city-level investigators and kindergarten healthcare teachers, and thoroughly explained the purpose and significance of the study to both the kindergartens and the parents. All the questionnaires were uniformly distributed to the main caregivers by the kindergarten and collected by the head teacher after completion. Subsequently, the three-level quality control was carried out by the class teacher, the health care teacher, and the municipal quality controller. If problems are found, return to inquiry and correct in time.

Statistical analyses

Epi Data 3.0 was used to establish a database for double data entry. Statistics and Logistic regression analyses were performed using the SPSS 20.0 statistical software. mean \pm SD and n (%) were used to describe the continuous and categorical variables, respectively. The distribution of behavioral and emotional problem detection rates in preschool children with different sociodemographic characteristics was determined to use χ^2 tests were performed for comparison. A binomial logistic regression model was used to analyze the association of parenting behavior and preschool children behavior and emotional problems by controlling for their age, sex, residence, family economic status, parental education, and age. Odds ratio (OR) was used to calculate ratio of OR [16] to compare the differences between parents in the association between high level of support/participation and high level of hostility/coercive parenting behavior and children's behavior and emotional problems. The test level was a two-sided test of $\alpha = 0.05$.

RESULTS

General information

A total of 2253 preschool children were included in this study. Children aged 3, 4, 5 and 6 accounted for 28.5%, 32.6%, 33.6% and 5.3% of the total, respectively. Boys accounted for 53.3%. Urban preschool children accounted for 84.5%. The only child accounted for 75.8%.

Detection of behavioral and emotional problems in preschool children

Among 2253 preschool children, 167 (7.4%) had abnormal emotional problems, 178 (7.9%) had abnormal conduct problems, 396 (17.6%) had abnormal hyperactivity, 528 (23.4%) had abnormal peer interaction, 232 (10.3%) had abnormal total difficulty scores, and 235 (10.4%) had abnormal prosocial behavior problems. Among them, the abnormal proportion of peer interaction problems was the highest, followed by hyperactivity problems and prosocial behavior problems.

As is shown in Table 1, our results showed that the detection rate of abnormal emotional problems in children with parents with lower education level was higher, and the difference was statistically significant ($P < 0.05$). The abnormal detection rate of conduct problems was higher in boys, children with lower education level of parents and children with younger mothers ($P < 0.05$ or $P < 0.001$). The prevalence of hyperactivity was higher in children with poor family economic status, lower educational level of father and younger parents ($P < 0.05$ or $P < 0.001$). The detection rate of abnormal peer communication was higher in children with younger age and living in non-urban areas ($P < 0.05$ or $P <$

Table 1 Distribution of behavioral and emotional problems detection rates in preschoolers with different demographic characteristics, *n* (%)

