



## PARENTAL ATTITUDES TOWARDS SCHOOL AND EVERYDAY MATHEMATICS AND THEIR ENGAGEMENT IN CHILDREN'S MATHEMATICAL ACTIVITIES

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### Abstract/Izvleček

Although parental involvement plays a crucial role in children's mathematical education, few studies examine how their attitudes towards mathematics influence their participation in specific activities. This study investigates the relationship between parental attitudes towards mathematics in school and in everyday contexts and their engagement in these activities. Results from a survey of 245 Slovenian parents reveal that most parents exhibit a neutral attitude towards school mathematics, while they generally hold a positive attitude towards the practical use of mathematics. Parents with less positive attitudes towards school mathematics tend to assist their children more often, whereas a positive attitude towards everyday mathematics is associated with greater parental involvement in daily mathematical activities at home.

### Keywords:

parental attitudes,  
mathematics education,  
parental engagement,  
school mathematics,  
everyday mathematics.

### Ključne besede:

odnos staršev,  
matematično  
izobraževanje,  
vključenost staršev,  
šolska matematika,  
vsakodnevna  
matematika.

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### Odnos staršev do šolske matematike in matematike v vsakdanjem življenju ter njihova vključenost v matematične dejavnosti otrok

Vključenost staršev ima ključno vlogo pri matematičnem izobraževanju otrok, vendar obstaja le malo raziskav o vplivu odnosa staršev do matematike na njihovo vključenost v specifične aktivnosti. V raziskavi proučujemo povezavo med odnosom staršev do matematike v šolskem in vsakodnevem kontekstu ter njihovim sodelovanjem pri teh aktivnostih. Rezultati med 245 slovenskimi starši kažejo, da večina izraža nevtralen odnos do šolske matematike, medtem ko imajo večinoma pozitiven odnos do praktične uporabe matematike. Starši z manj pozitivnim odnosom do šolske matematike pogosteje pomagajo otrokom, pozitiven odnos do vsakodnevne matematike pa je povezan z večjo vključenostjo staršev v vsakodnevne matematične aktivnosti doma.

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## Introduction

Parental involvement in children's mathematical education is widely recognized as a critical factor influencing students' mathematics performance, as supported by numerous studies (Fan and Chen, 2001; Hill and Tyson, 2009; Wang and Wei, 2024). Parents contribute to their children's mathematical learning through a variety of activities, including everyday tasks, board and card games, and shared reading activities (Jöran et al., 2022; Vandermaas-Peeler et al., 2018; Zhang et al., 2020). These interactions frequently emphasize practical, informal mathematics rather than formal school mathematics, with a sizeable portion of research focusing on homework support (e.g., Gonida and Cortina, 2014; Silinskas and Kikas, 2017; Wu et al., 2022).

LeFevre et al. (2009) categorize parental mathematical activities into two types: direct activities, involving explicit teaching of computational skills, and indirect activities, which foster mathematical understanding through tasks such as counting games or household measurements. Both the frequency and type of parental involvement have been shown to correlate with children's mathematics performance (Blevins-Knabe and Musun-Miller, 1996). However, the effectiveness of these interactions depends on the quality of the activities and the context in which they occur.

Parents' mathematical experiences during their own education significantly shape their involvement in their children's education. Skwarchuk (2009) argues that parents with positive math experiences are more likely to share their knowledge and incorporate math-related activities into daily life. Similarly, Blevins-Knabe et al. (2000) found that parents who enjoy mathematics tend to engage more frequently in math activities with their children. Zhao and Singh (2011) highlight that parental behaviour is often guided by their beliefs and expectations, which subsequently influence their children's mathematical experiences and attitudes. Expanding on this, Antolin Drešar and Lipovec (2017) conducted a comparative study on parental involvement in mathematics between mathematicians and non-mathematicians. Their findings revealed that mathematician parents provided a broader range of mathematical activities with greater depth and complexity compared to non-mathematician parents.

