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Research Paper

A Study of Attitude Towards Mathematics and Its Predictive Influence on Achievement in Mathematics

Dr. Kalyani K.[1]*

ABSTRACT

Mathematics plays a vital role in academic success, yet students exhibit varying attitudes toward the subject, which influence their achievement. This study examines the relationship between attitude toward mathematics and Achievement in Mathematics among secondary school students, considering factors such as gender, school type, medium of instruction, and locality. A descriptive survey method was employed, with a randomly selected sample of 180 students. Data were collected using the Attitude Towards Mathematics Scale (ATMS) and students' mid-term mathematics scores. Statistical analyses, including correlation, t-test, one-way ANOVA, and regression, were applied to examine the data. The findings revealed a moderate positive correlation ($r = 0.365$, $p < 0.01$) between attitude toward mathematics and achievement, suggesting that students with a positive attitude performed better. Significant gender differences were observed, with female students exhibiting a more favourable attitude than males ($p < 0.01$). However, no significant differences were found based on the medium of instruction or locality. School type analysis indicated that students from private unaided schools had the most positive attitudes toward mathematics. Regression analysis confirmed that attitude significantly predicted Achievement in Mathematics ($p < 0.01$).

Keywords: *Attitude towards Mathematics, Achievement in Mathematics, Secondary School Students, Gender, Type of School Management, Locality*

Mathematics is a fundamental subject that plays a important role in students' cognitive development and their future academic and professional success. However, in spite of its importance, students exhibit varying levels of achievement in mathematics, influenced by multiple factors. Among these, attitude towards mathematics has been identified as a key predictor of academic performance (Choudhury & Das, 2012; Wen & Dube, 2022). Attitude towards mathematics encompasses affective, cognitive, and behavioural components, including confidence, enjoyment, perceived usefulness, and anxiety, which collectively shape students' engagement and performance (Di Martino & Zan, 2011).

Results of various Researches show that students with a positive attitude towards mathematics tend to perform better academically. For instance, Choudhury and Das (2012) found that attitude towards mathematics accounted for 15.2% of the variance in mathematics

[1]Guest Faculty, Department of Education, Bangalore University, Jnanabharathi Campus, Bengaluru, Karnataka
*Corresponding Author

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scores, highlighting its significant influence. Similarly, Wen and Dube (2022) emphasized that high confidence and enjoyment positively correlate with better Achievement in Mathematics, while anxiety and negative stereotypes act as barriers to success. Pekrun's (2006) Control-Value Theory of Achievement Emotions also indicates that students' emotional responses to mathematics influence their motivation and academic success.

However, the relationship between attitude towards mathematics and achievement is not uniform across all student groups. Several moderating variables including gender, type of school management, medium of instruction, and locality influence this relationship, making it more complex. While some studies have found no significant gender differences in students' attitudes towards mathematics (Farooq & Shah, 2008), others suggest that female students exhibit a more positive attitude than males (Mahapatra & Sahoo, 2022; Tachie & Mafhenya, 2022). Such variations indicate that sociocultural and educational contexts may shape students' mathematical attitudes differently.

The type of school plays a crucial role in shaping students' attitudes and achievement. Research suggests that students in private and Private-aided schools tend to have more positive attitudes towards mathematics compared to those in government schools, likely due to differences in resources, teaching quality, and learning environments (Mahapatra & Sahoo, 2022; Arya & Shaikh, 2022). Additionally, Mensah, Okyere, and Kuranchie (2013) emphasized that teacher attitudes towards mathematics significantly influence students' attitudes and performance. The impact of school type is further evident in findings by Patil (2024), who reported that government school students demonstrated higher enthusiasm for mathematics compared to private school students.

Similarly, the medium of instruction can influence mathematics learning, as language proficiency plays a role in conceptual understanding. While some studies have suggested that students in English-medium schools outperform those in regional-language schools (Choudhury & Das, 2012), other findings indicate no significant differences (Mahapatra & Sahoo, 2022). The lack of consensus in the literature highlights the need for further research on how language affects students' mathematical attitudes and achievement.