Feature	<i>n</i>	Emotional problem	Conduct problem	Hyperactivity	Peer interaction	Total score of difficulty	Pro-social behavior question
Age							
3	642	45 (7.0)	59 (9.2)	114 (17.8)	185 (28.8)	76 (11.8)	88 (13.7)
4	734	57 (7.8)	60 (8.2)	134 (18.3)	174 (23.7)	76 (10.4)	77 (10.5)
5	757	55 (7.3)	48 (6.3)	129 (17.0)	147 (19.4)	69 (9.1)	63 (8.3)
6	120	10 (8.3)	11 (9.2)	19 (15.8)	22 (18.3) ^b	11 (9.2)	7 (5.8) ^a
Sex							
Male	1200	90 (7.5)	113 (9.4)	251 (20.9)	322 (26.8)	144 (12.0)	141 (11.8)
Female	1053	77 (7.3)	65 (6.2) ^a	145 (13.8) ^b	206 (19.6) ^b	88 (8.4) ^a	94 (8.9) ^a
Domicile							
City proper	1903	126 (6.6)	133 (7.0)	333 (17.5)	423 (22.2)	178 (9.4)	187 (9.8)
Non-urban	350	41 (11.7) ^b	45 (12.9) ^b	63 (18.0)	105 (30.0) ^a	54 (15.4) ^b	48 (13.7) ^a
Family economic status							
Range	136	15 (11.0)	15 (11.0)	32 (23.5)	40 (29.4)	29 (21.3)	20 (14.7)
Same as	1870	135 (7.2)	147 (7.9)	333 (17.8)	431 (23.0)	183 (9.8)	188 (10.1)
Preferably	247	17 (6.9)	16 (6.5)	31 (12.6) ^a	57 (23.1)	20 (8.1) ^b	27 (10.9)
Single-child							
Yes	1707	126 (7.4)	133 (7.8)	309 (18.1)	400 (23.4)	180 (10.5)	175 (10.3)
No	546	41 (7.5)	45 (8.2)	87 (15.9)	128 (23.4)	52 (9.5)	60 (11.0)
Father's education level							
Junior high school and below	267	30 (11.2)	31 (11.6)	48 (18.0)	82 (30.7)	40 (15.0)	34 (12.7)
High school/technical secondary school	911	71 (7.8)	74 (8.1)	182 (20.0)	227 (24.9)	107 (11.7)	94 (10.3)
College degree or above	1075	66 (6.1) ^a	73 (6.8) ^a	166 (15.4) ^a	219 (20.4) ^b	85 (7.9) ^a	107 (10.0)
Father age							
≤ 24	355	59 (8.0)	68 (9.2)	152 (20.5)	170 (23.0)	89 (12.0)	77 (10.4)
25-29	977	67 (8.3)	61 (7.6)	146 (18.2)	184 (22.9)	90 (11.2)	89 (11.1)
≥ 30	911	41 (5.8)	49 (6.9)	98 (13.8) ^a	174 (24.5)	53 (7.5) ^a	69 (9.7)
Maternal education level							
Junior high school and below	349	33 (9.5)	46 (13.2)	68 (19.5)	99 (28.4)	49 (14.0)	45 (12.9)
High school/technical secondary school	884	75 (8.5)	68 (7.7)	180 (20.4)	232 (26.2)	106 (12.0)	91 (10.3)
College degree or above	1020	59 (5.8) ^a	64 (6.3) ^b	148 (14.5)	197 (19.3) ^b	77 (7.5) ^b	99 (9.7)
Maternal age							
≤ 24	631	60 (9.5)	66 (10.5)	142 (22.5)	151 (23.9)	79 (12.5)	63 (10.0)
25-29	1099	64 (6.8)	66 (7.0)	159 (17.0)	214 (22.8)	100 (10.7)	104 (11.1)
≥ 30	523	43 (6.3)	46 (6.7) ^a	95 (13.9) ^b	163 (23.8)	53 (7.7) ^a	68 (9.9)

^a*P* < 0.05.^b*P* < 0.01.

0.001). The abnormal detection rate of total difficulty score of boys, children with poor family economic status, parents with lower education level and younger parents was higher ($P < 0.05$ or $P < 0.001$). The abnormal detection rate of prosocial behavior problems was higher in children with younger age, boys and living in non-urban areas, and the difference was statistically significant ($P < 0.05$; [Table 1](#)).

Relationship between parenting behavior and children's emotional and behavioral problems

