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The relationship between self-confidence and mathematical reasoning ability of grade XI students in sequences and series

Rani Melinda*, Rika Mulyati Mustika Sari, Rafiq Zulkarnaen
Universitas Singaperbangsa Karawang, West Java, Indonesia
*Correspondence: 2510632050004@student.unsika.ac.id

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Abstract
The mathematical reasoning ability is one of the essential hard skills of a student, especially in solving everyday problem. Confidence is described as the state of being at ease with oneself, having the impulse to act promptly, knowing oneself to be valued and adequate, and accepting and acknowledging oneself as one. This study aims to examine the relationship and contribution of self-confidence to the mathematical reasoning abilities of grade XI high school students on the subject of sequences and series. This study uses a quantitative approach with a correlational design and ex-post facto method. The study population consisted of all 163 grade XI students, with a sample of 62 students selected using simple random sampling. The instruments used were a mathematical reasoning essay test and a questionnaire in the form of a self-confidence scale. The data analysis technique used was a correlation test. The relationship between self-confidence and mathematical reasoning ability was found to be very weak with a value of $\rho = 0.365$. This was indicated by the results of the student self-confidence questionnaire, with 48% low, 34% moderate, and 17% high. Based on the test results, 76% of students' mathematical abilities were below the Minimum Passing Criteria, while 24% of students scored above the Minimum Passing Criteria. Thus, the relationship between self-confidence and the mathematical reasoning abilities of grade XI high school students in sequences and series is still low.

Keywords: Correlational study, Ex-post facto, Mathematical reasoning, Self-confidence

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Introduction

Mathematics is a fundamental subject that requires not only conceptual understanding but also the ability to think logically and systematically. According to NCTM as cited in (Ariati & Juandi, 2022) mathematics learning includes five basic mathematical abilities, which are five process standards, namely problem solving, reasoning, communication, connection, and representation.

One of the higher-order thinking skills (HOTS) examined in the PISA study is mathematical reasoning (Vebrian et al., 2021). Based on According to the 2019 Program for International Student Assessment (PISA) report, Indonesia scored 72nd out of 78 nations in

mathematics. Another study, Indonesia came up at number 44 out of 49 nations in the Trends in International Mathematics and Science Study (TIMSS) (OECD, 2023). 54% of students had low math achievement, 15% had moderate math skill, and 6% had high math achievement. It is clear from the PISA and TIMSS assessments that mathematics education in Indonesia is still of still relatively low. This indicates that some of the learning objectives for mathematics in the topic of sequences and series have not been fully achieved, as evidenced by the low percentage of students who met the Minimum Proficiency Criteria.

Mathematical reasoning is a thinking process to connect facts and find ways to solve problems in mathematic (Jelita & Zulkarnaen, 2019). In the Merdeka Curriculum for high school level in phase F or grade XI, the material on sequences and series often requires strong reasoning, especially when students have to identify patterns, derive the nth term formula or the sum of an infinite series, and solve complex contextual problems (Kemendikdasmen, 2025). However, Students' aptitude for mathematical reasoning in Indonesia is generally still low. Several studies confirm that the mathematical reasoning skills of high school students in Indonesia remain at a low level. Nababan (2020)found that only 73.66% of reasoning indicators were met by grade X students at a public high school in Meureuboh, while (Salmina & Nisa, 2017)identified the lack of exposure to reasoning problems in the learning process as the primary factor contributing to the low proficiency in this area among grade X high school students in Aceh. This condition is not limited to a local context. Ratu et al. (2024) emphasize that although mathematical reasoning is the foundation for achieving higher-order thinking skills such as proof and problem-solving, these abilities remain consistently weak and require systemic improvement.

Mathematical reasoning skills are a cognitive aspect of students, but there are other aspects besides cognitive abilities that must be considered, namely the affective aspects that influence them. The affective aspect in question is self-confidence. Self-confidence is an aspect that influences students' success in answering questions, especially those that require mathematical reasoning skills. According to Lautser (Fardani & Surya, 2021), "self-confidence is an attitude or belief in one's own talents that a person possesses such that they feel free to act without fear. everything they are interested in, and is responsible." According to Lautser (Kosim, 2020) the elements of self-confidence are as follows: 1) Self-confidence: a positive attitude 2) Optimism: always looking on the bright side 3) Objectivity: judging based on factual truth 4) Responsibility: willingness to accept the consequences 5) Rationality and Realism: analyzing situations using logic.