Locality, whether urban or rural, further affects students' access to educational resources and support systems, which in turn shape their attitudes and achievement. While some studies have found no significant differences in attitude based on locality (Mahapatra & Sahoo, 2022), others indicate that urban students, with better access to resources, tend to exhibit more positive attitudes towards mathematics (Wen & Dubé, 2022; Wakhata, Mutarutinya, & Balimuttajjo, 2022). Mazana, Suero Montero, and Olifage (2019) emphasized that disparities in educational infrastructure and exposure to mathematics-related activities could contribute to the rural-urban divide in students' attitudes.

Given the complex interplay of these variables, further research is needed to explore how attitude towards mathematics interacts with gender, school type, medium of instruction, and locality in shaping academic achievement. Understanding these relationships can provide valuable insights into the factors that influence students' engagement and success in mathematics. By identifying key determinants of Achievement in Mathematics, this study aims to contribute to the ongoing discourse on effective teaching strategies, equitable educational policies, and student-centered interventions that foster a positive learning environment.

LITERATURE REVIEW

Theoretical Framework

The relationship between students' attitudes towards mathematics and their academic achievement has been widely studied through various theoretical models. The Control-Value Theory (Pekrun, 2006) suggests that students' emotions about a subject (e.g., enjoyment, anxiety) influence their motivation and achievement. Similarly, the Fennema-Sherman Mathematics Attitudes Model explores how confidence, perceived usefulness, and anxiety shape students' learning outcomes in mathematics. Di Martino & Zan (2011) further emphasize that attitudes towards mathematics act as a bridge between students' beliefs and emotions, affecting their engagement and achievement. Understanding these frameworks helps contextualize how factors such as gender, school type, and medium of instruction impact students' attitudes and achievement in mathematics.

Review of Empirical Studies

1. Attitude and Achievement in Mathematics

Empirical studies suggest that students' attitudes towards mathematics significantly influence their performance. Mahajan (2021) found that students with positive attitudes demonstrated greater persistence and motivation, which translated into higher achievement. Similarly, Choudhury & Das (2012) examined the relationship between students' attitudes, study habits, and Achievement in Mathematics. Their findings revealed a significant positive correlation ($r = 0.509$, $p < 0.05$) between attitude and achievement, indicating that attitude towards mathematics accounts for 15.2% of the variance in mathematics scores. Additionally, Wen & Dubé (2022) highlighted that enjoyment and self-confidence positively correlate with achievement, reinforcing the need for fostering positive attitudes towards mathematics. Mazana, Suero Montero, & Olifage (2019) emphasized that addressing mathematics anxiety and improving students' self-efficacy can enhance performance. These studies highlight the importance of fostering positive mathematical attitudes to enhance student performance.

2. Gender Differences in Mathematics Attitudes

The role of gender in shaping attitudes towards mathematics has been widely debated. While some studies indicate no significant differences, others report that female students tend to have a more positive attitude towards mathematics than males. Farooq & Shah (2008) analyzed Pakistani high school students' attitudes and found no statistically significant gender differences in confidence, perceived usefulness, or perception of mathematics as a male-dominated subject. However, Hwang & Son (2021) used TIMSS 2019 data to show that students' self-confidence, enjoyment, and belief in the value of mathematics positively influenced achievement, with male students exhibiting slightly higher confidence levels than females. Mahapatra & Sahoo (2022) and Tachie & Mafhenya (2022) found that female students in India and South Africa, respectively, demonstrated higher motivation and engagement in mathematics than their male counterparts. These mixed findings suggest that gender-based variations may depend on contextual and cultural factors.

3. Effect of School Type on Mathematics Attitudes

The type of school (government, private -aided, or private) plays a critical role in shaping students' attitudes toward mathematics. Mahapatra & Sahoo (2022) conducted a study in Cuttack District, India, and found that private school students exhibited a significantly better attitude towards mathematics compared to government school students (t-value = 2.4322, p

< 0.05). Similarly, private -aided school students demonstrated more positive attitudes than government school students (t-value = 3.5315, $p < 0.05$). However, no significant difference was found between private -aided and private school students. Mensah, Okyere, & Kuranchie (2013) emphasized that teacher attitudes play a crucial role in shaping students' perceptions of mathematics. Patil (2024) further reported that government school students in Bangalore displayed higher enthusiasm for mathematics than their private school counterparts, suggesting that school culture and teaching practices significantly impact students' attitudes.