As is shown in [Table 2](#), after adjusting the confounding factors of children's age, gender, residence, family economic status, parental education level and age confounding, the low-level group of each dimension was used as the reference. The analysis results revealed that high-level of father support/participation (OR = 0.35, 95%CI: 0.21-0.57) was inversely related to children's conduct problems; High-level of father support/participation (OR = 0.68, 95%CI: 0.49-0.93) was negatively correlated with hyperactivity abnormalities in children; Medium-level of father support/participation (OR = 0.64, 95%CI: 0.47-0.88) and high-level support/participation (OR = 0.42, 95%CI: 0.28-0.64) was inversely associated with abnormal total difficulty score in children; Father-medium horizontal support/participation (OR = 0.5, 95%CI: 0.37-0.68) and high-level support/participation (OR = 0.26, 95%CI: 0.17-0.40) was negatively correlated with abnormal prosocial behavior problems in children; High level of maternal support/participation (OR = 0.63, 95%CI: 0.40-0.99) was inversely associated with abnormal emotional symptoms in children; Maternal intermediate horizontal support/participation (OR = 0.54, 95%CI: 0.38-0.77) and high-level support/participation (OR = 0.33, 95%CI: 0.20-0.54) was inversely related to abnormal children's conduct problems; High level of maternal support/participation (OR = 0.53, 95%CI: 0.38-0.74) was inversely correlated with hyperactivity abnormalities in children; Maternal intermediate horizontal support/participation (OR = 0.60, 95%CI: 0.48-0.76) and high-level support/participation (OR = 0.53, 95%CI: 0.40-0.70) was negatively associated with abnormal peer communication in children; Maternal intermediate horizontal support/participation (OR = 0.60, 95%CI: 0.44-0.82) and high-level support/participation (OR = 0.41, 95%CI: 0.27-0.63) was inversely related with abnormal total score in children; Maternal intermediate horizontal support/participation (OR = 0.44, 95%CI: 0.33-0.60) and high-level support/participation (OR = 0.24, 95%CI: 0.15-0.37) was negatively associated with abnormal prosocial behavior problems in children; Father with high-level hostility/coercion (OR = 2.00, 95%CI: 1.30-3.08) was positively correlated with abnormal emotional symptoms in children; Fathers intermediate horizontal hostility/coercion (OR = 1.66, 95%CI: 1.04-2.65) and high levels of hostility/coercion (OR = 3.27, 95%CI: 2.03-5.25) was positively related with children's conduct problems; Fathers intermediate horizontal hostility/coercion (OR = 1.48, 95%CI: 1.10-2.00) and high level of hostility/coercion (OR = 2.29, 95%CI: 1.66-3.15) was positively correlated with hyperactivity in children; Father with a high level of hostility/coercion (OR = 1.92, 95%CI: 1.45-2.54) was positively associated with abnormal peer interaction in children; Fathers intermediate horizontal hostility/coercion (OR = 1.63, 95%CI: 1.08-2.46) and high levels of hostility/coercion (OR = 3.25, 95%CI: 2.14-4.94) was positively correlated with the abnormal total difficulty score of children; High level of maternal hostility/coercion (OR = 2.08, 95%CI: 1.36-3.19) was positively correlated with abnormal emotional symptoms in children; Maternal intermediate horizontal hostility/coercion (OR = 2.03, 95%CI: 1.27-3.22) and a high level of hostility/coercion (OR = 3.24, 95%CI: 2.04-5.15) was positively related with children's conduct problems; Maternal intermediate horizontal hostility/coercion (OR = 1.63, 95%CI: 1.20-2.20) and a high level of hostility/coercion (OR = 2.87, 95%CI: 2.11-3.89) was positively correlated with hyperactivity in children; Maternal intermediate horizontal hostility/coercion (OR = 1.38, 95%CI: 1.07-1.78) and high levels of hostility/coercion (OR = 1.90, 95%CI: 1.46-2.48) was positively associated with abnormal peer communication in children; Maternal intermediate horizontal hostility/coercion (OR = 1.60, 95%CI: 1.08-2.38) and high levels of hostility/coercion (OR = 2.99, 95%CI: 2.03-4.42) was positively correlated with the abnormal total difficulty score of children.

Differences between parents in the associations of children's behavioral and emotional problems with parenting behaviors

As is shown in [Table 3](#), after comparing the risk ratio of high level of parental support/involvement, high level of parental hostility/coercive parenting behavior and children's behavior and emotional problems, it was found that there was no significant difference in the correlation between parental parenting behavior and children's behavior and emotional problems between fathers and mothers ($P > 0.05$).