### *Parental Attitudes Towards Mathematics*

Parental attitudes towards mathematics play a pivotal role in shaping not only the type and extent of their engagement with their children but also children's attitudes towards and performance in mathematics. Attitudes are commonly defined as psychological constructs that encompass emotional responses, cognitive beliefs, and behavioural tendencies in relation to a particular object, idea, or activity (Eagly and Chaiken, 1993). In mathematics, attitudes include feelings such as enjoyment or anxiety, beliefs about its value or difficulty, and the tendency to engage with mathematical tasks (Zan and Di Martino, 2007). These components are influenced by subjective experiences, social interactions, and cultural norms (Bishop, 1993; Eccles and Jacobs, 1986).

Research in the affective domain broadens the concept of attitudes to include related constructs such as beliefs, emotions, and values. For example, self-confidence, self-efficacy, and motivation are critical factors influencing parental engagement (DeBellis and Goldin, 2006; McLeod, 1992). Eccles and Jacobs (1986) argue that attitudes develop through a complex interplay of subjective experiences, societal norms, and expectations, which are often transmitted from parents to children. Similarly, Bishop (1993) emphasizes that attitudes evolve over time, shaped by the educational environment and by interaction with significant others. Positive attitudes encourage persistence and enjoyment in learning mathematics, while negative attitudes, such as math anxiety, hinder both parental involvement and children's performance.

### *Parental Attitudes and Children's Mathematics Attitudes*

Research shows a significant relationship between parents' attitudes towards mathematics and their children's attitudes. Mohr-Schroeder et al. (2017) identified positive correlations between parental and student attitudes, emphasizing the importance of fostering favourable parental attitudes to shape children's perceptions of mathematics. Similarly, Simmons et al. (2024) found that parental mathematics anxiety and attitudes predicted children's attainment, particularly in their first year of schooling. This relationship was independent of parental mathematics attainment and unaffected by the frequency of preschool number experiences in the home. Their findings suggest that fostering positive attitudes may be more impactful than direct involvement, such as homework assistance.

Areepattamannil et al. (2015), using data from the 2012 PISA study, reported that adolescents who perceived their parents as valuing mathematics exhibited greater motivation, self-efficacy, and achievement. However, excessive emphasis on career relevance increased mathematics anxiety, highlighting the complexity of parental influence. Vidal Olivares and Ceglie (2020) also found that parents' self-efficacy and the value they placed on mathematics strongly influenced children's beliefs, creating cycles of positive or negative engagement.

Gender differences in parental attitudes have also been observed. Fathers tend to exhibit more positive attitudes than mothers, and parents often hold higher expectations for male children in mathematics compared to female children (Visser, 1987). Interestingly, Simmons et al. (2024) found that maternal mathematics anxiety was more strongly associated with girls' attainment than boys', illustrating gender-specific dynamics in parental influence.

#### *Parental Attitudes and Children's Mathematics Performance*

Numerous studies highlight the significant relationship between parental attitudes towards mathematics and their children's performance. Using data from the TIMSS 2015 survey, Cui et al. (2023) demonstrated that parental involvement in early childhood learning activities and positive attitudes toward mathematics significantly enhanced children's mathematics achievement by fostering their interest in learning. Conversely, negative parental attitudes or math anxiety can lead to lower performance, as children may internalize these attitudes and develop apprehensions about the subject (Simmons et al., 2024). Similarly, Becker et al. (2021) found that parents' math anxiety negatively impacted preschool children's mathematical progress. Peixoto et al. (2024) further observed that fixed mindsets and negative attitudes in parents were associated with poorer outcomes in children's motivation and achievement.

Wen and Dubé (2023) emphasized the multidimensional nature of mathematics attitudes, identifying components such as confidence, enjoyment, anxiety, and self-concept. Their findings revealed that positive attitudes were strongly linked to higher achievement, while negative factors like anxiety and gender stereotypes were associated with poorer performance. These results underscore the importance of targeted interventions aimed at improving attitudes in both parents and children to foster better mathematical outcomes.

### *Current Study*

While the broader concept of parental involvement in children's education has garnered substantial research interest globally and, to some extent, in Slovenia (e.g., Berčnik and Devjak, 2018; Tekavc and Vončina, 2023), the specific focus on parental involvement in mathematics education within the Slovenian context remains underexplored. Despite growing recognition of the pivotal role parental attitudes play in shaping children's mathematical experiences, limited attention has been given to understanding how these attitudes influence parental engagement in both school-based and everyday mathematical activities.