4. Impact of Medium of Instruction and Locality on Mathematics Attitudes

Studies examining the role of medium of instruction (English vs. regional language) and locality (urban vs. rural) in shaping students' attitudes toward mathematics have yielded mixed results. Mahapatra & Sahoo (2022) found no significant differences in students' attitudes based on the medium of instruction (t-value = 0.7724, $p > 0.05$), suggesting that language of instruction does not strongly influence students' perceptions of mathematics. Similarly, they reported no significant differences between urban and rural students' attitudes (t-value = 0.4586, $p > 0.05$). However, some qualitative findings suggest that rural students often face challenges related to teacher availability, school infrastructure, and access to additional learning resources, which may indirectly affect their mathematics performance (Wakhata, Mutarutinya, & Balimuttajjo, 2022). Wen & Dubé (2022) highlighted that urban students generally have greater access to educational resources, which can contribute to more positive attitudes towards mathematics. Additionally, Mazana, Suero Montero, & Olifage (2019) stressed the need for digital learning tools to bridge the rural-urban divide in mathematics education.

Need for the Study

Despite extensive research on the relationship between attitudes toward mathematics and achievement, several critical gaps persist that necessitate further exploration. Studies examining gender differences in mathematics attitudes have produced conflicting results, highlighting the need for a deeper understanding of the sociocultural and educational influences on students' engagement with mathematics (Farooq & Shah, 2008; Hwang & Son, 2021; Mahapatra & Sahoo, 2022).

Furthermore, while it is established that the type of school management influences students' attitudes, there is a paucity of research on effective intervention strategies tailored specifically to improving mathematical engagement in government schools, where resource constraints and instructional challenges significantly impact learning outcomes (Mensah, Okyere, & Kuranchie, 2013; Patil, 2024).

Additionally, the role of locality and medium of instruction in shaping students' attitudes towards mathematics remains inconclusive, necessitating a context-specific investigation into the barriers faced by rural students in accessing quality mathematics education (Mazana, Suero Montero, & Olifage, 2019; Wakhata, Mutarutinya, & Balimuttajjo, 2022).

The researcher felt a need to address these gaps due to their profound implications for educational equity and student success. Recognizing that students' attitudes towards mathematics can significantly influence their achievement and future opportunities, this study aims to provide valuable insights that can inform educational policies and teaching practices. By investigating these factors in detail, the research aspires to foster a more

inclusive and supportive learning environment for students from diverse backgrounds, thereby contributing to the broader goal of enhancing mathematics education for all.

Objectives of the Study

The present study was undertaken with the following objectives:

1. To examine the relationship between Attitude towards Mathematics and Achievement in Mathematics among secondary school students.
2. To find out whether the difference in gender, medium of Instruction, Locality and Type of School Management would account for the significant differences in the Attitude towards Mathematics

Hypotheses of the Study

- There is no significant relationship between Attitude towards Mathematics and Achievement in Mathematics.
- There is no significant difference in Attitude towards Mathematics between boys and girls.
- There is no significant difference in Attitude towards Mathematics between students studying in English-medium and Kannada-medium schools.
- There is no significant difference in Attitude towards Mathematics between urban and rural students.
- There is no significant difference in Attitude towards Mathematics among students from different types of school management (government, private-aided, and private unaided).
- Attitude towards mathematics does not significantly predict Achievement in Mathematics.

METHODOLOGY

Research Method

A descriptive survey method was employed to investigate the correlation of attitude towards mathematics and achievement in Mathematics.

Variables of the Study

Major Variables:

- Attitude towards Mathematics.
- Achievement in Mathematics.

Background Variables:

- Gender (Boys and Girls)
- Medium of instruction (Kannada and English),
- Locality (Urban and Rural) and
- Type of school Management (Government, Private aided and Private unaided)

Sampling Technique

A random sampling technique was used to select 180 secondary school students from various schools, ensuring diversity in gender, school type, medium of instruction, and locality.