DISCUSSION

The WHO estimates that about 10% to 20% of children worldwide suffer from one or more psychological problems[10]. Preschoolers' psychological development is not mature, they are easily affected by internal and external factors and produce psychological behavioral problems[17,18]. Usually, the causes of behavior and emotional problems in preschool children are mainly related to the combination of genetic[19], biological environment[20], family and social factors, among which the family environment mainly includes parent-child relationship, parental relationship and family intimacy[21,22].

There are four parenting styles: authoritative (high warmth and control), authoritarian (low warmth, high control), permissive (high warmth, low control), and uninvolved (low warmth and control)[23]. It is now generally accepted that authoritative parenting, characterized by warmth, responsiveness, and appropriate levels of control, has been associated with positive child outcomes such as higher self-esteem, better academic performance, and lower rates of behavioral problems[24,25]. Permissive parenting, defined by its high levels of warmth but low levels of control, may lead to children exhibiting poor impulse control, diminished academic performance, and an increased propensity to partake in risky behaviors[26]. Uninvolved parenting, marked by low levels of warmth and control, has been linked to negative

Table 2 Logistic regression analysis of the relationship between parenting behavior and behavior and mood problems in preschoolers, OR (95%CI)

Parenting behavior dimension	Emotional symptoms	Conduct problem	Hyperactivity	Peer interaction	Total score of difficulty	Pro-social behavior question
Father with support/participation						
Low level	1.00	1.00	1.00	1.00	1.00	1.00
Medium level	0.89 (0.62, 1.29)	0.77 (0.54, 1.09)	0.94 (0.72, 1.22)	0.59 (0.46, 0.75) ^b	0.64 (0.47, 0.88) ^a	0.50 (0.37, 0.68) ^b
High tone	0.64 (0.40, 1.01)	0.35 (0.21, 0.57) ^b	0.68 (0.49, 0.93) ^a	0.61 (0.47, 0.81) ^b	0.42 (0.28, 0.64) ^b	0.26 (0.17, 0.40) ^b
Mother with the support/participation						
Low level	1.00	1.00	1.00	1.00	1.00	1.00
Medium level	0.72 (0.50, 1.04)	0.54 (0.38, 0.77) ^b	0.92 (0.71, 1.19)	0.60 (0.48, 0.76) ^b	0.60 (0.44, 0.82) ^a	0.44 (0.33, 0.60) ^b
High tone	0.63 (0.40, 0.99) ^a	0.33 (0.20, 0.54) ^b	0.53 (0.38, 0.74) ^b	0.53 (0.40, 0.70) ^b	0.41 (0.27, 0.63) ^b	0.24 (0.15, 0.37) ^b
Father is hostile/coercive						
low level	1.00	1.00	1.00	1.00	1.00	1.00
Medium level	0.97 (0.64, 1.49)	1.66 (1.04, 2.65) ^a	1.48 (1.10, 2.00) ^a	1.25 (0.97, 1.62)	1.63 (1.08, 2.46) ^a	1.18 (0.84, 1.66)
High tone	2.00 (1.30, 3.08) ^a	3.27 (2.03, 5.25) ^b	2.29 (1.66, 3.15) ^b	1.92 (1.45, 2.54) ^b	3.25 (2.14, 4.94) ^b	1.12 (0.76, 1.65)
Mother is hostile/coercive						
Low level	1.00	1.00	1.00	1.00	1.00	1.00
Medium level	1.31 (0.85, 2.01)	2.03 (1.27, 3.22) ^a	1.63 (1.20, 2.20) ^a	1.38 (1.07, 1.78) ^a	6.01 (1.08, 2.38) ^a	1.28 (0.91, 1.79)
High tone	2.08 (1.36, 3.19) ^a	3.24 (2.04, 5.15) ^b	2.87 (2.11, 3.89) ^b	1.90 (1.46, 2.48) ^b	2.99 (2.03, 4.42) ^b	1.28 (0.89, 1.85)

^a $P < 0.05$.^b $P < 0.01$.

