

Prevalence of Behavioral Problem among Preschoolers Aged 4-5 Years Children Using Strength and Difficulty Questionnaire

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Abstract

Introduction: Behavioral problems in preschool children are commonly categorized as internalizing or externalizing behaviors and are increasingly prevalent worldwide. Poor mental health during early childhood can adversely affect cognitive, social, and learning development, ultimately impacting quality of life. Early identification of behavioral problems before the age of 5–6 years is critical due to their long-term academic and social consequences.

Objective: To determine the prevalence of behavioral problems among preschool children aged 4–5 years using the Strengths and Difficulties Questionnaire (SDQ).

Materials and Methods: A cross-sectional study was conducted among 227 preschool children aged 4–5 years. Behavioral problems were screened using the teacher-reported Strengths and Difficulties Questionnaire. Data were analyzed using SPSS version 21.

Results: Overall, 28.9% of the children exhibited total difficulties. The prevalence of specific behavioral problems was highest for peer problems (20.7%), followed by emotional problems (10.1%), prosocial difficulties (10.1%), conduct problems (6.2%), and hyperactivity (0.4%). A significant association was observed between academic performance and the presence of behavioral problems.

Conclusion: The prevalence of behavioral problems among preschool children was notably high. Early screening and intervention are essential to address behavioral issues and improve academic outcomes and overall quality of life.

Keywords: Behavioral problems; Preschool children; Strengths and Difficulties Questionnaire

INTRODUCTION

Behavioral problems refer to patterns of social behavior that deviate from age-appropriate, cultural, or societal norms and are often difficult to clearly define.¹ Achenbach et al. classify behavioral problems into internalizing behaviors, such as sadness, somatic complaints, anxiety, and depression, and externalizing behaviors, including anger, aggression, overactivity, and attention difficulties.^{2,3} Emotional and behavioral problems in early childhood are frequently challenging to diagnose, and therefore assessments in preschool-aged children often result in the identification of problem domains rather than specific psychiatric diagnoses.³

Globally, the prevalence of behavioral problems among preschool children varies, with reported rates of 23.5% in Brazil and 19.2% in Sri Lanka.^{2–5} In Nepal, however, data on the prevalence of behavioral

problems in children remain limited. A hospital-based study reported a prevalence of 8.5%,⁶ while another study conducted among sheltered homeless children aged 6–18 years reported a prevalence of 28.57%.^{5,7}

Childhood mental health has a direct and significant impact on cognitive, social, and learning development.^{8–10} Children with emotional and behavioral problems often experience difficulties in concentration, decision-making, and emotional regulation, which may adversely affect their cognitive development and academic performance.¹¹ In Nepal, the school dropout rate is reported to be 5.2%, with a repetition rate of 10.6%, according to the Flash Report 2012/2013 AD.¹² These educational challenges may be partly influenced by unrecognized behavioral and emotional problems during early childhood.

Behavioral problems can be identified during the preschool years, and the transition to formal schooling has been recognized as a critical window for effective intervention.¹⁰ In Nepal, children typically spend approximately five hours per day with their teachers, placing educators in a key position to observe and identify behavioral difficulties. Early childhood, particularly between 1 and 5 years of age, is a crucial developmental period during which most neurophysiological, socio-emotional, and behavioral competencies are established.¹¹ Detecting behavioral problems before the age of four can be challenging due to ongoing developmental changes; however, delayed identification may have long-term adverse effects on an individual's academic achievement and social functioning.

Therefore, early recognition of behavioral problems before the age of 5–6 years is essential to prevent negative academic and social outcomes. The present study aims to determine the prevalence of behavioral problems among preschool children aged 4–5 years using the Strengths and Difficulties Questionnaire (SDQ) and to identify factors associated with behavioral problems in this population.

Materials and Methods

A cross-sectional study design was employed to assess the prevalence of behavioral problems among preschool children. The study was conducted in Bhaktapur district, Nepal. Schools were selected using simple random sampling from the list of registered schools obtained from the District Education Office, Bhaktapur. Ethical approval was obtained from the Institutional Review Committee of Kathmandu University School of Medical Sciences (IRC-KUSMS; Ref No. 47/17) prior to the commencement of the study.

