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Executive Functioning as a Mediator Between Parental Involvement and Math Achievement in Children with Learning Disabilities

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A B S T R A C T

This study aimed to examine the mediating role of executive functioning in the relationship between parental involvement and math achievement among children with learning disabilities. A descriptive correlational research design was employed, involving 379 Malaysian parents of children aged 9 to 12 years diagnosed with learning disabilities. Participants were selected using stratified random sampling based on the Morgan and Krejcie (1970) sample size determination table. Data were collected using three validated instruments: the Parent and School Survey (PASS) to assess parental involvement, the Behavior Rating Inventory of Executive Function (BRIEF) to measure children's executive functioning, and the Math Composite of the Wechsler Individual Achievement Test–Third Edition (WIAT-III) for math achievement. Pearson correlation analysis was conducted using SPSS version 27, and structural equation modeling (SEM) was performed using AMOS version 21 to test the hypothesized mediation model and assess the model fit. Pearson correlation results indicated significant positive relationships among all variables: parental involvement and executive functioning ($r = .41$, $p < .001$), parental involvement and math achievement ($r = .36$, $p < .001$), and executive functioning and math achievement ($r = .48$, $p < .001$). The SEM revealed an acceptable model fit ($\chi^2/df = 1.84$, CFI = 0.97, RMSEA = 0.045), and confirmed that executive functioning significantly mediated the effect of parental involvement on math achievement. Both the direct effect ($\beta = 0.26$, $p < .01$) and the indirect effect through executive functioning ($\beta = 0.18$, $p < .001$) were statistically significant. The findings underscore the importance of executive functioning as a cognitive mechanism through which parental involvement enhances mathematical performance in children with learning disabilities. Educational interventions should integrate strategies to strengthen both parental engagement and children's executive functioning skills to optimize academic outcomes.

Keywords: *Parental involvement; Executive functioning; Math achievement; Learning disabilities; Mediation model; Structural equation modeling; Cognitive development.*

1. Introduction

Mathematics achievement in children is a multidimensional construct influenced by both cognitive capacities and environmental variables. In recent years, the attention of educational researchers has turned to the intricate mechanisms through which cognitive processes, such as executive functioning, mediate the influence of environmental inputs like parental involvement on academic outcomes. Children with learning disabilities (LDs) represent a population for whom this interplay is particularly salient, given their vulnerabilities in both executive functioning and academic achievement domains (Sánchez-Pérez et al., 2024).

Parental involvement has been consistently identified as a significant predictor of academic success. This involvement manifests in various forms, including helping with homework, providing emotional encouragement, and communicating with educators (Peixoto et al., 2023; Šilinskas & Kikas, 2017). However, the nature and effectiveness of such involvement are influenced by contextual factors such as parental math anxiety, self-efficacy, and educational expectations (Kiss & Vukovic, 2020; Liu & Leighton, 2021). For instance, parents with high math anxiety tend to adopt controlling behaviors or withdraw from math-related interactions, which can negatively affect children's attitudes and performance in math (Çarkoğlu et al., 2023; Oh et al., 2022). Conversely, autonomy-supportive involvement can foster a more positive math learning environment (MacDonald et al., 2024).

Among children with LDs, the role of parental support is even more critical due to the additional challenges they face in cognitive processing, attention, and learning persistence. Research indicates that parental academic support is positively associated with motivation and math outcomes, even when cognitive limitations exist (Alosoufe & Abozead, 2024; X. Zhang et al., 2020). Moreover, maternal literacy and engagement in early learning activities have shown long-term benefits for children's academic development, particularly in marginalized or resource-limited contexts (Banerji et al., 2017).

While parental involvement is influential, its effectiveness is not uniform across children. Individual differences in executive functioning—the set of cognitive processes responsible for goal-directed behavior, including working memory, cognitive flexibility, and inhibitory control—play a moderating or mediating role in academic performance (Sánchez-Pérez et al., 2024). Children with higher executive functioning capabilities are more likely to benefit from parental support, as they are better able to regulate emotions, maintain attention, and organize task-related strategies (DiStefano et al., 2023; Libertus, 2024). Executive functioning has emerged as a critical cognitive construct in explaining differences in math achievement trajectories, especially in children with LDs, who often display executive deficits (Anbar et al., 2022).