Tools Used

- **Attitude Towards Mathematics:** ATMS (Attitude Towards Mathematics Scale), developed by Dr. S. C. Gakhar, and Dr. Rajni

- **Achievement in Mathematics*:*** Collected from students' mid-term examination scores.

Statistical Analyses

The following statistical tests were applied:

- **Correlation Analysis:** To assess the relationship between attitude and achievement.
- **t-Test and ANOVA:** To examine differences in achievement across moderating variables.
- **Regression Analysis:** To determine the predictive power of attitude on mathematics on achievement in Mathematics.

Data Analysis and Interpretation

Correlation Analysis

- **Null Hypothesis (H_{01}):**

There is no significant relationship between attitude towards mathematics and Achievement in Mathematics.

Table 1: Correlation Between Attitude Towards Mathematics and Achievement in Mathematics

Variables	N	df	r-value	Significance Level
Attitude Towards Mathematics with Achievement in Mathematics	180	178	**0.365**	**p < 0.01**

- The correlation test shows a moderate positive correlation ($r = 0.365$, $p < 0.01$) between attitude towards mathematics and Achievement in Mathematics.
- Since $p < 0.01$, the null hypothesis is rejected, indicating that students with a higher positive attitude towards mathematics tend to achieve better scores.

Independent Samples t-Test

- **Null Hypothesis (H_{02}):**
- There is no significant difference in attitude towards mathematics between boys and girls.
- There is no significant difference in attitude towards mathematics between students studying in English-medium and Kannada-medium schools.
- There is no significant difference in attitude towards mathematics between urban and rural students.

Table 2: Independent Samples t-Test for Gender, Medium of Instruction, and Locality on Attitude Towards Mathematics

Variable	Group	N	Mean (M)	SD	t-value	p-value
Gender	Boys	76	161.57	22.403	**3.33**	**0.001 (p < 0.01)**
	Girls	104	172.81	22.334		
Medium of Instruction	English	10	159.60	25.118	**1.20**	**0.232 (NS)**
	Kannada	170	168.56	22.836		
Locality	Urban	163	168.60	22.632	**0.97**	**0.336 (NS)**
	Rural	17	162.94	26.338		

