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PARENTAL PARENTING STYLES AND FINE MOTOR DEVELOPMENT AMONG PRESCHOOL CHILDREN

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ABSTRACT

Fine motor development is a crucial aspect of growth in preschool-aged children, as it contributes to school readiness, independence, and the coordination of hand and finger movements. Environmental factors, particularly parenting styles, play a significant role in providing the stimulation necessary to support this developmental domain. However, variations in parenting practices often lead to differences in children's fine motor abilities. This study aims to analyze the relationship between parenting styles and the fine motor development of preschool children. A quantitative design with a cross-sectional approach was employed, involving 34 parents selected through purposive sampling. Parenting style data were collected using a questionnaire, while children's fine motor development was assessed through structured observation. The results showed that the majority of parents applied a democratic parenting style (82.3%), and most children demonstrated normal fine motor development (79.4%). The Chi-Square test revealed a significant association between parenting style and fine motor development (p-value = 0.003). This study concludes that a democratic parenting style plays an important role in supporting the optimal fine motor development of preschool-aged children. It is recommended that parents provide appropriate stimulation through warm, communicative, and structured parenting practices, and that healthcare providers enhance education on positive parenting and routine monitoring of child growth and development.

Keywords: parenting style, fine motor development, preschool children.

INTRODUCTION

Fine motor development is a fundamental aspect of growth in preschool-aged children, as it directly contributes to school readiness, independence, and the ability to perform daily activities requiring hand–finger coordination such as writing, drawing, and manipulating small objects. Recent studies emphasize that fine motor skills (FMS) developed between the ages of 3 and 6 significantly predict early academic achievement and functional readiness for formal education (Józsa, K., Oo, T. Z., Borbélyová, D., & Zentai, G. 2023).

Fine motor development is influenced by both biological and environmental factors. Within the environmental domain, the role of parents—including the way they provide stimulation, opportunities for practice, and direct interaction—has been identified as a key predictor of motor development trajectories. Recent empirical evidence shows that parental perspectives, knowledge, and involvement significantly affect the quality and intensity of fine motor stimulation children receive (An, R., & Libertus, K. 2025)

Among environmental factors, parenting style has received considerable scholarly attention. Contemporary international studies consistently highlight the association between authoritative or democratic parenting styles and positive developmental outcomes across cognitive, emotional, and physical domains. This association is fostered through consistent guidance, structured opportunities for learning, and supportive interactions, which are also

essential components for fostering fine motor skill development (Wang, L., & Chen, X. 2022).

Specific mechanisms linking parenting style and FMS include structured practice, opportunities for sensorimotor play, and responsive parent–child interactions that facilitate repeated fine motor movement patterns. Recent experimental and longitudinal studies indicate that activity-based interventions—such as cutting, drawing, and engaging in structured craft or sensory play—enhance hand–finger coordination, especially when guided by caregivers who provide age-appropriate feedback and encouragement (Karimi, A., Poznanski, B., Hart, K. C., & Nelson, E. L. 2025).

Despite broad evidence supporting the relationship between parenting style and child development, there remains a knowledge gap concerning how specific parenting dimensions (e.g., affective support, behavioral control, household structure) directly influence measurable fine motor outcomes. Bibliometric reviews also show a rise in publications related to FMS over the past five years; however, studies combining validated parenting style instruments with standardized FMS assessments remain limited (Zhang, B.- fa, Lin, Z.-C., Chen, J.-B., & Li, C. 2024).

Cross-national findings suggest that the interaction between parenting style and mediating factors—such as home stimulation, parent involvement, and early childhood education environments—plays an important role in shaping developmental outcomes. Differences in cultural practices and access to early childhood education highlight the need for localized studies that apply internationally aligned measurement protocols to generate comparable and contextually meaningful findings.

Given the critical role of parenting style in shaping developmental outcomes during early childhood, this study aims to examine the relationship between parental parenting styles and fine motor development among preschool children. Understanding this relationship will provide evidence-based insights to inform parent education programs and early childhood interventions, thereby supporting efforts to optimize children's developmental trajectories

METHOD

This study employed an analytical quantitative design with a cross-sectional approach to examine the relationship between parental parenting styles and fine motor development in preschool-aged children. The study was conducted at Kemaraya Community Health Center (Puskesmas Kemaraya). The sample consisted of 32 respondents who had children aged 4–6 years, selected using a purposive sampling technique.

RESULTS

Tabel 1. Parental Parenting Styles in Preschool-Aged Children

Parenting Style	Frequency (n)	Percentage (%)
Democratic	28	82,3
Non-democratic	6	17,7

Based on Table 1, which presents the distribution of parenting styles among parents of preschool-aged children, the majority of parents applied a democratic

parenting style. A total of 28 respondents (82.3%) reported using this approach in raising their children. In contrast, non-democratic parenting styles accounted for a smaller proportion, representing 17.7% (6 respondents)

Tabel 2. Fine Motor Development in Preschool-Aged Children

Fine Motor Development Category	Frequency (n)	Percentage (%)
Normal	27	79,43
Suspect	65	14,7
Unstable	2	5,8

Based on the data presented in Table 2 regarding the distribution of fine motor development among preschool-aged children, the majority of children demonstrated normal fine motor development. A total of 27 children (79.4%) showed development appropriate for their age. Meanwhile, 5 children (14.7%) were classified as suspect, indicating a potential risk of developmental delay. In addition, 2 children (5.8%) were categorized as unstable, suggesting that their fine motor development remains inconsistent.

