Proceedings of International Conference on Islamic Education (ICIED)
Building an Inclusive and Sustainable Educational System
Volume 11, 2026 (p-ISSN 2477-3638 / e-ISSN 2613-9804)

Analysis of Factors Influencing Mathematics Anxiety Levels Among Elementary School Students: An Ordinal Logistic Regression Analysis

Redi Gunawan[1], Endang Setyowati Mas Ula[2], Azwar Anas[3], Hikma Kusnanda Hidayah[4], Zumrotus Saadah[5]

Correspondence:
250108220003@student-uin.malang.ac.id

Affiliation:
Master Program in Mathematics Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia[1]
250108220003@student-uin.malang.ac.id

Master Program in Mathematics Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia[2]
250108220002@student-uin.malang.ac.id

Master Program in Mathematics Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia[3]
250108220007@student-uin.malang.ac.id

Master Program in Mathematics Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia4
250108220011@student-uin.malang.ac.id

Master Program in Mathematics Education, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia[5]
240108220002@student-uin.malang.ac.id

Abstract
Mathematics anxiety poses a pervasive psychological barrier among elementary school students, however, empirical studies that simultaneously map its internal and external determinants at this foundational education level remain limited. This study aims to analyze the effects of mathematics self-efficacy, mathematics learning motivation, parental support, and teacher teaching style on mathematics anxiety levels among elementary school students. A quantitative descriptive design was employed, involving 100 upper grade elementary school students in Cirebon Regency, selected via purposive sampling. Data were collected using a closed-ended 5 point Likert scale questionnaire, validated and tested for reliability, and subsequently analyzed using multicollinearity diagnostics, the Test of Parallel Lines, and ordinal logistic regression. Model fitting tests demonstrated a statistically significant overall effect ($X^2 = 20.178; df = 4; p = 0.0005$) with a Nagelkerke R^2 of 0.206. Partial hypothesis testing revealed that mathematics self-efficacy had a significant negative effect ($p = 0.012$), whereas mathematics learning motivation exhibited a significant positive effect ($p = 0.005$); parental support and teacher teaching style showed no significant effects. These findings indicate that fostering mathematics self-efficacy from an early age is vital for mitigating anxiety, while high learning motivation must be balanced with effective expectation management to prevent it from exacerbating psychological distress.

Keywords:
Math anxiety; Self-efficacy; Learning motivation; Ordinal logistic regression; Elementary school

A. PENDAHULUAN

Elementary school mathematics education is fundamentally designed to establish a solid groundwork for logical reasoning, problem-solving, and basic numeracy literacy. Under ideal educational conditions, the instructional process must harmoniously balance cognitive achievement with the enhancement of students' affective domains (Amaludin & Septiriadi, 2021). Modern curricular frameworks mandate that mathematics should not be treated as a mere rote transmission of formulas, but rather

as the cultivation of a meaningful, logical mindset centered on the psychological well-being of learners (Fahlevi, 2022).

Internally, ideal educational expectations require elementary school students to possess high self-efficacy and strong intrinsic motivation when confronting numerical tasks. Students with well-developed self-regulatory mechanisms tend to view mathematical challenges as engaging exploratory opportunities rather than intimidating academic burdens (Lestari & Duryati, 2021). When mathematics self-efficacy is firmly anchored during early childhood, learners develop emotional resilience to cope with the complexity of word problems and abstract arithmetic operations (Ramirez et al., 2021).

Beyond internal factors, synergistic social support spanning both the home and school environments constitutes a vital pillar in fostering a humanistic learning climate. At school, teachers are expected to implement interactive, communicative, and child-friendly instructional strategies (Agustin & Rindaningsih, 2022). In the domestic sphere, parents ideally provide adequate learning facilities alongside supportive emotional scaffolding free from coercive pressure (Zuo et al., 2025). Such harmonious collaboration between supportive parents and approachable educators can effectively prevent affective distress in young learners.

Furthermore, 21st-century educational ideals emphasize integrating mental wellness principles into national curriculum designs. Elementary institutions are encouraged to actively monitor students' psychological health throughout the learning process (Fauziyah & Rahmawati, 2023). Through a psychologically supportive curriculum, students can explore mathematical concepts deeply via deep learning models that nurture curiosity without triggering neurological tension (Kholid et al., 2025).