Confidence in mathematics is expressed through students' perceptions of the difficulty or ease of learning mathematics (Demirkol & Kelecioğlu, 2023). Meanwhile, to Ahmad et al. (2018) self-confidence is the conviction that one can accomplish specific objectives. A sense of self-assurance that is typically employed as a guarantee of one's own evaluation, skills, strengths, and strong initiative is known as self-confidence. According to Yates Hendriana et al. (2017), students' success in learning mathematics is impacted by their degree of self-confidence. It is believed that pupils who have self-confidence would be more motivated and like learning mathematics, which will lead to better learning outcomes. Students' trust in their capacity to do mathematical assignments and activities is known as self-confidence in mathematics. Pupils that are confident in themselves typically don't give up quickly, daring to

attempt new tactics, and are more active in learning, all of which are important prerequisites for developing reasoning.

Previous research conducted by Fardani and Surya explains that grade XI high school students have good self-confidence in solving problems (Fardani & Surya, 2021). According to Setyaningrum et al. (2017), with self-confidence, students can measure their mathematical reasoning abilities. With self-confidence, students can overcome mathematical problems because they tend to discover and understand the mathematical problems they face. Students' lack of trust in their capacity for mathematical thinking requires further research.

This study has the main advantage of its specificity in terms of material and curriculum context that is relevant to current developments in education. While many previous studies have focused on general mathematics topics such as probability or geometry, this study specifically examines sequences and series at the high school level. The selection of this material is crucial because sequences and series require high reasoning skills to identify patterns, derive the nth term formula, and solve complex contextual problems. In addition, this study has adapted the latest Learning Outcomes standards through the use of the Merdeka Curriculum, Phase F or grade XI specifications. The integration of this latest curriculum provides a more accurate picture of the effectiveness of the current mathematics learning process in Indonesia compared to previous studies that still used the old curriculum framework.

Another strength of this study lies in its unique findings regarding the relationship between variables in a specific geographical area, namely the Pantura coastal region, particularly in Indramayu Regency. By highlighting the weakness of this correlation, the study makes a new contribution that challenges the generalization of previous research results and opens up discussion about other external factors that are more dominant in influencing student learning outcomes in coastal areas.

Methods

This study employed a quantitative correlational design. Quantitative research is research in which the data consists of numbers and is analyzed using statistical procedures (Sugiyono, 2017). According to Jonatha Sarwono in Amalia (2015), correlational is an analysis technique that is included in one of the techniques for measuring associations or relationships between variables. This study used the ex-post facto method. According to Sugiyono (2017), When the respondents have already experienced the events or situations under study, ex-post facto research is performed to investigate or retrace the factors or causes of those events.

The instruments used were in the form of a test consisting of mathematical reasoning questions and a questionnaire in the form of a self-confidence scale questionnaire consisting of 20 statements compiled based on the indicators of the variables to be studied, with an item reliability of 0.95. The mathematical reasoning test is structured as an essay-style test with seven items. The instrument is used to measure students' self-confidence and mathematical reasoning skills at a public high school in Indramayu Regency in the subject of sequences and series. The 163 students in grade XI made up the study's population. The sample was determined using the Slovin formula with a 10% margin of error, which is appropriate for exploratory studies with populations of unknown characteristics, resulting in a sample of 62

students obtained through simple random sampling. The data analysis technique used in this study was correlation testing.

Indicators of mathematical reasoning ability

In this study, the mathematical reasoning ability essay test questions were adopted from the research by (Kusharyadi, 2024). The indicators, guidelines, and scoring for each question are shown in Table 1.