Most existing research examines parental attitudes towards mathematics as a general concept, often failing to distinguish between formal, school-related mathematics and informal, everyday mathematical contexts. This distinction is crucial, since parents' engagement strategies, confidence levels, and perceptions can vary significantly across these domains (Civil, 2001). While a few studies have indirectly addressed this perspective (e.g., Antolin Drešar and Lipovec, 2017; Kastelic, 2016), a comprehensive understanding of how parental attitudes influence engagement in these distinct settings is still lacking.

This study seeks to address this gap by examining the relationship between parents' attitudes towards mathematics—encompassing both school-based and everyday contexts—and their involvement in their children's education. By adopting this dual perspective, the research aims to provide valuable insights into how parental attitudes shape various forms of support, including homework assistance, test preparation, and participation in informal mathematical activities.

## **Methodology**

### *Research Design*

This study employed a descriptive and causal-nonexperimental research design to examine the relationships between parents' attitudes towards mathematics and their involvement in both school-based and everyday mathematical activities. A survey questionnaire was used to collect data, enabling an efficient and practical exploration of various dimensions of parental involvement and attitudes.

The study was guided by the following research questions:

1. What are parents' attitudes towards school mathematics and everyday mathematics?
2. How do parents' attitudes towards school mathematics and everyday mathematics relate to their involvement in school-related mathematics activities?
3. What is the relationship between parents' attitudes towards school mathematics and everyday mathematics and their participation in non-school mathematical activities?

By addressing these questions, the research design aimed to uncover significant patterns and relationships that contribute to understanding parental involvement in mathematics education.

### *Sample Description*

A total of 245 parents participated in the study, reflecting a non-random sample. The majority (72.7%) were female, with males comprising 27.3%, consistent with trends of greater maternal involvement in school-related matters. Fathers' participation, however, added valuable insights.

Participants' ages ranged across five categories, with 67.3% in the 41–50 age group, followed by 25.7% in the 31–40 age group. The remaining groups (25–30 and 51–60) each accounted for 6% or less, while one participant was in the 61–70 age range. This distribution aligns with typical parenting ages for middle school children.

Educational qualifications were categorized into three levels: below level 5 (12.7%), level 5 or 6 (45.7%), and level 7 or higher (41.6%). This diverse educational background provides a rich context for examining variations in parental engagement and attitudes toward mathematics.

Parents reported on their children's grade levels and mathematics achievement, offering additional context for parental involvement. The sample included students from 6th, 7th, and 8th grades, with fewer ninth-grade students because of logistical constraints in questionnaire distribution. The analysis focused primarily on the first child reported by parents, since preliminary results indicated no significant differences across siblings.

Parents also reported their children's mathematics grades from the previous school year, offering additional context for understanding parental involvement. The highest proportion of students achieved a grade of 5 (39.9%), followed by those who

received a grade of 4 (33.7%). The grade distribution varied slightly by grade level, with eighth-grade students more frequently receiving a grade of 4 than one of 5.

### *Data Collection*

A dual-mode data collection approach combined paper-based surveys at two primary schools in central Slovenia and online questionnaires distributed via email networks. This strategy enhanced accessibility and participation, yielding 245 completed surveys (177 paper-based and 68 online).

The final version comprised twenty-eight items across four sections. The Demographic Information section collected data on parents' age, sex, educational background, number of children, and their child's mathematics grade. The Parental Attitudes Toward Mathematics section (2 items,  $\alpha = 0.52$ ) measured attitudes toward school mathematics (e.g., "How do you feel about the mathematics your child learns in school?") and everyday mathematics (e.g., "How do you feel about using mathematics in daily life?"). The Parental Involvement in School Mathematics section (3 items,  $\alpha = 0.81$ ) assessed parental assistance with homework, test preparation, and additional support in mathematics compared to other subjects. The Parental Involvement in Non-School Mathematics section (2 items,  $\alpha = 0.80$ ) captured parental engagement in mathematical activities outside school settings. Responses were recorded using 4-point Likert scales.