The importance of executive functioning in mathematical learning has been widely documented. For example, studies have shown that working memory and inhibitory control are essential for solving complex word problems, sustaining attention in class, and transferring learned strategies across contexts (Silver et al., 2022; F. Zhang et al., 2020). In longitudinal models, executive functioning has predicted math achievement over time, suggesting that it is not merely correlated but causally linked to academic success (Jiawen et al., 2022). This is particularly relevant for children with LDs, whose academic struggles often stem from underlying neurocognitive limitations.

Moreover, executive functioning may explain how and why parental involvement influences math achievement. For instance, structured and emotionally supportive parental involvement can scaffold the development of executive functioning skills such as planning and organization (Betts, 2021; Im & Kang, 2023). At the same time, parental behaviors influenced by their own math anxieties can impair the development of these skills by introducing pressure, criticism, or learned helplessness into math-related tasks (Poisall et al., 2023; Retanal et al., 2021). Therefore, parental involvement does not operate in isolation but exerts its influence through internal psychological mechanisms, such as the child's executive functioning.

Cross-cultural studies further enrich the discussion by highlighting variations in parental attitudes, expectations, and involvement practices. For instance, research comparing Korean and U.S. parents shows that home numeracy environments and expectations differ substantially, contributing to disparities in math achievement (Kwon et al., 2024). In Malaysia and other Asian contexts, parental pressure is often perceived as a form of support, though its effectiveness may depend on how it aligns with the child's regulatory capacities (Im & Kang, 2023; Wang et al., 2022). Similarly, the availability and use of private tutoring, or "shadow education," interact with home math practices and parental beliefs to shape children's math engagement and performance.

E-ISSN: 3060-6713

Recent intervention studies suggest that improving parents' understanding of how to support math learning can have a lasting impact. For example, parent-focused interventions that promote growth mindsets and reduce controlling behaviors have been linked to better math attitudes and performance in children (Libertus, 2024; MacDonald et al., 2024). These interventions may indirectly enhance executive functioning by fostering autonomy-supportive environments that encourage self-regulation and problem-solving. Additionally, mobile app interventions and digital resources targeting parents with math anxiety have been shown to buffer the transmission of anxiety to children, further emphasizing the interactive nature of familial and cognitive influences on math achievement (Schaeffer et al., 2018). The current study seeks to elucidate how executive functioning operates as a mediating variable in the relationship between parental involvement and math achievement among children with LDs, contributing to both theoretical understanding and applied educational interventions.

2. Methods and Materials

2.1. Study Design and Participants

This research employed a descriptive correlational design to examine the mediating role of executive functioning in the relationship between parental involvement and mathematics achievement among children with learning disabilities. The study was conducted in Malaysia and included a total of 379 participants, selected based on the sample size recommendation of the Morgan and Krejcie (1970) table for a population size exceeding 10,000. Participants were parents of children aged 9 to 12 years diagnosed with learning disabilities, drawn from mainstream and special education support programs in urban and suburban regions. Stratified random sampling was used to ensure representation across different socioeconomic and educational backgrounds.

2.2. Measures

The Wechsler Individual Achievement Test – Third Edition (WIAT-III), developed by David Wechsler in 2009, is a widely used standardized instrument for assessing academic achievement in children and adolescents aged 4 to 50 years. It includes a Mathematics Composite that consists of two subtests: Numerical Operations and Math Problem Solving, providing a comprehensive measure of mathematical proficiency. Numerical Operations assesses written computation skills, while Math Problem Solving evaluates applied mathematics using word problems and real-world scenarios. Each subtest includes multiple-choice and open-ended items, with scoring based on age-normed standard scores (mean = 100, SD = 15). The WIAT-III has demonstrated excellent internal consistency ($\alpha > .90$) and strong test-retest reliability across all subtests. Its construct and criterion-related validity have been confirmed in numerous studies, including in populations with learning disabilities, supporting its use in educational and clinical assessments.