The child's age, gender, residence, family economic status, parental education level, and age were adjusted.

outcomes such as low self-esteem, poor academic performance, and increased risk of delinquency[27]. In summary, the role of parental behaviors is paramount in shaping children's psychological and behavioral growth. It is crucial for parents to recognize the implications of their parenting styles and aim for a balanced method, integrating warmth, responsiveness, and suitable levels of discipline. Such an approach is key to nurturing well-rounded and healthy development in children.

In our study, we compared the results of the survey data from CNKI in China. 232 children with abnormal total difficulty scores, accounting for 10.3%, which was similar to the examination rate of psychological and behavioral problems of preschool children in Xuzhou reported by Han *et al*[28] and in Xuzhou reported by Xu *et al*[29] (9.8%), and higher than the 7.76% reported by Deng *et al*[30] in Shanghai and 8.72% reported by Yu *et al*[31] in Wuhu. It is slightly lower than the 11.8% reported by Zeng *et al*[32] in Liuzhou and 11.6% reported by Huang *et al*[33] in Hunan Province. It shows that the detection rate of behavior problems among preschool children varies in different regions, but the incidence of emotional and behavioral problems in preschool children in Ma'anshan is at a relatively high level.

Preschool is a key period for the development of children's emotional, conduct, peer interaction and other functions. If the child's growth and development are neglected at this time, it may lead to a series of emotional and behavioral problems. The highest incidence of issues among children was in abnormal peer interactions, followed by hyperactivity. Notably, the rate of abnormal emotional problems was the lowest, mirroring the findings observed in Wuhu city. It shows that the behavior and emotional problems of preschool children in our city cannot be ignored, especially to pay attention to the problem of peers interaction and hyperactivity. It also suggests that parents and nurseries should attach great importance to the hyperactivity and peer interaction of preschool children, especially boys, and strengthen reasonable guidance and health education.

Fathers and mothers' rearing patterns also known as parenting style, which refers to the relatively stable behavior style that parents think, feel and show when raising their children, and is a combination of emotional behaviors when

Table 3 Comparison of the associations between parenting behavior and behavioral and emotional problems in preschool children, OR (95%CI)

Parenting behavior dimension	Emotional symptoms	Conduct problem	Hyperactivity	Peer interaction	Total score of difficulty	Pro-social behavior question
Father with a high-level of support/participation	0.64 (0.40, 1.01)	0.35 (0.21, 0.57)	0.68 (0.49, 0.93)	0.61 (0.47, 0.81)	0.42 (0.28, 0.64)	0.26 (0.17, 0.40)
High-level level of maternal support/participation	0.63 (0.40, 0.99)	0.33 (0.20, 0.54)	0.53 (0.38, 0.74)	0.53 (0.40, 0.70)	0.41 (0.27, 0.63)	0.24 (0.15, 0.37)
ROR	1.02 (0.53, 1.94)	1.06 (0.52, 2.14)	1.28 (0.81, 2.04)	1.15 (0.78, 1.70)	1.02 (0.57, 1.85)	1.08 (0.58, 2.02)
P value	0.962	0.870	0.291	0.480	0.936	0.801
Father with a high level of hostility/coercion	2.00 (1.30, 3.08)	3.27 (2.03, 5.25)	2.29 (1.66, 3.15)	1.92 (1.45, 2.54)	3.25 (2.14, 4.94)	1.12 (0.76, 1.65)
Mother with a high level of hostility/coercion	2.08 (1.36, 3.19)	3.24 (2.04, 5.15)	2.87 (2.11, 3.89)	1.90 (1.46, 2.48)	2.99 (2.03, 4.42)	1.28 (0.89, 1.85)
ROR	0.96 (0.52, 1.76)	1.01 (0.52, 1.96)	0.80 (0.51, 1.24)	1.01 (0.69, 1.49)	1.09 (0.61, 1.92)	0.88 (0.51, 1.49)
P value	0.899	0.978	0.318	0.958	0.775	0.623