Preschool children aged 4–5 years who were studying below Grade 1 were included in the study. Participation required informed parental consent. Children with a previously diagnosed physical disability or any diagnosed mental disorder, as documented in medical records, were excluded from the study.

Eligible students were identified and approached with the assistance of class teachers. Parents or guardians of selected participants were provided with detailed information about the study and were asked to complete a written informed consent form along with a demographic data proforma. Subsequently, the respective class teachers completed the teacher-reported Strengths and Difficulties Questionnaire (SDQ) for each participating child to screen for behavioral problems.

Data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS), version 21. Descriptive statistics were used to summarize the baseline characteristics of the study population. The prevalence of behavioral problems was determined based on SDQ scoring guidelines for individual subscales and total difficulty scores. Associations between behavioral problems and selected variables were assessed using the chi-square test. The findings were presented using tables, bar graphs, and pie charts.

Result

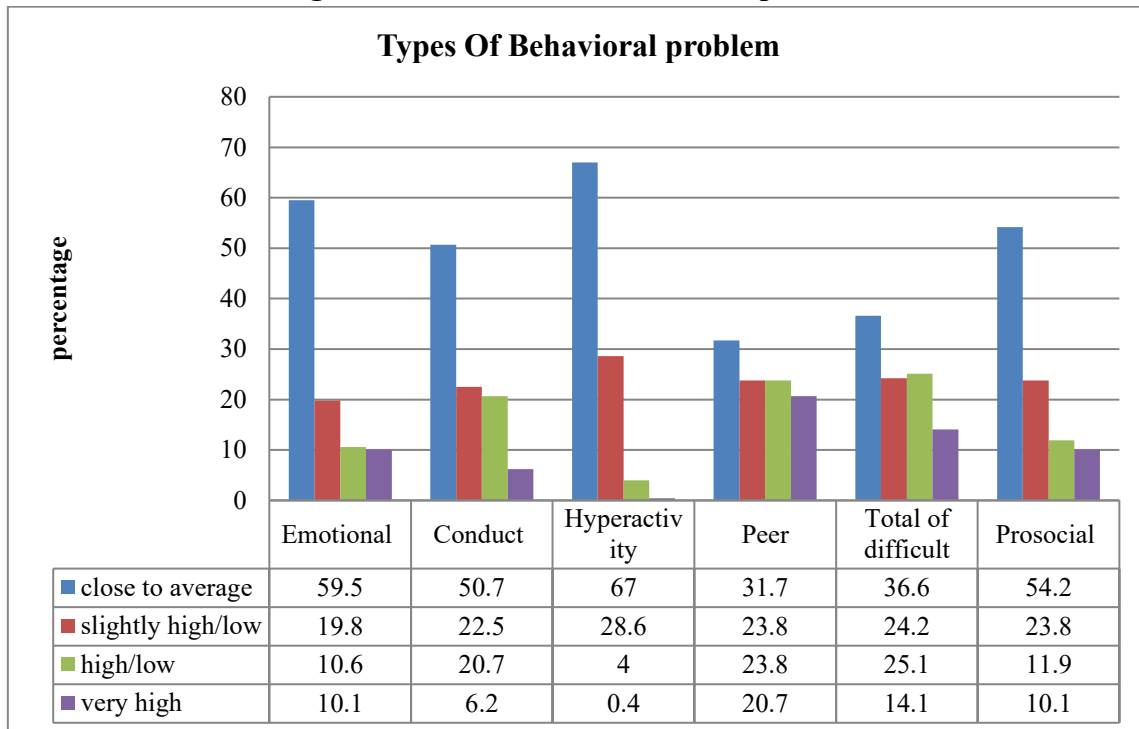
Table 1: Socio demographic findings of the participants