However, empirical realities present a sharp contrast to these ideal standards. The phenomenon of mathematics anxiety (*math anxiety*) remains a widespread psychological impediment experienced by numerous elementary school students locally and globally (Carey et al., 2020). Many young learners report acute feelings of panic, tension, and helplessness as soon as mathematics instruction commences or when faced with unannounced quizzes (Tsaqila et al., 2023).

From a socio-pedagogical standpoint, math anxiety in elementary-aged children frequently manifests through somatic symptoms and avoidance behaviors. Students regularly complain of headaches, nausea, or cold sweats prior to math classes (Sudarto et al., 2025). Driven by fear, students tend to delay completing numerical tasks, leading to heightened academic procrastination that directly disrupts working memory function (Meli & Rangkuti, 2022).

This issue is further aggravated by a lack of constructive social support within the family, where parents often treat mathematics as the sole benchmark of intellectual ability. Many parents adopt authoritarian parenting styles and enforce excessively high grade expectations without empathetic guidance (Zuo et al., 2025). When children experience difficulties with arithmetic operations like fractions, they are frequently met with verbal reprimands or parental anger (Gampu & Lumbantobing, 2025), cumulatively transforming their perception of mathematics into a source of emotional trauma.

Concurrently, classroom instructional environments remain dominated by rigid conventional methods and intimidating teaching styles. Many elementary teachers lack awareness that harsh expressions, rushed explanations, or punitive feedback serve as major triggers for student anxiety (Ambarita & Gampu, 2025). An overemphasis on quick formula memorization over deep conceptual understanding induces pressure and alienation (Kholid & Puspitasari, 2025), leaving slower-calculating students feeling publicly humiliated in front of their peers (Anggraeni et al., 2024).

These ground-level realities highlight a substantial discrepancy between educational psychology theory and empirical practice. Theoretically, humanistic learning theory posits that optimal cognitive success can only be realized when students' affective and safety needs are met first (Anita, 2020). In practice, elementary mathematics instruction frequently neglects emotional readiness in pursuit of cognitive targets (Umu & Maharani, 2023).

Prior empirical research exhibits gaps, primarily because studies mapping math anxiety factors remain disproportionately focused on secondary or tertiary education levels (Sari et al., 2023). Comprehensive investigations probing the interplay between internal factors (self-efficacy and motivation) and external factors (teaching style and social support) during primary developmental stages remain sparse and fragmented (Sudarto et al., 2025). Additionally, teacher literacy in detecting early math anxiety symptoms in elementary classrooms remains underdeveloped (Anggraini, 2026). Mapping these determinants is increasingly crucial amidst the rise of Artificial Intelligence (AI) in education specifically adaptive learning systems which require data-driven insights to detect student anxiety risk patterns early and offer precise intervention recommendations (Azevedo & Gašević, 2019; Holmes et al., 2023; Molenaar, 2021). Furthermore, within Islamic-oriented educational contexts, student learning expectations must align with the principles of *Thuma'ninah* (tranquility of heart) and *Tawakal* (reliance on Divine providence following earnest effort), emphasizing that optimal learning is accompanied by inner peace rather than achievement-driven pressure (Halstead, 2004).

Accordingly, the novelty of this study lies in its simultaneous integration of internal psychological factors and social environment support via refined variable specification and ordinal logistic regression modeling. This novelty further connects empirical findings to actionable insights for developing AI-driven adaptive learning systems anchored in psychological well-being and spiritual values. This study aims to analyze the effects of mathematics self-efficacy, mathematics learning motivation, parental support, and teacher teaching style on mathematics anxiety levels among elementary school students in Cirebon Regency.

B. METODE

This study adopted a quantitative descriptive research design combined with ordinal logistic regression analysis (Sugiyono, 2019). The quantitative approach was selected to objectively quantify the interactions among the structural variables under investigation. The target population comprised elementary school students in Cirebon Regency. Sampling was conducted using a non-probability *purposive sampling* technique, targeting upper-grade elementary students who had completed complex basic arithmetic curriculum units. A total sample size of $N = 100$ students was selected, which is considered representative and statistically suitable for ordinal logistic regression estimation.

Data were gathered through a survey using a closed-ended questionnaire instrument measuring all study variables: the Dependent Variable (Y) representing Math Anxiety, and four Independent Variables (X): Mathematics Self-Efficacy (X_1), Mathematics Learning Motivation (X_2), Parental Support (X_3), and Teacher Teaching Style (X_4). Each variable initially comprised 5 item statements rated on a 5-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree").