The Behavior Rating Inventory of Executive Function (BRIEF), developed by Gioia, Isquith, Guy, and Kenworthy (2000), is a standardized assessment tool designed to evaluate executive functioning behaviors in children aged 5 to 18 years within home and school environments. The BRIEF includes 86 items and is completed by parents or teachers. It contains eight clinical subscales organized into two broader indices: the Behavioral Regulation Index (Inhibit, Shift, Emotional Control) and the Metacognition Index (Initiate, Working Memory, Plan/Organize, Organization of Materials, Monitor), which together yield a Global Executive Composite (GEC) score. Each item is rated on a 3-point Likert scale ranging from "Never" to "Often." The BRIEF has shown high internal consistency ($\alpha = .80$ to $.98$) and strong test-retest reliability. Its factorial structure and convergent validity with performance-based executive function tasks have been supported in both clinical and non-clinical populations, including children with learning disabilities.

The Parent and School Survey (PASS), developed by Fantuzzo, Tighe, and Childs (2000), is a validated instrument used to assess multiple dimensions of parental involvement in children's education. It includes 34 items covering three primary domains: Home-Based Involvement (e.g., helping with homework, discussing school events), School-Based Involvement (e.g., attending parent-teacher conferences, volunteering), and Home-School Communication (e.g., communicating with teachers about academic performance). Items are rated on a 4-point Likert scale ranging from "Never" to "Always," with higher scores indicating greater parental engagement. The PASS has demonstrated good internal consistency for its subscales (α ranging from .72 to .89) and strong construct validity. Its utility has been established in studies involving parents of children with diverse educational needs, including those with learning disabilities, making it an appropriate measure

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for capturing the complexity of parental involvement in academic contexts.

2.3. *Data Analysis*

Data analysis was conducted using SPSS version 27 and AMOS version 21. Descriptive statistics (means, standard deviations, frequencies, and percentages) were used to summarize the demographic characteristics of participants. Pearson correlation analysis was conducted to examine the bivariate relationships between mathematics achievement (dependent variable), parental involvement, and executive functioning (independent variables). To test the hypothesized mediating role of executive functioning, Structural Equation Modeling (SEM) was applied using the maximum likelihood estimation method. Model fit was assessed using standard indices such as χ^2/df, RMSEA, CFI, and TLI. Significance was established at the 0.01 level.

3. Findings and Results

The final sample consisted of 379 parents, of whom 234 (61.74%) were mothers and 145 (38.26%) were fathers. The age of the children ranged from 9 to 12 years, with 112 (29.55%) aged 9, 98 (25.86%) aged 10, 91 (24.01%) aged 11, and 78 (20.58%) aged 12. Regarding parental education level, 149 (39.31%) held a university degree, 117 (30.87%) had completed secondary school, and 113 (29.81%) reported primary education or vocational training. In terms of household income, 198 (52.24%) reported a monthly income above the national median, while 181 (47.76%) reported a lower income level. This demographic distribution reflects a diverse cross-section of families with children diagnosed with learning disabilities in Malaysia.

Table 1

Descriptive Statistics

Variable	Mean (M)	Standard Deviation (SD)
Parental Involvement	3.27	0.46
Executive Functioning	2.91	0.53
Math Achievement	102.34	14.62

Table 1 presents the descriptive statistics for the study variables. The mean score for parental involvement was 3.27 (SD = 0.46), suggesting that, on average, parents in the sample reported moderately high levels of involvement. Executive functioning had a mean of 2.91 (SD = 0.53), indicating average to slightly below-average functioning among children with learning disabilities. Math achievement scores, based on standardized assessments, had a mean of 102.34 (SD = 14.62), indicating average math performance within the sample.

Prior to conducting Pearson correlation and SEM analyses, the assumptions of normality, linearity, multicollinearity, and homoscedasticity were examined. Skewness and kurtosis values for all variables ranged between -0.89 and +0.76, indicating acceptable normal distribution. The Kolmogorov–Smirnov test was non-significant for executive functioning (p = .064) and parental involvement (p = .081), and only marginally significant for math achievement (p = .048), but supported by Q-Q plots showing linear patterns. Linearity was confirmed via scatterplots showing consistent positive trends. Variance Inflation Factor (VIF) values ranged between 1.07 and 1.29, indicating no multicollinearity issues. Levene's Test for Homogeneity of Variance yielded p-values > .05 for all key variables, confirming homoscedasticity. These diagnostic tests confirmed that the data met the assumptions required for the planned statistical analyses.