ROR: Ratio of odds ratio.

interacting with their children[34]. The current study supports that parenting styles are associated with children's physical and mental health and have lasting effects as well as internalizing and externalizing problems[35]. Positive parenting style lays a good foundation for children's emotional and behavioral capacity building, and bad or ineffective parenting style and children's behavioral problems promotes each other[36]. Fatherhood-rearing is essential for children to complete the transition from within the family to the outside world[37]. Related studies have shown that early mother and child paternity can partly predict whether child behavior is problematic[38,39]. Indeed, the parenting behaviors of both parents distinctly influence the internalized behaviors of preschool children[40,41]. Furthermore, inconsistencies in parenting styles can hinder children's ability to regulate their emotions effectively. This inconsistency can heighten the risk of poor peer relationships, aggressive behavior, and diminished independence among other negative outcomes. Therefore, family parenting style is closely related to preschool children's behavior and emotional problems. It is of great significance to the early development of children to master the knowledge of child rearing, clearly recognize the value of parenting, and fully realize the love, encouragement, understanding and tolerance of parents, among which the role of father should not be ignored.

CONCLUSION

In conclusion, the emotional and behavioral problems of preschool children in Ma'anshan city are relatively high and affected by various factors, among which the parenting style is closely related to children's emotional and behavioral problems, so targeted health education should be carried out, especially to encourage fathers to be actively involved, to ensure the physical and mental health development of children.

ARTICLE HIGHLIGHTS

Research background

Parental actions are vital in molding children's mental and behavioral growth, essential for early detection and prevention of mental health problems, minimizing childhood psychological trauma.

Research motivation

To investigate the relationship between parenting behaviors and behavioral and emotional issues in preschool children. Targeted health education should be carried out to encourage the active participation of fathers to ensure the healthy physical and mental development of children.

Research objectives

Between October 2017 and May 2018, a survey in seven Ma'anshan kindergartens used random sampling. Parents of all preschoolers completed Anhui Medical University's health questionnaire, yielding 2253 valid responses (92.83%) from 75

classes, including 1200 boys and 1053 girls, with prior parental consent.

Research methods

From October 2017 to May 2018, in Ma'an Shan City, parents in 7 kindergartens completed the "Health Development Survey of Preschool Children," including the Strengths and Difficulties Questionnaire and Parental Behavior Inventory to assess children's behavior, emotions, and parenting impacts, analyzed using binomial logistic regression.

Research results

Greater parental support reduces children's conduct issues, hyperactivity, total difficulties, and prosocial behavior problems. Maternal support particularly lessens children's emotional symptoms and peer issues. Conversely, parental hostility increases these problems (all $P < 0.05$). Paternal behavior impacts children's behavior and emotions similarly to maternal behavior ($P > 0.05$), as shown by odds ratio comparisons.

Research conclusions

Our research indicates a link between parenting styles and preschoolers' behavioral and emotional issues. Generally, increased parental support or involvement leads to fewer such problems in children, while greater hostility or control from parents results in more issues. Additionally, fathers' influence on children's behavior and emotions is equally significant as that of mothers.

Research perspectives

This research perspectives of this article focus on understanding the influence of parenting behaviors on preschool children's emotional and behavioral development. It emphasizes the significance of both supportive and coercive parenting styles, examining how each uniquely impacts a child's psychological well-being. The study also brings attention to the equally important roles of both fathers and mothers in shaping their children's behavior and emotions. By conducting a detailed analysis through questionnaires in multiple kindergartens, the research provides insights into how different parenting approaches can foster or hinder a child's emotional and behavioral health, underlining the necessity for balanced and supportive parenting in early childhood development.

FOOTNOTES

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