Raw data were processed using SPSS software. Data analysis progressed through instrument quality testing (corrected item-total correlation validity and Cronbach's Alpha reliability), followed by diagnostic checks for multicollinearity via the Variance Inflation Factor (VIF) and testing the proportional odds assumption (Test of Parallel Lines). Hypothesis testing was conducted using ordinal logistic regression to evaluate the parameter direction, odds ratios ($\text{Exp}(B)$), and statistical significance. The

dependent variable, Math Anxiety (Y), was categorized into three ordinal levels (Low, Moderate, High) using the percentile method, establishing cut-off points at the 33rd percentile ($P_{33} = 14$) and 66th percentile ($P_{66} = 16$).

C. HASIL DAN PEMBAHASAN

Descriptive statistics were computed to evaluate the response distributions across all 100 participants (Table 1).

Table 1. Descriptive Statistics of Research Variables

No	Variabel	N	Min	Maks	Mean	SD
1.	Mathematics Anxiety (Y)	100	5	25	14.88	4.307
2.	Self-Efficacy (X_1)	100	5	25	15.91	4.479
3.	Learning Motivation (X_2)	100	3	15	8.28	3.069
4.	Parental Support (X_3)	100	5	25	17.34	4.174
5.	Teacher Teaching Style (X_4)	100	4	16	11.47	2.524

Source: *Primary data processed by authors (2026)*

The descriptive scores for Learning Motivation (X_2) and Teacher Teaching Style (X_4) were derived from validated items. Item-total correlation validity testing ($r_{table} = 0.197; n = 100$) led to the deletion of two invalid items from Learning Motivation (X_{2_4} and X_{2_5}) and one from Teacher Teaching Style (X_{4_5}). Cronbach's Alpha reliability tests confirmed internal consistency across all constructs ($\alpha = 0.599 - 0.795$), although Parental Support ($\alpha = 0.599$) rested at the threshold of acceptable reliability. Multicollinearity diagnostics showed VIF values well below 10 (range: $1.013 - 1{,}241$), confirming no severe multicollinearity.

The dependent variable Math Anxiety (Y) was categorized into Low (n = 42), Moderate (n = 27), and High (n = 31) categories based on $P_{33} = 14$ and $P_{66} = 16$.

Prior to testing ordinal logistic regression hypotheses, the proportional odds assumption was tested using the Test of Parallel Lines to verify that regression slopes remained equal across response categories (Table 2).

Table 2. *Test of Parallel Lines Results*

No	Model	-2 Log Likelihood	Chi-Square (X^2)	df	Sig.	Keterangan
1.	Null Hypothesis	204,693				
2.	General	202,993	1,700	4	0,791	Assumption Met (p > 0,05)

Source: *Primary data processed by authors (2026)*

Berdasarkan Tabel 2, pengujian menghasilkan nilai X^2 = 1,700 (df = 4) dengan nilai signifikansi p = 0,791. Karena nilai signifikansi lebih besar dari 0,05 (p > 0,05), maka hipotesis nol diterima. Hal ini mengonfirmasi bahwa asumsi *proportional odds* terpenuhi dan parameter hubungan antarvariabel independen bersifat setara untuk setiap kategori kecemasan matematika, sehingga penggunaan model regresi logistik ordinal dinyatakan valid. Selanjutnya, hasil pengujian regresi logistik ordinal disajikan pada Tabel 3.

As shown in Table 2, the test yielded $\boldsymbol{X^2} = 1.700$ ($\boldsymbol{df} = \mathbf{4}$) with $p = 0.791$. Because $p > 0.05$, the null hypothesis was accepted, confirming that the proportional odds assumption held and validating the use of ordinal logistic regression modeling. The regression estimation results are presented in Table 3.

Table 3. Ordinal Ordinal Logistic Regression Results

No	Variabel	B	Wald	Sig.	Exp(B)	Keterangan
1.	Self-Efficacy (X_1)	-0.129	6.362	0.012	0.879	Significant, negative
2.	Learning Motivation (X_2)	0.203	7.944	0.005	1.225	Significant, positive
3.	Parental Support (X_3)	-0.007	0.019	0.891	0.993	Non-significant
4.	Teacher Teaching Style (X_4)	0.091	1.383	0.240	1.096	Non-significant

Sumber: *Data primer, diolah penulis (2026)*

Table 3 demonstrates that only Self-Efficacy (X_1) and Learning Motivation (X_2) significantly predicted Mathematics Anxiety ($p < 0.05$). Self-efficacy exerted a significant negative effect (B = -0.129; p = 0.012), whereas learning motivation showed a significant positive effect (B = 0.203; p = 0.005).