Table 2

Pearson Correlations Between Variables

Variable	1	2	3
1. Parental Involvement	—		
2. Executive Functioning	.41** (p < .001)	—	
3. Math Achievement	.36** (p < .001)	.48** (p < .001)	—

E-ISSN: 3060-6713

Table 2 displays Pearson correlation coefficients between the primary variables. Parental involvement was significantly correlated with executive functioning ($r = .41$, $p < .001$) and math achievement ($r = .36$, $p < .001$). Executive functioning showed the strongest correlation with math achievement ($r = .48$, $p < .001$). These results suggest that higher parental involvement is associated with better executive functioning and higher math achievement, and that executive functioning is positively associated with math outcomes.

Table 3

Model Fit Indices for the Structural Model

Fit Index	Value
Chi-Square (χ^2)	117.84
Degrees of Freedom (df)	64
χ^2/df	1.84
GFI	0.95
AGFI	0.92
CFI	0.97
RMSEA	0.045
TLI	0.96

Table 3 shows the structural equation model fit indices. The model demonstrated good fit: χ^2 (64) = 117.84, $p < .01$; χ^2/df = 1.84, which is within the acceptable range (< 3). Other indices also supported the model's adequacy, including GFI = 0.95, AGFI = 0.92, CFI = 0.97, TLI = 0.96, and RMSEA = 0.045. These results suggest that the hypothesized model fits the observed data well and is appropriate for testing mediation.

Table 4

Path Coefficients: Direct, Indirect, and Total Effects

Pathway	b	S.E.	Beta	p
Parental Involvement → Exec. Functioning	0.47	0.07	0.41	< .001
Exec. Functioning → Math Achievement	5.31	0.85	0.43	< .001
Parental Involvement → Math Achievement (Direct)	3.12	1.02	0.26	< .01
Parental Involvement → Math Achievement (Indirect)	2.49	0.61	0.18	< .001
Parental Involvement → Math Achievement (Total)	5.61	0.94	0.44	< .001

Table 4 provides the standardized and unstandardized path coefficients for the structural equation model. The direct path from parental involvement to executive functioning was significant ($b = 0.47$, $\beta = 0.41$, $p < .001$), as was the path from executive functioning to math achievement ($b = 5.31$, $\beta = 0.43$, $p < .001$). The direct effect of parental involvement on math achievement remained significant ($b = 3.12$, $\beta = 0.26$, $p < .01$), while the indirect effect through executive functioning was also significant ($b = 2.49$, $\beta = 0.18$, $p < .001$). The total effect of parental involvement on math achievement (direct + indirect) was strong and statistically significant ($b = 5.61$, $\beta = 0.44$, $p < .001$), confirming executive functioning as a partial mediator in the model.