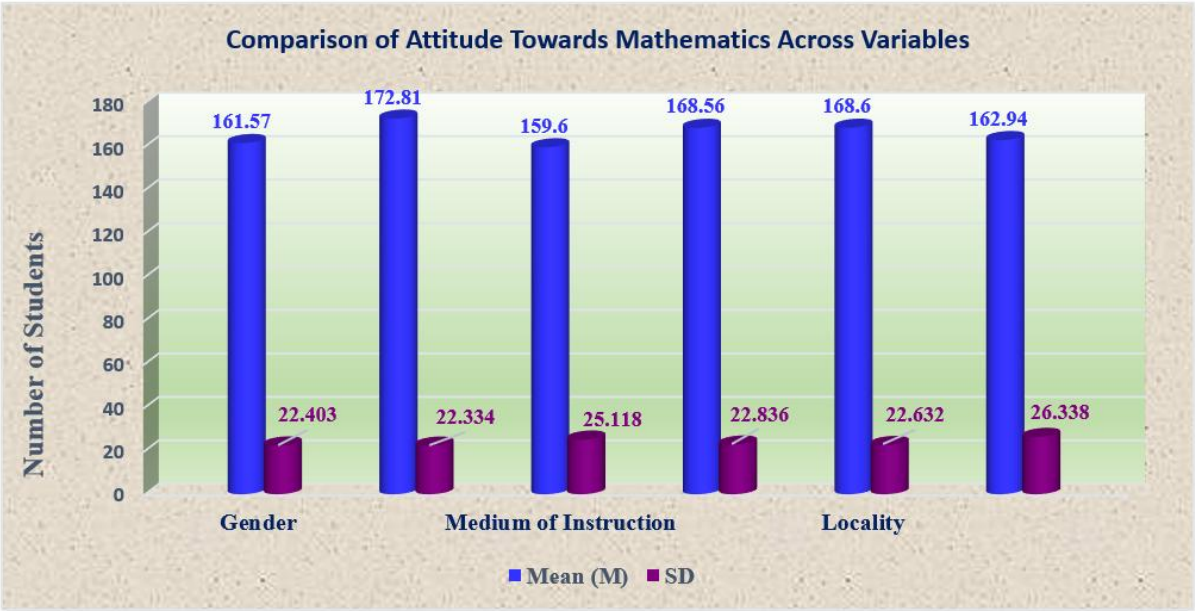

Fig 1: Comparison of Attitude Towards Mathematics across Variables

Gender Differences:

- A significant difference was found in attitude towards mathematics between boys and girls ($t = -3.33$, $p < 0.01$).
- The null hypothesis (H_{02}) is rejected, indicating that gender has a significant effect on students' attitudes towards mathematics.
- Girls ($M = 172.81$) demonstrated a significantly higher attitude towards mathematics than boys ($M = 161.57$), suggesting that female students may be more engaged or motivated in learning mathematics.

Medium of Instruction Differences:

- No significant difference was found in attitude scores between students from English-medium and Kannada-medium schools ($t = -1.20$, $p > 0.05$, NS).
- The null hypothesis (H_{03}) is retained, meaning that medium of instruction does not significantly influence students' attitudes towards mathematics.
- This suggests that language proficiency may not be a key determinant of students' perceptions of mathematics.

Locality Differences:

- No significant difference was observed in attitudes towards mathematics between urban and rural students ($t = 0.97$, $p > 0.05$, NS).
- The null hypothesis (H_{04}) is retained, confirming that students' locality does not significantly impact their attitude towards mathematics.
- This indicates that despite potential disparities in resources and learning environments, urban and rural students exhibit similar levels of motivation and engagement with mathematics.

One-Way ANOVA

- **Null Hypothesis (H_{05}):**

There is no significant difference in attitude towards mathematics among students from different types of school management (government, Private-aided, and private unaided).

Table 3: One-Way ANOVA for Type of School Management and Attitude Towards Mathematics

Variables	Sources of Variation	DF	Sum of Squares	Mean Squares	F-Value	Significance Level
Attitude Towards Mathematics	Between Group	2	2613.775	1306.888	4.67	$p < 0.05$
	Within Group	177	15240.816	130.263		

Table 4: Pairwise Comparison of School Type on Attitude Towards Mathematics Using Tukey HSD Post-hoc Test

School Type Comparison	Mean Difference	Standard Error	Significance
Private Unaided vs. Government	6.053	4.629	NS ($p > 0.05$)
Private Unaided vs. Private - Aided	11.451	3.999	$p < 0.05$ (Significant)
Government vs. Private-Aided	5.399	3.943	NS ($p > 0.05$)