In probabilistic terms, Exp(B) = 0.879 for Self-Efficacy (X_1) indicates that each one-unit increase in mathematics self-efficacy score reduces the odds of a student being in a higher math anxiety category by 12.1% (1 - 0.879 = 0.121), *ceteris paribus*. Conversely, Exp(B) = 1.225 for Learning Motivation (X_2) reveals that every one-unit increase in motivation score raises the odds of transitioning to a higher anxiety category by 22.5% (1.225 - 1 = 0.225), *ceteris paribus*. Thus, highly motivated students are 1.225 times more likely to report elevated anxiety for each incremental score point. The comparative direction and magnitude of coefficients across variables are illustrated in Figure 1.

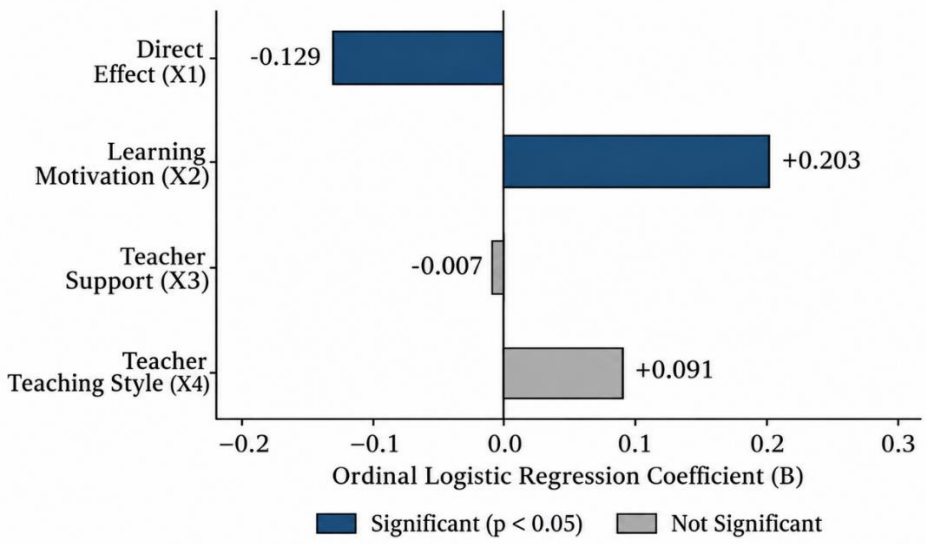


Figure 1. *Ordinal Logistic Regression Coefficients (*B*) of Independent Variables on Math Anxiety*

The finding that mathematics self-efficacy has a significant negative effect on math anxiety (p = 0.012) satisfies the research objective and aligns with theoretical frameworks asserting that high self-efficacy leads students to perceive mathematical tasks as manageable challenges rather than threats (Lestari & Duryati, 2021). The emotional resilience fostered by robust self-efficacy enables learners to navigate complex word problems and abstract calculations without distress (Ramirez et al., 2021). Fostering self-efficacy in primary grades therefore represents a vital target for intervention.

In contrast, the positive association between mathematics learning motivation and anxiety (p = 0.005) diverges from conventional assumptions that higher motivation inherently reduces anxiety. This pattern aligns with findings that high achievement motivation can induce psychological strain when accompanied by intense outcome

expectations (Anggraeni et al., 2024). Highly motivated students may experience *approach anxiety* distress triggered not by task avoidance, but by an acute drive to perform flawlessly. This outcome emphasizes that promoting motivation must be coupled with appropriate expectation management (Fauziyah & Rahmawati, 2023) so that drive does not morph into emotional distress.

The finding that elevated motivation can paradoxically heighten anxiety underscores the need for expectation management strategies that address both cognitive and spiritual dimensions (Ashcraft & Krause, 2007). In Islamic educational philosophy, this can be addressed through *Thuma'ninah* (tranquility of heart), which instills inner composure during mathematical learning, and *Tawakal* (reliance on Divine providence following diligent effort) (Al-Ghazali, 2010; Halstead, 2004). Integrating these principles helps reorient motivation into a healthy, mastery oriented impulse rather than one driven by fear of failure (Ryan & Deci, 2020). Furthermore, the psychological profile mapped in this study can inform AI adaptive learning algorithms to construct early warning systems that detect math anxiety. Such systems can generate personalized learning paths calibrated to students' real-time affective states, enabling targeted interventions aligned with holistic well-being (Holmes et al., 2023; Luckin & Cukurova, 2019).