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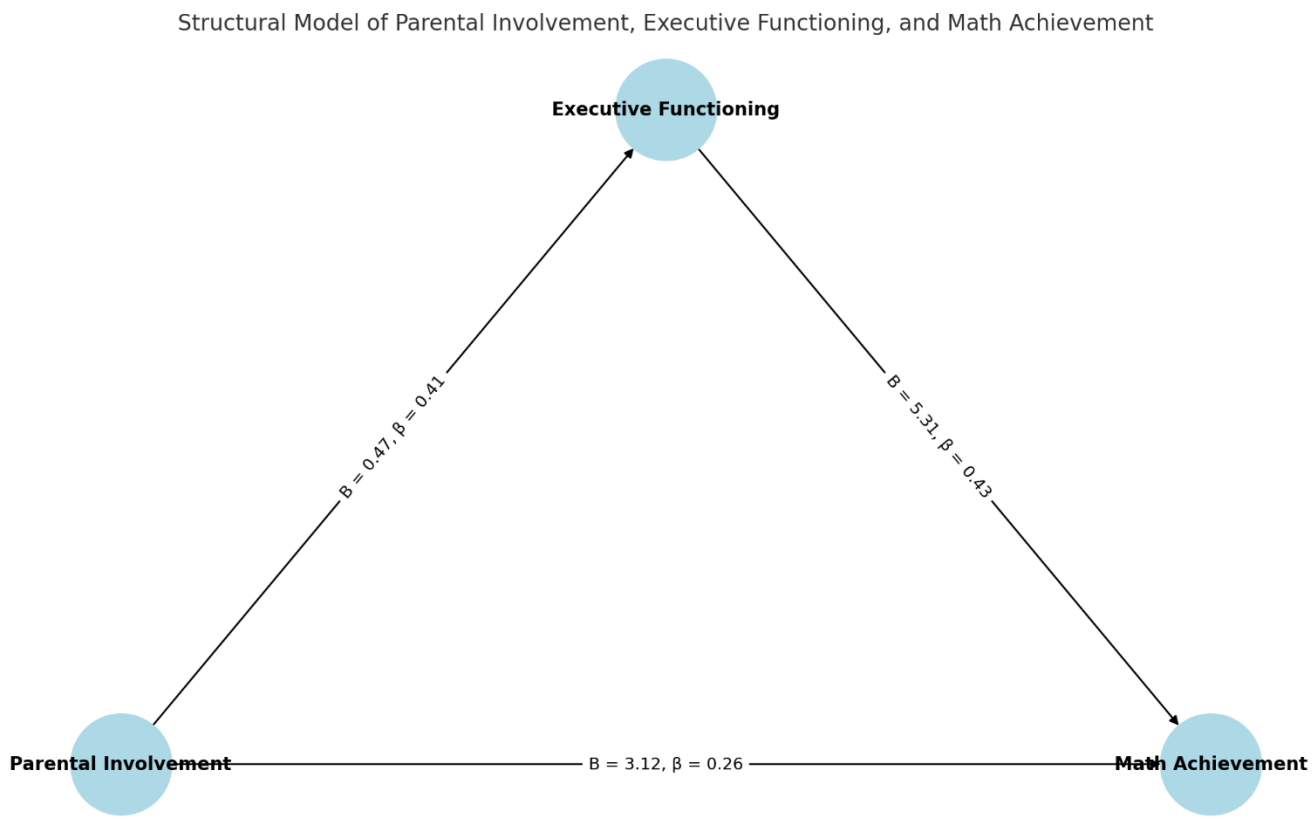
Figure 1

Structural Model of The Study



4. Discussion and Conclusion

The present study explored the mediating role of executive functioning in the relationship between parental involvement and math achievement in children with learning disabilities. The results from Pearson correlation analyses revealed significant positive relationships between parental involvement and math achievement, between parental involvement and executive functioning, and between executive functioning and math achievement. Furthermore, the structural equation modeling (SEM) confirmed that executive functioning significantly mediated the relationship between parental involvement and math achievement, supporting the hypothesized model. These findings offer compelling evidence that the effectiveness of parental involvement on academic performance is, at least in part, explained by its influence on the child's executive functioning capabilities.

The positive and significant relationship observed between parental involvement and math achievement is consistent with a robust body of literature highlighting the pivotal role of parental support in academic outcomes. Studies have shown that emotionally supportive and academically engaged parents positively influence their children's learning processes, motivation, and attitudes toward mathematics (Peixoto et al., 2023; Šilinskas & Kikas, 2017). Our results are aligned with findings from Wang et al., who noted that parental involvement in various academic subjects, including math, is positively associated with performance over time (Wang et al., 2022). Similarly, Jiawen et al. found that parental involvement in math homework and learning activities enhances children's math performance during the early school years (Jiawen et al., 2022). These studies confirm the enduring value of family engagement in shaping academic achievement.

Our findings further indicate that executive functioning is a significant mediator between parental involvement and math achievement. This suggests that the way in which parents interact with their children may not influence academic outcomes directly, but rather through the enhancement of children's cognitive regulation, working memory, and inhibitory control. This mediating pathway is supported by Sánchez-Pérez et al., who found that effortful control, a core component of executive functioning,

E-ISSN: 3060-6713

contributed significantly to math performance, partly mediated by math anxiety (Sánchez-Pérez et al., 2024). Similarly, Libertus emphasized that interventions aimed at parents can improve not only parental behavior but also cognitive skill development in children, including foundational executive skills that underpin mathematical reasoning (Libertus, 2024).