Reliability analysis based on pilot study data ( $N = 31$ ) indicated good internal consistency for both school mathematics involvement ( $\alpha = 0.81$ ) and non-school mathematics involvement ( $\alpha = 0.80$ ). The attitude scale had moderate reliability ( $\alpha = 0.52$ ), likely reflecting the distinction between perceptions of school-based and everyday mathematics. Future research could refine this scale by incorporating additional items to improve consistency.

### *Data Analysis*

Data were processed using SPSS. The chi-square ( $\chi^2$ ) test was employed to identify significant relationships between parental attitudes and their involvement in school-based and everyday mathematical activities. This analytical approach enabled the detection of statistically significant patterns, providing a foundation for the study's key findings.

## Results

### *Overview of Parental Attitudes Towards Mathematics*

We analysed parents' attitudes towards mathematics, examining their perspectives on both school-based mathematics and its application in everyday life. Table 1 summarizes the distribution of these attitudes.

**Table 1**

*Distribution of Parents' Attitudes Towards Mathematics*

Attitude	School Mathematics	Everyday Mathematics
Strongly Dislike	9 (3.7%)	7 (2.9%)
Dislike	39 (15.9%)	26 (10.6%)
Neutral	156 (63.7%)	146 (59.6%)
Strongly Favour	41 (16.7%)	66 (26.9%)
Total	245 (100%)	245 (100%)

Most parents reported neutral attitudes towards both school mathematics (63.7%) and everyday mathematics (59.6%). However, 26.9% of parents strongly favoured everyday mathematics, compared to only 16.7% for school mathematics. Fewer parents expressed negative attitudes towards everyday mathematics (10.6%) than school mathematics (15.9%).

These findings suggest that parents generally hold more favourable attitudes towards the practical application of mathematics in everyday life than towards its academic counterpart. The results underscore the importance of context in shaping perceptions of mathematics. Parents value mathematics more when it has clear, tangible applications, which may have implications for strategies to enhance parental engagement in mathematics education.

As a crucial aspect of our study, we examined parental involvement in mathematics education relative to their attitudes towards the subject. For analysis, we grouped responses indicating *strongly dislike* and *dislike* as “negative attitudes,” and *neutral* and *strongly favour* as “positive attitudes.”

### *Parental Involvement in School Mathematics Based on Attitudes Towards School Mathematics*

We examined parental involvement in school mathematics in relation to their attitudes, focusing on assistance with schoolwork, test preparation, and additional



support in mathematics compared to other subjects. Firstly, we will present findings on parental involvement in school mathematics in terms of their attitudes towards school mathematics (Table 2).

**Table 2**

*Parental Engagement in School Mathematics by Attitudes Towards School Mathematics*

Parents' Attitude Towards School Mathematics								
		Negative Attitude		Positive Attitude		Total		$\chi^2$ (P-value)
		f	f %	f	f %	f	f %	
Assistance in School Mathematics	Do Not Assist	31	64.6	155	78.7	186	75.9	4.195 (0.041)
	Assist	17	35.4	42	21.3	59	24.1	
	Total	48	100.0	197	100.0	245	100.0	
Assistance in Preparation for Math Tests	Do Not Assist	29	60.4	135	68.5	164	66.9	1.147 (0.284)
	Assist	19	39.6	62	31.5	81	33.1	
	Total	48	100.0	197	100.0	245	100.0	
Assistance in Mathematics More Than in Other Subjects	Do Not Assist	33	68.8	148	75.1	181	73.9	0.813 (0.367)
	Assist	15	31.3	49	24.9	64	26.1	
	Total	48	100.0	197	100.0	245	100.0	

The findings indicate that most parents (75.9%) do not assist their children with school mathematics, regardless of their attitudes towards the subject. However, parents with a negative attitude towards school mathematics were more likely to provide assistance (35.4%) compared to those with a positive attitude (21.3%), a difference that is statistically significant ( $p = 0.041$ ). This suggests that parents who struggle with or dislike school mathematics may feel a greater need to support their children, possibly owing to concerns about their child's difficulties or their own negative experiences with mathematics.