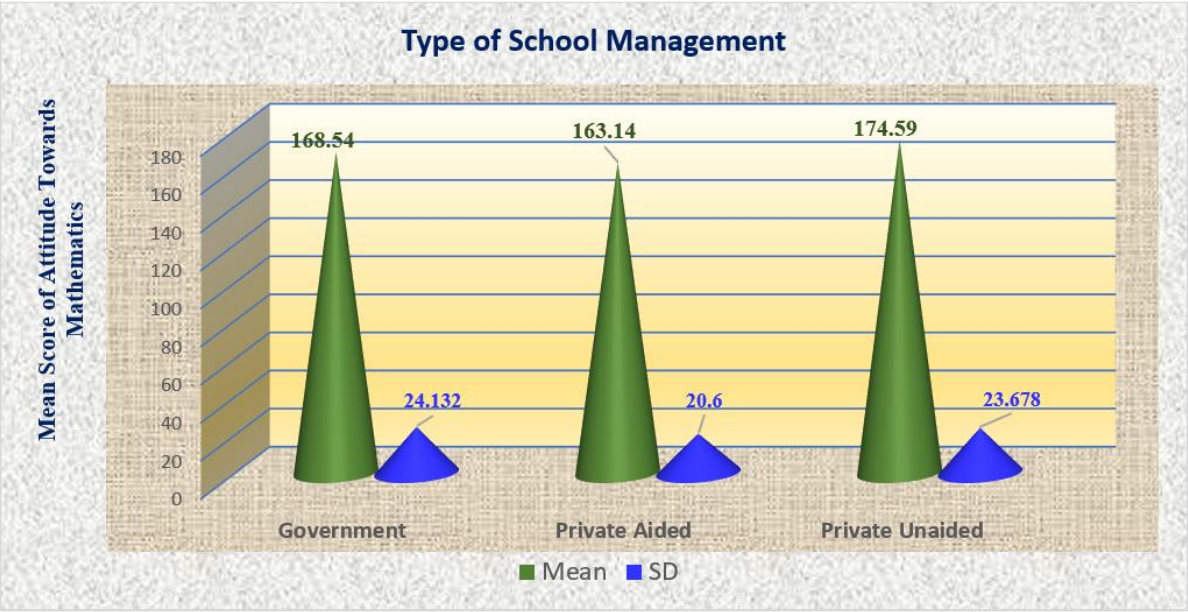

Fig 2- Comparison of Means score of Attitude Towards Mathematics among secondary School students studying in different types of school management

- The obtained F-value (4.67, $p < 0.05$) indicates a significant difference in students' attitude towards mathematics based on school type.

- Since $p < 0.05$, the null hypothesis is rejected, confirming that school type significantly affects students' attitudes towards mathematics.
- Further, the Post hoc revealed that students in private unaided schools ($M = 174.59$) had significantly higher attitudes towards mathematics compared to students in private -aided schools ($M = 163.14$, $p < 0.05$).
- However, no significant differences were observed between government and private -aided school students, nor between private unaided and government school students ($p > 0.05$, NS).
- This suggests that private unaided school students generally have a more positive attitude towards mathematics, particularly in comparison to private -aided school students.

Regression Analysis

- **Null Hypothesis (H_{06}):**

Attitude towards mathematics does not significantly predict Achievement in Mathematics.

Table 5: Model Summary for Regression Analysis

Model	R^2	Adjusted R^2	F-value	Significance (p-value)
Attitude Towards Mathematics	0.150	0.131	7.744	**$p < 0.01$** (Significant)

Table 6: Regression Coefficients

Predictor	B (Unstandardized Coeff.)	β (Standardized Coeff.)	t-value	Significance (p-value)
Constant	17.848	-	1.411	0.160 (NS)
Attitude Towards Mathematics	0.352	0.395	5.443	$p < 0.01$ (Significant)

- The regression model was statistically significant ($F = 7.744$, $p < 0.05$), indicating that attitude towards mathematics significantly predicts Achievement in Mathematics.
- Since $p < 0.01$, the null hypothesis is rejected, confirming that attitude towards mathematics plays a significant role in predicting achievement scores.

DISCUSSION

The present study investigated the relationship between Attitude towards Mathematics and Achievement in Mathematics while examining the moderating effects of Gender, Medium of Instruction, Locality, and Type of School Management.

Attitude Towards Mathematics and Academic Achievement

The study found a moderate positive correlation ($r = 0.365$, $p < 0.01$) between attitude towards mathematics and achievement, indicating that students with a more positive attitude tend to perform better in mathematics. This aligns with previous studies, where researchers found that confidence, enjoyment, and perceived usefulness of mathematics are strongly linked to achievement (Choudhury & Das, 2012; Wen & Dube, 2022; Mazana, Suero Montero, & Olifage, 2019). The regression analysis further reassured this relationship, with attitude towards mathematics emerging as a significant predictor of achievement ($\beta = 0.395$, $p < 0.01$), explaining 15% of the variance ($R^2 = 0.150$). These results support the Control-Value Theory of Achievement Emotions (Pekrun, 2006), which suggests that students'

emotions, beliefs, and self-perceptions about a subject directly influence their academic motivation and performance.

The findings underscore the importance of fostering positive attitudes towards mathematics through pedagogical interventions such as student-centered learning, collaborative problem-solving, and the use of technology-enhanced instruction. Schools must prioritize initiatives that enhance student confidence and engagement in mathematics to improve learning outcomes (Di Martino & Zan, 2011).