The link between executive functioning and math achievement has been well-documented, particularly in the context of learning disabilities. DiStefano et al. emphasized the quality of parent–child interaction during math tasks as a critical factor in shaping math anxiety and performance, noting that children with stronger executive function skills are more likely to perform better in math despite parental anxiety or pressure (DiStefano et al., 2023). Moreover, Silver et al. demonstrated that the impact of parental math input is moderated by children's inhibitory control, which is a key component of executive functioning (Silver et al., 2022). This reinforces the importance of cognitive intermediaries in determining the effect of environmental factors such as parental support on academic outcomes.

The findings of this study are also in line with literature examining the adverse effects of maladaptive parental behaviors, such as excessive control or anxiety-driven involvement. Parents with high math anxiety may project their anxieties onto their children, thus undermining both executive regulation and math achievement (Çarkoğlu et al., 2023; Oh et al., 2022). Retanal et al. and Poisall et al. similarly demonstrated that controlling-supportive homework help—often emerging from parental math anxiety—was negatively associated with children's math learning (Poisall et al., 2023; Retanal et al., 2021). This aligns with our findings that positive parental involvement supports math performance only when it simultaneously fosters executive functioning development.

Furthermore, our results resonate with the theoretical and empirical contributions of MacDonald et al., who showed that when parents adopt a growth-oriented mindset and support autonomy in math learning, children develop more positive affect and higher achievement, potentially through the strengthening of self-regulatory and executive processes (MacDonald et al., 2024). In contrast, Peixoto et al. noted that parental beliefs about their role in academic success—particularly when driven by guilt or over-responsibility—may impair their ability to engage effectively, thereby hindering children's motivational and cognitive development (Peixoto et al., 2023).

Notably, the cultural context of parental involvement also warrants attention. Our study conducted in Malaysia adds to the growing cross-cultural evidence showing that parental involvement and its outcomes are shaped by cultural expectations and educational norms. Kwon et al. compared parental behaviors in Korea and the U.S., identifying significant cultural differences in home numeracy environments and parental expectations (Kwon et al., 2024). Im et al. further elaborated that parental dependency on private tutoring and math practices by difficulty level mediate the relationship between expectations and achievement (Im & Kang, 2023). In our Malaysian context, similar cultural dynamics may moderate the strength and form of parental involvement and should be explored in greater depth in future research.

The implications of these findings are also consistent with intervention-based research. Libertus and Schaeffer et al. both demonstrated that parent-targeted interventions can significantly enhance children's math achievement, particularly by reducing math anxiety and promoting constructive engagement (Libertus, 2024; Schaeffer et al., 2018). These interventions operate by equipping parents with the knowledge and strategies to support children's learning in ways that promote autonomy and executive functioning, ultimately enhancing academic outcomes. Our findings affirm the importance of incorporating parental training into educational programming, especially for children with LDs.

Finally, the broader socioeconomic context must also be considered. Zhang et al. have highlighted that family socioeconomic status (SES) interacts with parental involvement to affect academic achievement, emphasizing that higher SES families often have more resources and academic capital to support their children effectively (X. Zhang et al., 2020). Banerji et al. similarly found that maternal literacy programs significantly enhanced parental capacity and child outcomes, especially in low-resource settings (Banerji et al., 2017). Given Malaysia's socioeconomic diversity, such disparities likely influence the effectiveness of parental involvement and warrant further study.

While the present study provides valuable insights, several limitations should be acknowledged. First, the reliance on self-report measures from parents introduces the possibility of response bias and social desirability effects, particularly concerning executive functioning and parental involvement. Second, although the sample size was statistically adequate, it was geographically limited to

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selected urban and suburban regions in Malaysia, which may limit the generalizability of findings to rural populations or other countries with different educational and cultural contexts. Third, the cross-sectional design restricts causal inferences. While structural equation modeling provides insights into potential pathways, longitudinal designs are needed to confirm the temporal order and directionality of effects. Lastly, the study did not account for potential moderators such as parental education level, family income, or child gender, which could influence the strength or direction of the observed relationships.