In contrast, for test preparation and additional support in mathematics compared to other subjects, the differences between parental groups were not statistically significant ( $p > 0.05$ ). While it might have been expected that parents with negative attitudes towards school mathematics would be more engaged in test preparation, driven by concerns over their child's struggles or their own difficulties with the subject, this was surprisingly not observed in the data. One explanation is that test preparation may be influenced more by external factors, such as school expectations,

teacher recommendations, or standardized assessment practices, rather than by parental attitudes alone. Additionally, parents may perceive mathematics as equally important as other subjects, leading to similar levels of support across disciplines, regardless of their attitudes towards the subject.

*Parental Involvement in School Mathematics Based on Attitudes Towards Everyday Mathematics*

Our study also examined the connection between parents' attitudes towards everyday mathematics and their involvement in school-related mathematics activities.

**Table 3**

*Parental Engagement in School Mathematics by Attitudes Towards Everyday Mathematics*

		Parents' Attitude Towards Everyday Mathematics						
		Negative Attitude		Positive Attitude		Total		$\chi^2$ (P-value)
		f	f %	f	f %	f	f %	
Assistance in School Mathematics	Do Not Assist	23	69.7	163	76.9	186	75.9	0.807 (0.369)
	Assist	10	30.3	49	23.1	59	24.1	
	Total	33	100.0	212	100.0	245	100.0	
Assistance in Preparation for Math Tests	Do Not Assist	20	60.6	144	67.9	164	66.9	0.691 (0.406)
	Assist	13	39.4	68	32.1	81	33.1	
	Total	33	100.0	212	100.0	245	100.0	
Assistance in Mathematics More Than in Other Subjects	Do Not Assist	21	63.6	160	75.5	181	73.9	2.073 (0.150)
	Assist	12	36.4	52	24.5	64	26.1	
	Total	33	100.0	212	100.0	245	100.0	

The results indicate that parents with negative attitudes towards everyday mathematics were slightly more likely to assist their children with school-related mathematics activities, such as homework or test preparation, compared to those with positive attitudes. However, these differences were not statistically significant ( $p > 0.05$ ), suggesting that attitudes towards the practical use of mathematics in daily life do not strongly influence parental engagement in their children's school-based mathematics learning.

One explanation for this finding is that parents may perceive everyday mathematics and school mathematics as distinct domains, each requiring different forms of engagement. While everyday mathematics involves intuitive, applied skills used in

daily activities, school mathematics follows a structured, formal curriculum that may not directly relate to how parents use math in their daily lives. As a result, even parents who lack confidence or interest in applying mathematics in real-world contexts may still recognize the importance of supporting their child's school-based learning.

#### *Parental Involvement in Non-School Mathematics Activities Based on Attitude*

Finally, we explored the potential connection between parental engagement in non-school math activities and their attitudes towards both school mathematics and everyday mathematics.

**Table 4**

*Parental Involvement in Non-School Mathematics Activities by Their Attitude Towards Mathematics*

Parents' Attitude Towards School Mathematics								
		Negative Attitude		Positive Attitude		Total		$\chi^2$ (P-value)
		f	f %	f	f %	f	f %	
Non-School	No	31	64.6	148	75.1	179	73.1	
Math Activities	Yes	17	35.4	49	24.9	66	26.9	2.180 (0.140)
	Total	48	100.0	197	100.0	245	100.0	
Parental Attitude Towards Everyday Mathematics								
		Negative Attitude		Positive Attitude		Total		4.254 (0.039)
		f	f %	f	f %	f	f %	
Non-School	No	29	87.9	150	70.8	179	73.1	
Math Activities	Yes	4	12.1	62	29.2	66	26.9	
	Total	33	100.0	212	100.0	245	100.0	

No significant differences were observed between attitudes towards school mathematics and parental involvement in non-school mathematical activities ( $p = 0.140$ ), suggesting that parental perceptions of school mathematics do not strongly influence their engagement in informal mathematical activities with their children. However, a significant difference was found for attitudes towards everyday mathematics and their involvement in non-school mathematical activities ( $p = 0.039$ ). Parents with positive attitudes towards everyday mathematics were more likely to engage in non-school mathematical activities (29.2%) compared to those with negative attitudes (12.1%). This suggests that parents who value mathematics in daily life are more inclined to incorporate mathematical concepts into informal learning experiences, such as games, practical tasks, or real-world problem-solving

activities with their children. The contrast between school and everyday mathematics attitudes highlights an important distinction in parental engagement. While school mathematics is often viewed as an academic requirement, everyday mathematics is more connected to practical, real-life applications. As a result, parents who appreciate the relevance of mathematics in daily life may be more motivated to integrate it into informal learning opportunities, fostering a more natural and engaging approach to mathematical exploration outside the classroom.