Gender Differences in Attitude Towards Mathematics

The t-test results revealed a significant gender difference in students' attitudes, with girls ($M = 172.81$) scoring higher than boys ($M = 161.57$, $t = -3.33$, $p < 0.01$). This finding aligns with Mahapatra & Sahoo (2022) and Tachie & Mafhenya (2022), who reported that female students often exhibit more positive attitudes than their male counterparts. However, it contradicts earlier studies, such as Farooq & Shah (2008), which found no significant gender differences in mathematics attitudes.

These inconsistencies suggest that sociocultural and institutional factors may influence gender-based attitudes towards mathematics. Research indicates that in some educational settings, girls receive more encouragement to excel academically, whereas in others, traditional gender stereotypes persist, affecting their perceptions of mathematical ability (Hwang & Son, 2021). This finding reinforces the need for gender-sensitive pedagogical interventions that promote equity in mathematics education, such as inclusive curriculum development, mentorship programs, and targeted motivation strategies for male students.

Influence of Medium of Instruction and Locality

The analysis showed no significant differences in attitude scores based on medium of instruction ($t = -1.20$, $p > 0.05$) or locality ($t = 0.97$, $p > 0.05$). These results indicate that, within this study's sample, the language of instruction (English vs. Kannada) and school location (urban vs. rural) do not significantly influence students' attitudes towards mathematics. This aligns with Mahapatra & Sahoo (2022) but contrasts with studies such as Choudhury & Das (2012) and Wakhata, Mutarutinya, & Balimuttajjo (2022), which emphasized that language proficiency, school infrastructure, and access to learning resources play a role in shaping students' academic perceptions.

This may be due to the fact that mathematics is a universal language, where numerical reasoning and problem-solving skills have a greater impact on learning outcomes than linguistic proficiency (Di Martino & Zan, 2011). However, educational disparities in rural areas may still affect learning experiences, as previous research has shown that teacher availability, parental support, and access to digital learning resources play a crucial role in shaping student engagement (Wen & Dubé, 2022; Mazana, Suero Montero, & Olifage, 2019). Future research should consider these additional factors to gain deeper insights into the role of language and locality in mathematics education.

Effect of School Type on Attitude Towards Mathematics

The ANOVA results revealed a significant difference in students' attitudes based on school type ($F = 4.67$, $p < 0.05$), with private unaided school students ($M = 174.59$) scoring higher than government ($M = 168.54$) and private -aided ($M = 163.14$) students. This finding supports Mahapatra & Sahoo (2022), who reported that students in private schools tend to

have more positive attitudes towards mathematics due to better infrastructure, teacher quality, and resource availability.

The lack of significant differences between government and private -aided schools suggests that factors such as classroom engagement, teacher effectiveness, and curriculum implementation may be more critical in shaping students' attitudes than just funding differences (Mensah, Okyere, & Kuranchie, 2013). The findings call for a re-evaluation of instructional practices in public schools, emphasizing teacher training, curriculum improvements, and investment in digital learning technologies to bridge the public-private education gap.

Implications for Mathematics Education

- Since attitude significantly predicts achievement, educators should create positive learning environments that enhance students' confidence in mathematics.
- Active learning strategies such as problem-based learning, gamification, and real-world applications of mathematics should be integrated into the curriculum to improve engagement.
- Given that girls exhibited a more positive attitude towards mathematics than boys, targeted interventions should be designed to motivate male students and encourage their engagement with the subject.
- Schools should implement gender-responsive teaching practices that challenge traditional stereotypes and promote equity in STEM education (Hwang & Son, 2021).
- The lack of significant effects of medium of instruction and locality suggests that mathematics education policies should focus on teacher training and resource allocation rather than language policies.
- Equitable distribution of learning resources between rural and urban schools is essential to ensure all students have equal opportunities to develop a positive attitude towards mathematics (Mazana, Suero Montero, & Olifage, 2019).
- Since students in private unaided schools demonstrated the highest attitudes towards mathematics, bridging the gap between public and private education is crucial. Government schools must improve teacher motivation, incorporate technology in classrooms, and design student-centered learning approaches (Patil, 2024).