Socio Demographic Characters	Percentage (%)
Age of the preschooler <ul style="list-style-type: none"> • 4 years • 5 years 	43.6 56.4
Gender of the preschooler <ul style="list-style-type: none"> • Male • Female 	56.8 43.2
Types of family <ul style="list-style-type: none"> • Nuclear • Joint 	61.2 38.8
Occupation of mother <ul style="list-style-type: none"> • Household • Besides household 	11 89
Economic status of family <ul style="list-style-type: none"> • Less than or equal to 6,000 • More than 6,000 	11.5 88.5
Educational status of parents (both parents) <ul style="list-style-type: none"> • Uneducated • Educated 	83 16
Marital status <ul style="list-style-type: none"> • Unmarried • Married • Widow 	0.4 98.7 0.9
Does anyone in your family have mental disorder? <ul style="list-style-type: none"> • Yes • No 	0.4 99.6

*Bold values represent highest values in demographic data

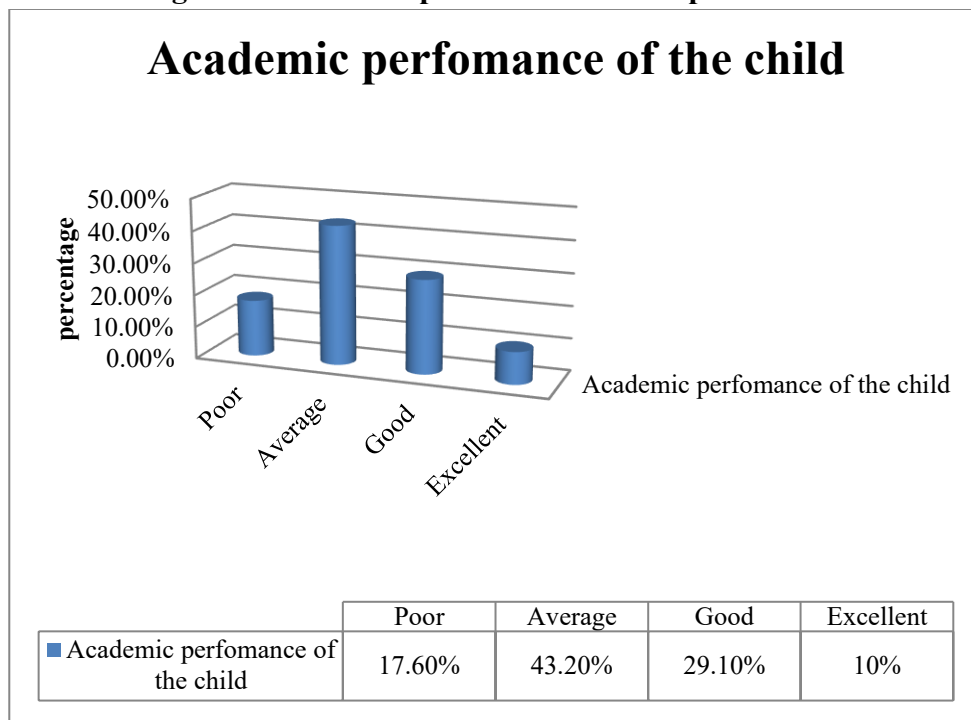
A total of 227 preschool children were analyzed in the study. Of these, 56.4% were aged 5 years. Children from nuclear families accounted for 61.2% of the sample. Parental education and employment rates were high, reported in 93% and 89% of parents, respectively. Furthermore, 88.5% of the participants belonged to households above the poverty line, defined as a monthly family income exceeding NPR 6,000. The sociodemographic characteristics of the study population are presented in **Table 1**.

Figure 1: Prevalence of behavioral problem



As shown in **Figure 1**, peer problems were the most prevalent behavioral difficulty, affecting 20.7% of the preschool children, while hyperactivity was the least prevalent, observed in only 0.4% of the participants. Regarding the total difficulties score, 14.1% of the children fell within the *very high* range (scores 19–40), and an additional 25.1% were classified in the *high* range (scores 16–18), indicating an increased risk for behavioral problems

Figure 2: Academic performance of the preschooler



As illustrated in **Figure 2**, teacher-reported academic performance showed that 10.0% of preschool children demonstrated excellent performance, 29.1% had good performance, 43.2% were rated as having average performance, and 17.6% were reported to have poor academic performance.