## **Discussion**

This study provides insights into parents' attitudes towards mathematics in both school and everyday contexts, as well as their involvement in their children's mathematical education. A notable finding is the predominance of neutral attitudes towards school mathematics, with only 16.7% of parents expressing strong positive attitudes. This neutrality may reflect past educational experiences, indicating limited enthusiasm for formal mathematics education (Ingram and Meaney, 2021). In contrast, a higher proportion of parents (26.9%) strongly favour the practical application of mathematics in everyday life, suggesting a more favourable disposition towards its real-world utility. These findings align with previous research emphasizing the context-dependent nature of parental attitudes towards mathematics (Fan and Chen, 2001).

Despite their attitudes, most parents do not actively assist their children with school mathematics, a finding consistent with Berčnik and Devjak (2018), who noted a discrepancy between teachers' and parents' perceptions of responsibility in education. While their study focused on general parental involvement rather than specifically on mathematics, it emphasizes the crucial role of teacher-led initiatives to engage parents in mathematics. Vidić, Klasnić, and Đuranović (2022) highlighted the role of teacher support and enthusiasm in fostering student confidence and reducing mathematics anxiety, emphasizing the value of teacher-parent collaboration. Another explanation for limited parental involvement could be that parents perceive no need to assist if their children are not struggling, as noted by Antolin and Lipovec (2017).

Interestingly, our study shows that parents with negative attitudes towards school mathematics are slightly more likely to assist their children compared to those with positive attitudes. This suggests that parental involvement may be driven more by concern over their children's performance than by a personal affinity for the subject.

Hoover-Dempsey and Sandler (1997) similarly noted that parental involvement is often motivated by concern for academic success rather than by personal attitudes towards the subject. Consistent with this, research by Simmons et al. (2024) found that children of parents with negative attitudes towards mathematics tend to have lower attainment in the subject, particularly in early schooling, which may explain the greater need for parental assistance.

Parental involvement patterns remained consistent across specific types of assistance, such as helping with math tests or providing more support in mathematics than in other subjects. Regardless of their attitude towards school mathematics, most parents were unlikely to provide targeted assistance in these areas.

The study also reveals that parents' positive attitudes towards everyday mathematics did not significantly influence their involvement in school-related math activities. While parents may appreciate the practical aspects of mathematics, this does not necessarily lead to greater engagement in formal school math. However, there was a significant relationship between parents' attitudes towards everyday mathematics and their involvement in non-school math activities. Parents with a positive attitude towards everyday mathematics were significantly more likely to engage in non-school math activities, suggesting that an appreciation for the real-world relevance of math fosters a positive mathematical environment at home. This aligns with Murphy et al. (2023), who emphasized the importance of practical applications in shaping positive parental attitudes and engagement. Similar findings by Antolin and Lipovec (2017) underscore the importance of integrating mathematics into daily life. Furthermore, Abdullah (2024) emphasizes how strong family dynamics enhance children's academic engagement. Collectively, these findings suggest that positive attitudes towards everyday mathematics contribute to a supportive environment that fosters both academic and personal growth.

The results of this study have important implications for educational strategies. The fact that most parents exhibit a neutral attitude towards school mathematics raises concerns about the potential impact on children's learning experiences. Neutral attitudes might lead to reduced enthusiasm for mathematics at home, potentially influencing children's perceptions of its importance.

To address these challenges, we recommend the development of structured workshops or guidance sessions for parents that emphasize fostering positive attitudes toward mathematics (Eccles and Jacobs, 1986; Hoover-Dempsey and Sandler, 1997).