CONCLUSION

This study highlights the significant role of students' attitudes towards mathematics in shaping their academic achievement. A positive attitude, characterized by confidence and engagement, emerged as a key predictor of success, underscoring the need for strategies that foster mathematical motivation. While gender differences were evident, with girls displaying more positive attitudes than boys, medium of instruction and locality had no significant impact, suggesting that conceptual understanding in mathematics transcends linguistic barriers. Differences in attitudes across school types emphasize the importance of resource availability, teaching quality, and learning environments.

The findings call for student-centered teaching approaches, equitable access to resources, and teacher training programs that enhance engagement and learning outcomes. Future research should explore longitudinal and intervention-based studies to better understand the evolving impact of attitudes on achievement in mathematics. Strengthening students'

mathematical confidence and ensuring inclusive, high-quality education remains imperative for fostering long-term success in the subject.

REFERENCES

Arya, G., & Shaikh, A. (2022). Effective attitude of secondary school students towards mathematics. ERJ Educreator Research Journal, 9(3), 158-165.

Choudhury, R., & Das, D. K. (2012). Influence of attitude towards mathematics and study habit on the achievement in mathematics at the secondary stage. International Journal of Engineering Research and Applications (IJERA), 2(6), 192-196.

Di Martino, P., & Zan, R. (2011). Attitude towards mathematics: A bridge between beliefs and emotions. ZDM – The International Journal on Mathematics Education, 43(4), 471-482. https://doi.org/10.1007/s11858-011-0309-6

Farooq, M. S., & Shah, S. Z. U. (2008). Students' attitude towards mathematics. Pakistan Economic and Social Review, 46(1), 75-83.

Hwang, J., & Son, M. (2021). Gender differences in mathematics attitudes: A comparative study. International Journal of STEM Education, 8(2), 1-12.

Ma, X., & Xu, J. (2004). Determining the causal ordering between attitude towards mathematics and achievement in mathematics. American Journal of Education, 110(3), 256-280.

Mahajan, R. (2021). Attitude and perception towards mathematics: A study of school students. Industry and Academic Research Review, 2(7), 1-15.

Mahapatra, D., & Sahoo, S. S. (2022). Students' attitude towards mathematics: A case study of secondary school students. International Journal for Research Trends and Innovation (IJRTI), 7(7), 1079-1086.

Mazana, Y. M., Suero Montero, C., & Olifage, C. R. (2019). Investigating students' attitude towards learning mathematics. International Electronic Journal of Mathematics Education, 14(1), 207-231.

Mensah, J. K., Okyere, M., & Kuranchie, A. (2013). Student attitude towards mathematics and performance: Does the teacher attitude matter? Journal of Education and Practice, 4(3), 132-139. https://www.iiste.org

Patil, S. (2024). Exploring attitude towards learning mathematics of secondary school students. Sri Sarvajna College of Education Journal, 8(2), 1-10.

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. Educational Psychology Review, 18(4), 315-341.

Sarma, M., & Rabha, M. (2021). An investigation on attitude towards learning mathematics among higher secondary school students. Psychology and Education, 58(2), 6393-6398. https://www.psychologyandeducation.net/

Tachie, S. A., & Mafhenya, M. (2022). The influence of senior secondary school learners' attitudes towards mathematics on their performance in selected rural secondary schools. Journal of Studies in Social Sciences and Humanities, 8(1), 54-70.

Wakhata, R., Mutarutinya, V., & Balimuttajjo, S. (2022). Secondary school students' attitude towards mathematics word problems. Humanities and Social Sciences Communications, 9(444), 1-12. https://doi.org/10.1057/s41599-022-01449-1

Wen, L., & Dubé, A. K. (2022). Mathematics attitudes and Achievement in Mathematics. Journal of Educational Research, 115(3), 314-323.

Yasar, M. (2016). High school students' attitudes towards mathematics. Eurasia Journal of Mathematics, Science and Technology Education, 12(4), 931-945

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