Table 2: Association of behavioral problem and types of behavioral problem

Variables	Emotional problem (p-value)	Conduct problem (p-value)	Hyperactivity problem(p-value)	Peer problem (p-value)	Prosocial behavior (p-value)	Total of difficult score(p-value)
Age of the preschooler	0.07	0.7	0.02	0.09	0.13	0.11
Gender of the preschooler	0.08	0.93	0.69	0.38	0.24	0.24
Religion	0.02	0.77	0.92	0.42	0.42	0.24
Types of family	0.77	0.1	0.85	0.85	0.47	0.58
Occupation	0.5	0.4	0.02	0.295	0.21	0.42
Economic status	0.3	0.6	0.6	0.18	0.3	0.1
Educational status	0.18	0.96	0.6	0.38	0.4	0.38
Marital status	0.9	0.4	0.98	0.69	0.2	0.23
Have you taken any behavioral counseling for your child?	0.78	0.47	0.9	0.6	0.3	0.85
Does anyone in your family have mental disorder?	0.2	0.8	0.9	0.35	0.83	0.628
Was there any NICU or PICU stay of the child?	0.8	0.2	0.98	0.83	0.6	0.35
Was there any injury to head of the baby?	0.7	0.7	0.09	0.638	0.166	0.4
What was the weight of your baby during birth?	0.002	0.899	0.17	0.589	0.7	0.8
Was your baby born premature?	0.08	0.1	0.04	0.17	0.64	0.287

Academic performance of the preschooler	0.2	0.4	0.008	0.3	0.18	0.031
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*Bold letters represent the statistically significant values ($p \text{ value} \leq 0.05$)

As presented in **Table 2**, a statistically significant association was observed between overall behavioral problems and academic performance among preschool children ($p = 0.008$). Additionally, hyperactivity was significantly associated with the age of the preschoolers ($p = 0.02$).

Discussion

The present study found that the overall prevalence of behavioral problems among preschool children aged 4–5 years was 28.9%. This finding is comparable with prevalence rates reported in other studies, which range from 23.5% to 35% among preschool populations.^{2,12,13} The similarity in prevalence suggests that behavioral problems in early childhood are a common public health concern across different settings.

In the current study, a higher proportion of girls (19.3%) than boys (9.6%) were identified with behavioral problems, with prevalence rates of 17.2% and 6.1%, respectively. This finding contrasts with several previous studies that reported either no significant gender differences¹⁵ or a higher prevalence of behavioral problems among boys, including studies conducted among Swedish preschoolers.¹⁶ Variations in gender-related findings may be influenced by cultural factors, reporting biases, or differences in behavioral expectations. Additionally, studies from Nepal suggest that many children with behavioral problems do not present to psychiatric services, resulting in under-identification and delayed intervention.¹⁷

The teacher-rated Strengths and Difficulties Questionnaire (SDQ) was used as the primary outcome measure in this study. Previous research has demonstrated that both parent- and teacher-reported SDQ versions possess good psychometric properties.¹⁶ However, some studies have reported limited agreement between parent- and teacher-rated scores, highlighting the importance of contextual observation in behavioral assessment.¹⁸ Teachers, who spend substantial time with children in structured environments, may be well positioned to identify behavioral difficulties, particularly in school settings.