Tabel 3. The Relationship Between Parenting Styles and Fine Motor Development in Preschool-Aged Children

Tangibles	Level of Postpartum Women's Satisfaction								*p-Value*
	Normal		Suspect		Unstable		Total		
	n	%	n	n	n	%	n	%	
Democratic	23	67,6	4	11,7	1	2,9	28	82,3	
Non-democratic	2	5,8	1	2,9	1	2,9	6	17,6	0.003
Total	25	73,4	5	14,7	2	5,8	34	100	

Based on the Chi-Square test results presented in Table 5.6, there is a significant relationship between parenting styles and fine motor development among preschool-aged children, with a p-value of 0.003. Since this value is less than 0.05, it can be concluded that parenting styles have a meaningful influence on the fine motor development of preschool children

DISCUSSION

Based on the collected data, the majority of parents (82.3%) apply a democratic (authoritative) parenting style in raising their children. This parenting style is characterized by parental involvement in decision-making, granting reasonable freedom to children, and fostering open communication. This approach has proven effective in supporting child development because parents provide opportunities for autonomous learning while maintaining clear boundaries. Authoritative parenting helps children develop self-confidence, social skills, and better emotional regulation (Ahmed, R. 2025).

Most preschool children (73.4%) exhibit normal fine motor development. Optimal fine motor development plays a critical role in enhancing more complex skills, such as writing, drawing, and using utensils correctly. Moreover, these abilities support children's social interactions and prepare them for formal education (Faber, L., & al. 2024).

However, approximately 14.7% of the children were categorized as *suspect*, while

another 5.8% fell into the *unstable* category. This indicates that although the majority of children demonstrate normal fine motor development, a small proportion still requires additional attention in this developmental domain. Appropriate stimulation and strong parental support are essential to help these children further develop their fine motor skills (Doyle, O. 2022).

Based on the Chi-Square test results with a p-value of 0.003, a significant relationship was identified between parenting styles and fine motor development among preschool-aged children. These findings indicate that the way parents raise their children can influence the level of fine motor development achieved. Children who are raised with a democratic (authoritative) parenting style tend to exhibit normal fine motor development. A total of 67.6% of children with democratic parenting were categorized as having normal fine motor development, demonstrating that this approach is effective in supporting children's motor skill development.

This study is also consistent with Baumrind's theory, which states that the authoritative parenting style—characterized by a balance of discipline and warmth—contributes to more optimal developmental outcomes, including fine motor development. Children raised with a democratic (authoritative) approach are provided with opportunities to develop their motor skills within a supportive and structured environment. Conversely, children raised with overly permissive or authoritarian parenting styles tend to experience difficulties in developing their motor skills optimally. Permissive parenting may hinder fine motor development due to insufficient stimulation, whereas authoritarian parenting can restrict children's creativity and independence (Baumrind, D. 2019).

Democratic (authoritative) parenting plays a crucial role in supporting the fine motor development of preschool-aged children. Therefore, it is essential for parents to understand their role in providing appropriate stimulation to enable children to develop their motor skills optimally. Parental education on the importance of adopting parenting practices that foster fine motor development is necessary to create a more conducive environment for children's overall growth and development (Doyle, O. 2022).

The findings of this study strengthen existing evidence that parenting style is one of the most influential environmental factors affecting the fine motor development of preschool-aged children. Democratic (authoritative) parenting provides children with opportunities to explore, make simple decisions, and develop motor abilities through both structured and free play activities. A responsive and nurturing caregiving environment has been shown to increase children's motivation to engage in new tasks that stimulate fine motor movements, such as drawing, threading beads, or cutting paper. (Han, J., Lee, K., & Park, S. 2024).

Recent research demonstrates that parental support and involvement in home-based activities are strongly associated with fine motor development. Tortella et al. (2024) found that children who received consistent motor stimulation through parent-guided home activities exhibited better manipulative skills and hand–eye coordination than those with limited stimulation. This aligns with the present study, which shows that democratic parenting—typically characterized by active engagement and stimulation—correlates with more advanced fine motor development.

Conversely, permissive parenting often provides freedom without adequate structure or guidance, potentially limiting children's opportunities to participate in developmentally challenging motor activities. Authoritarian parenting, on the other hand, may restrict exploration, creativity, and initiative due to its rigid control. A review by Ng and Epstein (2021) confirmed that authoritative/democratic parenting is more effective in promoting cognitive, social, and motor development than authoritarian or permissive approaches.

In addition, emotional and instructional support from parents has been shown to benefit children who fall into *suspect* or *at-risk* developmental categories, helping them catch up with their peers. A meta-analysis by Doyle (2022) emphasized that parent-based interventions play a central role in improving early developmental outcomes, including motor development, especially among children with early developmental delays.

Furthermore, Zeng et al. (2025) highlighted that fine motor development is influenced not only by physical stimulation but also by the quality of parent–child interactions. Consistent engagement, positive communication, and opportunities for autonomy are strong predictors of optimal fine motor development. This reinforces the notion that democratic parenting provides a holistic developmental environment that supports fine motor skill acquisition.

Overall, these findings have important implications for public health and early childhood education practices. Parents should be educated on appropriate fine motor stimulation activities and encouraged to adopt democratic parenting practices. Family-based interventions are strongly recommended to enhance parents' capacity to provide the necessary support for children's developmental progress.

CONCLUSION

Based on the findings of this study, the majority of parents adopted a democratic (authoritative) parenting style that supports children's development. The study also revealed that most children demonstrated fine motor development appropriate for the preschool age, underscoring the importance of early stimulation for motor skill acquisition. Furthermore, a positive relationship was identified between parenting style and fine motor development, with democratic parenting being more conducive to optimal motor outcomes. Therefore, a flexible and supportive parenting approach is essential to optimize fine motor development in young children

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