Future research should aim to address these limitations through the use of longitudinal or experimental designs that can establish causal relationships between variables. Studies should also explore the moderating effects of demographic and contextual factors, such as family SES, parental education, or access to tutoring resources. Investigating the differential impact of maternal versus paternal involvement could further refine the model. In addition, qualitative research could provide richer insights into how parents perceive and enact involvement, and how children experience parental behaviors in the context of learning. Lastly, intervention studies examining how training parents in executive functioning support strategies can translate into academic gains would be valuable for both theory and practice.

The findings of this study suggest that educational and clinical practitioners working with children with learning disabilities should place greater emphasis on enhancing executive functioning as a key mechanism for improving math achievement. Schools can offer parent education programs that not only encourage involvement but also equip parents with skills to foster executive functioning, such as promoting goal setting, planning, and self-monitoring in their children. Teachers and school counselors should collaborate with families to ensure that parental involvement is emotionally supportive and cognitively enriching, rather than controlling or anxiety-driven. Additionally, tailored interventions that address parental math anxiety could enhance both parent and child outcomes, contributing to more effective learning environments and closing achievement gaps for students with learning disabilities.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

References

Alosoufe, L., & Abozead, S. E. (2024). Impact of Parental Possessiveness on the Academic Achievement of School Age Students at Ajloun Governorate, Jordan. *International Journal of Research in Paediatric Nursing*, *6*(1), 87-94. https://doi.org/10.33545/26641291.2024.v6.i1b.156

Anbar, N., Cheie, L., & Visu-Petra, L. (2022). Math Anxiety, Math Achievement and Gender Differences Among Primary School Children and Their Parents From Palestine. *International Journal of Learning Teaching and Educational Research*, *21*(8), 326-334. https://doi.org/10.26803/ijlter.21.8.19

Banerji, R., Berry, J., & Shotland, M. (2017). The Impact of Maternal Literacy and Participation Programs: Evidence From a Randomized Evaluation in India. *American Economic Journal Applied Economics*, *9*(4), 303-337. https://doi.org/10.1257/app.20150390

Betts, A. (2021). The RESET Framework: Examining Critical Factors in Parent-Child Math Participation. https://doi.org/10.22492/issn.2189-1036.2021.21

Çarkoğlu, C., Eason, S. H., & Purpura, D. J. (2023). Building the Parent and Child Math Anxiety Network Model From Empirical Evidence. *Child Development Perspectives*, *17*(3-4), 115-121. https://doi.org/10.1111/cdep.12484

DiStefano, M., Retanal, F., Bureau, J. F., Hunt, T. E., Lafay, A., Osana, H. P., Skwarchuk, S. L., Trepiak, P., Xu, C., LeFevre, J. A., & Maloney, E. A. (2023). Relations Between Math Achievement, Math Anxiety, and the Quality of Parent–Child Interactions While Solving Math Problems. *Education Sciences*, *13*(3), 307. https://doi.org/10.3390/educsci13030307

E-ISSN: 3060-6713

Im, H., & Kang, S.-J. (2023). The Relationship Between Parents' Math Expectations and Children's Math Achievements: Mediating Effects of Home Math Practices by Difficulty Level and Dependency on Private Math Education. *Korean Journal of Child Studies*, *44*(4), 457-470. https://doi.org/10.5723/kjcs.2023.44.4.457

Jiawen, W., Barger, M. M., Oh, D. D., & Pomerantz, E. M. (2022). Parents' Daily Involvement in Children's Math Homework and Activities During Early Elementary School. *Child development*, *93*(5), 1347-1364. https://doi.org/10.1111/cdev.13774

Kiss, A. J., & Vukovic, R. K. (2020). Exploring Educational Engagement for Parents With Math Anxiety. *Psychology in the Schools*, *58*(2), 364-376. https://doi.org/10.1002/pits.22451

Kwon, K. A., Im, H., & Beisly, A. (2024). Parental Expectation, Attitudes, and Home Numeracy Environment in Korea and in the U.S.: Potential Sources of Asian Math Advantages. *Education Sciences*, *14*(10), 1133. https://doi.org/10.3390/educsci14101133

Libertus, M. E. (2024). Parent-Focused Interventions to Support Children's Early Math Learning. *Current Directions in Psychological Science*, *33*(1), 3-9. https://doi.org/10.1177/09637214231212806