Table 1. Indicators, Grids, and Scoring of Essay Questions

Indicator	Grids	Questions Number	Scoring
Present mathematical statements orally, in writing, in pictures, and in diagrams	Given the sum and product of the first three terms of a geometric sequence, students can determine the mathematical model.	1a	2
Draw conclusions, construct proofs, and provide reasons or evidence for solutions	Given the sum and product of the first three terms of a geometric sequence, students can prove that the third term is always positive.	1b	3
Make a guess	Given the sum and product of the first three terms of a geometric sequence, students can estimate the values of the first and second terms.	1c	2
Drawing conclusions from statements	Given the sum and product of the first three terms of a geometric sequence, students can argue the values of the first and second terms.	1d	3
Performing mathematical manipulations	Given the sum of certain arithmetic terms, students can determine the other arithmetic terms.	2	3
Checking the validity of an argument	Students can validate the validity of the given statements related to the first term (a), the ratio (r), and the sum of the first n terms (S_n) of a geometric sequence.	3	3
Finding patterns or mathematical properties of symptoms to make generalizations	Given a certain sequence of numbers, students can determine the formula for the nth term of the sequence.	4	4
	Maximum Score		**20**

Levels of self-confidence

In addition to assessing cognitive aspects, namely students' mathematical reasoning abilities, this study also involved affective aspects, namely self-confidence. To determine students' levels of self-confidence, the researcher used a Likert scale that measures individual traits using total scores from the questions, which is an interval measurement scale. The self-confidence indicators was adopted from research conducted by Pangestu & Sutirna (2021) namely: believe in one's own abilities, act independently when making decisions, have a positive self-image, and be bold enough to voice one's opinions. The self-confidence questionnaire instrument was adopted from Ahmad et al. (2018) in Table 2.

Table 2. Self-Confidence Scale Scoring Format

Answer Options	Positive Statements	Negative Statements
A	4	1
O	3	2
R	2	3
N	1	4

Description : A =Always; O=Often; R=Rarely; N =Never

Data Collection and Analysis Techniques

Methods for Gathering and Analyzing Data Tests of mathematical reasoning skills and non-test data, such as self-confidence scale questionnaires, were used to collect data for this study. The tests used to ascertain the correlation between the research subjects' capacity for mathematical reasoning and their level of self-confidence provided the research data. To ensure the validity of the data, a normality test is conducted; however, if the data are not normally distributed, the most appropriate correlation analysis to use is Spearman's correlation test. To reinforce the results obtained, the researcher conducted unstructured interviews interviews with each student with various levels of self-confidence.

Results

The instrument used to measure mathematical reasoning ability in this study consisted of seven essay questions on sequences and series.. Students were given a mathematical self-confidence questionnaire after finishing the test. The test lasted 90 minutes. Students' mathematical reasoning skills were assessed using a written test, and their self-confidence was assessed using a questionnaire. The outcomes of classifying pupils according to their level of self-confidence as determined by the questionnaire are as follows in Table 3.

Table 3. Results of Student Grouping Based on Self-Confidence

Interval	Calculation	Group	Number	Percentage
$x < \mu - \sigma$	$x < 50.20$	Low	30	48.39%
$\mu - \sigma \leq x < \mu + \sigma$	$50.20 \leq x < 61.76$	Moderate	21	33.87%
$\mu + \sigma \leq x$	$61.76 \leq x$	High	11	17.74%
Total			62	100%

Note: μ=Mean; σ = standard deviation

Based on the results of the analysis, students who lack confidence (48.39%) more dominant compared to students with moderate self-confidence (33.87%), while students with high self-confidence (only 17.74%) were far less dominant in answering mathematical reasoning questions. The findings of the Grade XI students' mathematical reasoning ability test were used in this study, the researcher used the Minimum Passing Criteria for Mathematics Phase F or Grade XI in Sukra District High School as follows in Table 4:

Table 4. Mathematical reasoning ability results

Grade	Minimum Passing Criteria	Mathematical Reasoning Ability Test Score		Number of Students
		$0 < x < 75$	$75 \leq x \leq 100$	
XI	75	47	15	62
Percentage		76%	24%	100%

Table 4 of the results of the mathematical reasoning ability test of grade XI students at Sukra District High School shows that 47 students, or 76%, had abilities below the Minimum Passing Criteria, while 15 students, or 24%, had mathematical reasoning abilities above the Minimum Passing Criteria. Students' mathematical thinking skills are demonstrated by the outcomes of their test in solving mathematical reasoning problems is relatively poor in terms of proof when viewed from the indicators of high school students' mathematical reasoning ability.