Regarding overall difficulty scores, 14.1% of the preschoolers in this study were categorized within the *very high* range. This finding is consistent with the study by Camio et al., which reported that 18.7% of preschool children scored high on the SDQ.¹⁹ Hyperactivity was more prevalent among 5-year-old children, which aligns with developmental expectations, as behaviors such as impulsivity, defiance, and increased activity levels are commonly observed at this age.²⁰

Emotional problems were notably prevalent in the present study, with 59.5% of preschoolers scoring higher on the emotional subscale of the SDQ. Emotional difficulties in early childhood, including fears, phobias, depressive symptoms, and feeding problems, are commonly reported in children aged 0–5 years and may contribute to later behavioral challenges if left unaddressed.²¹

Family structure also appeared to influence behavioral outcomes. In this study, 61.2% of children with behavioral problems belonged to nuclear families. Previous studies have suggested that children from nuclear families may experience higher levels of anger, frustration, guilt, and shame, whereas those from joint families often demonstrate greater empathy, emotional support, and social adaptability.^{22,23}

Consistent with earlier research, behavioral problems in this study were significantly associated with academic performance. As behavioral problems increased, academic performance declined.²⁴ Children

with behavioral difficulties often experience problems with attention, self-esteem, social competence, and cognitive functioning, which can negatively affect their academic achievement.^{2,3,11}

Interestingly, children from families with a monthly income exceeding NPR 6,000 demonstrated a higher prevalence of behavioral problems. This finding is comparable to the study by Maheswari et al., which reported that children from higher-income families were less sensitive and less satisfied.²³ Previous research has also identified a significant association between behavioral disorders and parental working status.²⁴ Although higher-income families are generally associated with lower school dropout rates,²⁵ economic advantage alone may not protect against emotional or behavioral difficulties.

In the present study, 17.6% of preschoolers were reported to have poor academic performance, while 82.4% demonstrated average or above-average performance. Prior et al. reported that behavioral problems increase as academic performance declines,²⁴ and childhood behavioral disorders are more likely to progress into psychiatric conditions among children experiencing academic failure.²⁶

Parental education appeared to have a protective effect in this study. A high proportion of parents (93%) were educated, with 22.9% having completed a bachelor's degree and 4% a master's degree. Higher parental education has been associated with better academic performance and fewer behavioral problems in children, likely due to increased awareness, effective parenting strategies, and access to resources.^{24,27}

Maternal occupation also showed an association with behavioral outcomes. Children of mothers engaged in household or office-based work exhibited a lower prevalence of behavioral problems compared to those whose mothers were involved in daily wage or field work. This finding is supported by Petrova et al., who reported a higher risk of behavioral problems among children of mothers engaged in unstable or labor-intensive employment.²⁸ However, contrasting findings have been reported by Aghdam et al., who observed higher mental health problems among children of non-working mothers.²⁹ Such discrepancies may reflect differences in caregiving quality, work conditions, and social support systems. Furthermore, children deprived of adequate parental care have been shown to exhibit higher rates of behavioral problems.³⁰

Among the SDQ subscales, peer problems were the most prevalent (20.7%), while hyperactivity was the least prevalent (0.4%). The higher prevalence of peer problems may be attributed to children's increasing exposure to social environments upon entering preschool, where peer interactions, parenting styles, and home environments play a significant role in shaping social behavior.³¹

Variations in the prevalence of SDQ subscales across studies have been widely reported.^{19,24} These differences may be attributed to variations in sample size, demographic characteristics, informant type, cultural context, language versions of the SDQ, and differences in cutoff scores used across translated versions. Despite these variations, the SDQ remains a widely used and effective screening tool for identifying behavioral problems in preschool children.

Limitations

This study has several limitations. First, the impact of behavioral problems on families, caregivers, and school teachers was not assessed. Second, a validated Nepali version of the Strengths and Difficulties Questionnaire (SDQ) was not available; therefore, the English teacher-rated version was used, which may affect cultural relevance and comprehension. Third, teacher-reported responses may be subject to bias, as teachers may feel pressure to protect the reputation of the school or reflect their teaching performance in their ratings.

Conclusion

The prevalence of total behavioral difficulties among preschool children aged 4–5 years was 28.9%, with 10.1% exhibiting pro social behavior problems. Academic performance was significantly associated with the presence of behavioral problems.

Future research should explore the impact of behavioral problems on physical activity levels and quality of life among preschool children. Additionally, studies assessing the burden of behavioral problems on families, caregivers, and school teachers are recommended.

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