Liu, Y., & Leighton, J. P. (2021). Parental Self-Efficacy in Helping Children Succeed in School Favors Math Achievement. *Frontiers in Education*, *6*. https://doi.org/10.3389/feduc.2021.657722

MacDonald, C., Oh, D. D., Barger, M. M., Cimpian, A., & Pomerantz, E. M. (2024). Does Inducing Growth-Oriented Mindsets About Math Ability in Parents Enhance Children's Math Mindsets, Affect, and Achievement? *Developmental Psychology*, *60*(12), 2396-2408. https://doi.org/10.1037/dev0001768

Oh, D. D., Barger, M. M., & Pomerantz, E. M. (2022). Parents' Math Anxiety and Their Controlling and Autonomy-Supportive Involvement in Children's Math Learning: Implications for Children's Math Achievement. *Developmental Psychology*, *58*(11), 2158-2170. https://doi.org/10.1037/dev0001422

Peixoto, F., Mata, L., Campos, M., Caetano, T., Radišić, J., & Niemivirta, M. (2023). 'Am I to Blame Because My Child Is Not Motivated to Do Math?': Relationships Between Parents' Attitudes, Beliefs and Practices Towards Mathematics and Students' Mathematics Motivation and Achievement. *European Journal of Psychology of Education*, *39*(2), 1561-1586. https://doi.org/10.1007/s10212-023-00774-6

Poisall, M., Cook, O., Hart, S. A., Conlon, R. A., Barroso, C., Geer, E. A., & Ganley, C. M. (2023). Relations Between Parents' Math Anxiety and Children's Math Learning, and the Role of Homework Help. https://doi.org/10.31234/osf.io/7q4vr

Retanal, F., Johnston, N. B., Burr, S. D. L., Storozuk, A., DiStefano, M., & Maloney, E. A. (2021). Controlling-Supportive Homework Help Partially Explains the Relation Between Parents' Math Anxiety and Children's Math Achievement. *Education Sciences*, *11*(10), 620. https://doi.org/10.3390/educsci11100620

Sánchez-Pérez, N., Fuentes, L. J., & González-Salinas, C. (2024). The Contribution of Children's Effortful Control to Math Performance Is Partially Mediated by Math Anxiety. *European Journal of Psychology of Education*, *39*(3), 2655-2679. https://doi.org/10.1007/s10212-024-00801-0

Schaeffer, M. W., Rozek, C. S., Berkowitz, T., Levine, S. C., & Beilock, S. L. (2018). Disassociating the Relation Between Parents' Math Anxiety and Children's Math Achievement: Long-Term Effects of a Math App Intervention. *Journal of Experimental Psychology General*, *147*(12), 1782-1790. https://doi.org/10.1037/xge0000490

Šilinskas, G., & Kikas, E. (2017). Parental Involvement in Math Homework: Links to Children's Performance and Motivation. *Scandinavian Journal of Educational Research*, *63*(1), 17-37. https://doi.org/10.1080/00313831.2017.1324901

Silver, A. M., Elliott, L., & Libertus, M. E. (2022). Parental Math Input Is Not Uniformly Beneficial for Young Children: The Moderating Role of Inhibitory Control. *Journal of Educational Psychology*, *114*(5), 1178-1191. https://doi.org/10.1037/edu0000679

Wang, H., Chen, Y., Yang, X., Yu, X., Zheng, K., Lin, Q., Cheng, X., & He, T. (2022). Different Associations of Parental Involvement With Children's Learning of Chinese, English, and Math: A Three-Wave Longitudinal Study. *European Journal of Psychology of Education*, *38*(1), 269-285. https://doi.org/10.1007/s10212-022-00605-0

Zhang, F., Jiang, Y., Ming, H., Ren, Y., Wang, L., & Huang, S. (2020). Family Socio-economic Status and Children's Academic Achievement: The Different Roles of Parental Academic Involvement and Subjective Social Mobility. *British Journal of Educational Psychology*, *90*(3), 561-579. https://doi.org/10.1111/bjep.12374

Zhang, X., Hu, B. Y., Zou, X., & Ren, L. (2020). Parent–child Number Application Activities Predict Children's Math Trajectories From Preschool to Primary School. *Journal of Educational Psychology*, *112*(8), 1521-1531. https://doi.org/10.1037/edu0000457

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