Parental Support was not statistically significant (p = 0.891), differing from Zuo et al. (2025), who identified family support as a protective factor. This divergence may stem from the marginal reliability of the Parental Support scale (a = 0.599). Similarly, Teacher Teaching Style did not yield a significant effect (p = 0.240), potentially influenced by the removal of an invalid item (X_{4_5}), though intimidating teaching remains conceptually linked to student anxiety (Ambarita & Gampu, 2025). Overall, the Nagelkerke R^2 of 0.206 indicates that unmeasured external variables such as prior traumatic learning experiences or family socioeconomic conditions account for the remaining variance in math anxiety (Sudarto et al., 2025).

D. KESIMPULAN

This study demonstrates that among the four evaluated factors, mathematics self-efficacy and learning motivation significantly predict math anxiety levels among elementary school students in Cirebon Regency, whereas parental support and teacher teaching style show no significant direct contribution. Self-efficacy serves as a protective factor against anxiety. Conversely, learning motivation displays a positive relationship with anxiety, highlighting the critical distinction between healthy achievement striving and motivation burdened by performance pressures. Practically and theoretically, these results highlight the necessity for educators and parents to cultivate student self-confidence while setting balanced, realistic expectations. Moreover, these empirical insights provide a baseline for developing AI-powered adaptive learning systems that incorporate psychological and spiritual dimensions (*Thuma'ninah* and *Tawakal*). Future research should refine external support metrics and incorporate additional background variables to construct more comprehensive predictive models.

ACKNOWLEDGMENTS (optional)

The authors express their gratitude to the participating elementary schools for granting permission and facilitating data collection, as well as to the research team members for their valuable feedback during the preparation of this manuscript.

REFERENSI

Agustin, Y. I., & Rindaningsih, I. (2022). Framework pembelajaran matematika realistik berbasis flipped classroom terhadap minat belajar siswa sekolah dasar di masa pasca pandemi. *Jurnal Cakrawala Pendas*, 8(4), 1112–1123.

http://dx.doi.org/10.31949/jcp.v8i2.2862
Al-Ghazali. (2010). *Ihya' 'Ulum al-Din: Restoration of religious sciences* (C. Farah, Trans.). Islamic Texts Society.
Amaludin, A., & Septiriadi, A. (2021). Analisis kemampuan pemahaman konsep matematis siswa sekolah dasar pada masa pandemi Covid 19. *Jurnal Pendidikan Dasar*, 5(1), 64–75. https://doi.org/10.29408/jpd.v5i1.3321
Ambarita, M. R., & Gampu, G. G. (2025). Strategi guru dalam mengatasi kecemasan matematika (math anxiety) pada siswa sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(4), 395–403. https://journal.unpas.ac.id/index.php/pendas/article/view/42545
Anggraeni, U., Amir, M. F., & Wardana, M. D. K. (2024). Learning motivation and mathematics anxiety among fourth-grade elementary school students: Holistic learning strategies and evidence-based interventions. *Social Humanities Education Studies*, 2(5), 1–25. https://jurnal.uns.ac.id/SHES/article/download/109842/52200/
Anggraini, N. N. (2026). Kecemasan belajar aljabar pada generasi Z di era kemajuan teknologi: Analisis pola pikir dan tantangan pembelajaran matematika. *Galois: Jurnal Penelitian Pendidikan Matematika*, 2(2), 42–61. https://urj.uin-malang.ac.id/index.php/mij/article/view/26197
Anita, I. W. (2020). Pengaruh kecemasan matematika (mathematics anxiety) terhadap kemampuan koneksi matematis siswa. *Jurnal Elemen*, 6(2), 290–301. https://doi.org/10.29408/je.v6i2.2134
Ashcraft, M. H., & Krause, J. A. (2007). Working memory, math performance, and math anxiety. *Psychonomic Bulletin & Review*, 14(2), 243–248. https://doi.org/10.3758/BF03194059
Azevedo, R., & Gašević, D. (2019). Analyzing multimodal data to enhance learning and teaching with artificial intelligence. *British Journal of Educational Technology*, 50(6), 2875–2885. https://doi.org/10.1111/bjet.12888
Carey, E., Hill, F., Devine, A., & Szücs, D. (2020). Understanding mathematics anxiety: Investigating the experiences of UK primary and secondary school students. *Frontiers in Psychology*, 11, Article 1222. https://doi.org/10.3389/fpsyg.2020.01222
Fahlevi, M. R. (2022). Upaya pengembangan number sense siswa melalui kurikulum merdeka. *Sustainable Jurnal Kajian Mutu Pendidikan*, 5(1), 11–27. https://doi.org/10.32923/jmpi.v5i1.2211
Fauziyah, N., & Rahmawati, D. (2023). Urgensi kurikulum berbasis wellness: Menjawab tantangan kesehatan mental peserta didik dalam pembelajaran matematika. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 10(1), 534–548. https://j-cup.org/index.php/cendekia/article/download/4845/1456/
Gampu, G. G., & Lumbantobing, W. L. (2025). Analisis kesulitan belajar siswa sekolah dasar pada materi pecahan. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 9(5), 1559–1567. https://sinta.kemdiktisaintek.go.id/authors/profile/6939593/
Halstead, J. M. (2004). An Islamic concept of education. *Comparative Education*, 40(4), 517–529. https://doi.org/10.1080/0305006042000284510
Holmes, W., Bialik, M., & Fadel, C. (2023). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
Kholid, I., Al Basyari, M. M., Saman, S., Nurhadi, N., & Mulhat, M. (2025). Menumbuhkan pemahaman konseptual matematika melalui deep learning: Sebuah kajian sistematik literatur. *Pedagogy: Jurnal Pendidikan Matematika*, 10(4), 1494–1506. https://doi.org/10.30605/pedagogy.v10i4.3211
Kholid, I., & Puspitasari, P. (2025). Integrasi pendidikan karakter dan kewirausahaan di sekolah dasar: Sintesis pendekatan kurikuler-ekstrakurikuler. *GENIUS: Jurnal Inovasi Pendidikan dan Pembelajaran*, 3(2), 1–11.