These initiatives could equip parents with practical strategies to support their children's learning while emphasizing the integration of everyday mathematics into home-based activities (Murphy et al., 2023). Importantly, raising awareness about the significance of parental involvement in mathematics should begin in early childhood settings, where educators can actively encourage parents to engage in mathematical interactions with their children. This emphasis should then continue throughout schooling, reinforced by teachers and schools through ongoing communication, parental engagement initiatives, and school-home collaboration strategies.

We stress the need for educators to guide parents in actively supporting their children's mathematical development—not by focusing solely on helping with school mathematics, but rather by emphasizing the importance of engaging in everyday mathematical experiences. While parents should provide assistance with school mathematics only when needed, their primary role should be to foster informal mathematical activities that naturally integrate mathematics into daily life. This includes playing games, involving children in measurement and problem-solving, and creating opportunities to explore mathematical concepts in real-life contexts. By shifting the focus toward the beauty and practical relevance of mathematics, parents can help cultivate a more engaging and positive mathematical environment for their children.

Notably, Slovenia currently lacks nationally coordinated programs specifically aimed at enhancing parental attitudes and engagement in mathematics education. Establishing such programs on a national scale could fill this gap, providing parents with the tools and knowledge needed to create a supportive mathematical environment at home, ultimately contributing to improved student outcomes.

This study has several limitations that should be acknowledged. The relatively small sample size and limited demographic diversity may restrict the generalizability of the findings. Additionally, the reliance on self-reported data from parents introduces the possibility of response bias, since participants may have provided socially desirable answers rather than fully accurate accounts of their attitudes and behaviours.

Another limitation concerns the four-point Likert scale design, which omitted a midpoint option. While this approach aimed to reduce central tendency bias and encourage firmer responses (Chyung et al., 2017), it may have constrained the ability to capture mildly positive attitudes. Research suggests that excluding a neutral category can lead to response polarization (Weijters et al., 2010) but may also mitigate social desirability bias (Garland, 1991). However, the high percentage of

neutral responses in this study suggests that some parents may have been hesitant or ambivalent rather than predominantly positive. Future studies could explore the impact of alternative Likert scale designs, including those with a midpoint option, to determine whether it better differentiates parental attitudes towards school and everyday mathematics.

Despite these limitations, the study offers a novel perspective by distinguishing between parental attitudes towards school-based and everyday mathematics, an often-overlooked distinction in research. By examining how these attitudes influence formal and informal parental engagement, this study provides valuable insights into the nuanced ways parents support their children's mathematical education. Future research could explore the long-term impact of parental attitudes through longitudinal designs or interventions aimed at fostering positive attitudes and behaviours. Expanding research to include diverse samples across socio-economic and cultural contexts could further enrich understanding and applicability.

## **Conclusion**

This study underscores the crucial role of parental attitudes in children's mathematics education and highlights strategies to enhance parental engagement. By addressing both school-based and everyday mathematics, this research provides a nuanced understanding of how parental attitudes influence children's learning environments.

The findings reveal that parental attitudes towards mathematics are complex and multifaceted. While positive attitudes—whether directed at school-based or everyday mathematics—are associated with higher academic performance in children, they do not always translate into active parental involvement in mathematical education. This underscores the need for a deeper exploration of the motivations and barriers influencing parental engagement (Fan and Chen, 2001; Hoover-Dempsey and Sandler, 1997).

A particularly notable finding is the more favourable disposition of parents towards the practical application of mathematics in everyday life compared to formal school mathematics. Despite prevalent neutral attitudes towards school mathematics, parents with negative attitudes were found to be slightly more likely to assist their children, possibly driven by concern about their children's academic performance.

These insights reinforce the need for educational strategies that encourage parental engagement beyond school-based mathematics assistance.

Strengthening home-school collaboration and emphasizing the role of everyday mathematical experiences may help foster more meaningful and sustained parental involvement. Future research should explore targeted interventions to promote positive parental attitudes and investigate how different forms of engagement influence students' long-term mathematical development.

In conclusion, this study highlights the significant role of parental attitudes in shaping engagement in mathematics education. Educational initiatives that connect school mathematics with real-world applications can foster a more supportive and engaging learning environment. These efforts have the potential to enhance children's mathematical outcomes while making the subject more relatable and meaningful for both parents and students. Future research should focus on interventions to promote positive parental attitudes and expand involvement across diverse educational contexts.

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