https://doi.org/10.31004/genius.v3i2.4512
Lestari, N. I., & Duryati, D. (2021). Hubungan self regulation learning dengan number sense pada siswa sekolah dasar di Kota Bukittinggi. *Jurnal Pendidikan Tambusai*, 5(3), 10831–10838. https://doi.org/10.31004/jptam.v5i3.2681
Luckin, R., & Cukurova, M. (2019). Designing AI capabilities to support human learning. *E-Learning and Digital Media*, 16(4), 282–296. https://doi.org/10.1177/2042753019843130
Meli, N., & Rangkuti, A. N. (2022). Pengaruh kecemasan matematika terhadap prokrastinasi akademik siswa. *Jurnal Kajian Pembelajaran Matematika*, 6(1), 15–28. https://doi.org/10.17977/um031v6i1p15-28
Ramirez, G., Shaw, S. T., & Maloney, E. A. (2021). Math anxiety and metacognitive processes in elementary school. *Journal of Educational Psychology*, 113(4), 791–805. https://doi.org/10.1037/edu0000487
Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, Article 101860. https://doi.org/10.1016/j.cedpsych.2020.101860
Sari, D. P., Rahmat, T., Aprison, W., & Fitri, H. (2023). Pengaruh kecemasan matematika (math anxiety) terhadap hasil belajar siswa kelas VIII MTsN 6 Agam. *Innovative: Journal of Social Science Research*, 3(2), 114–125. https://doi.org/10.31004/innovative.v3i2.4120
Sudarto, S., Rahman, A., & Basri, M. (2025). Math anxiety in elementary school students: A phenomenological study of learning experiences in the classroom. *Journal of Eduscience*, 12(1), 45–58. https://jurnal.ulb.ac.id/index.php/eduscience/article/download/8731/5702
Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif, dan R&D* (2nd ed.). Alfabeta.
Tsaqila, N., Fitriani, S., & Hidayat, R. (2023). Tingkat kecemasan matematika pada siswa sekolah dasar ditinjau dari aspek somatic dan kognitif. *Jurnal Pembelajaran Matematika*, 6(2), 115–128. https://doi.org/10.22437/jpm.v6i2.21321
Umu, M. T., & Maharani, A. (2023). Analisis kecemasan matematis dalam mempengaruhi prestasi belajar matematika. *Sigma Didaktika: Jurnal Pendidikan Matematika*, 11(2), 85–96. https://doi.org/10.23960/sd.v11i2.2412
Zuo, Y., Zhang, X., & Wang, Q. (2025). The relationship between student-perceived math teacher support and math anxiety in elementary school: A moderated mediation model. *Educational Psychology*, 45(7), 845–861. https://doi.org/10.1080/01443410.2025.2512247