Discussion

In the data analysis of the relationship between self-confidence and the mathematical reasoning abilities of high school students in Grade XI. The results of the normality test of the data from the self-confidence questionnaire and mathematical reasoning abilities are as follows in Figure 1.

	Self Confidence	Reasoning Ability
Valid	62	62
Mean	55.98	12.89
Std. Deviation	5.782	2.477
Shapiro-Wilk	0.978	0.960
P-value of Shapiro-Wilk	.331	.041
Minimum	44.00	7.000
Maximum	73.00	19.00

Figure 1. Descriptive Statistics and Results of the Shapiro-Wilk Normality Test

Descriptively, the self-confidence variable had a mean score of 55.98 (SD = 5.782) with a score range of 44.00–73.00. Mathematical reasoning ability had a mean score of 12.89 (SD = 2.477) with a score range of 7.00–19.00.

Judging from the result of the normality test on the data above, it shows that self-confidence p-value = 0.331> $\alpha = 0.05$, so the data is normally distributed, while mathematical reasoning ability p-value=0.041 <0.05, so the distribution of the data is not normally distributed. One variable in the aforementioned results is not normally distributed. To determine the relationship between the two variables, we continue with a correlation test, namely Spearman's Rho Correlation, with the following results in Figure 2.

	Spearman's rho	p
Self Confidence – Reasoning Ability	0.365	.004

Figure 2. The Relationship Between Self-Confidence and Mathematical Reasoning Ability

The results above show a positive correlation between mathematical reasoning skills and self-confidence. Although self-confidence is a personality trait that depends on personal factors and is positively correlated with mathematical reasoning ability (Bozgun & Akin-Kostereliogl, 2023), mathematical reasoning ability itself is a higher-order cognitive ability influenced by many factors simultaneously, such as students' prior knowledge, the quality of

instruction, and learning motivation Hendriana et al. (2017), so self-confidence contributes positively but is not a dominant factor in students' mathematical reasoning ability.

However, from the calculation results using Spearman's rho correlation, a value of ρ=0.365 and p=0.004 was obtained, which means that the relationship between self-confidence and mathematical reasoning ability is weak. From a scatter plot with a linear regression line, can see the relationship between self-confidence and mathematical reasoning ability in figure 3.

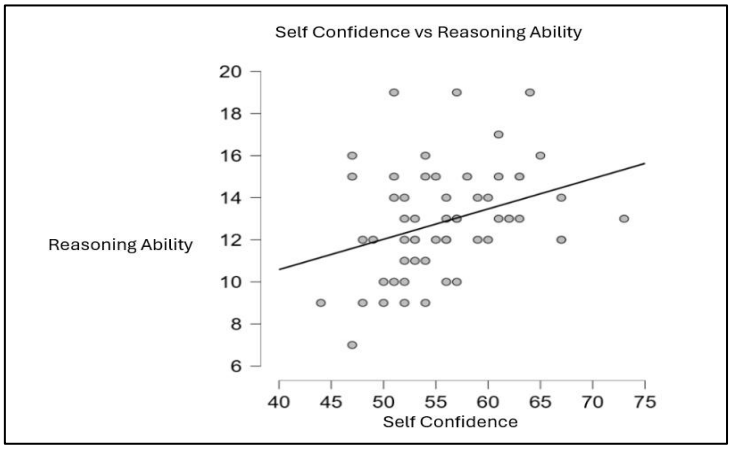

Figure 3. The relationship between self-confidence and mathematical reasoning ability

Pangestu & Sutirna (2021) argues, to increase students' self-confidence, more innovative teaching techniques and strategies are needed. Every teacher should routinely motivate students to build self-confidence and fully develop a sense of self-confidence in learning mathematics and show an active and enthusiastic attitude in every lesson. Contrary to common theories or assumptions that often state the strong influence of affective factors on cognitive factors, the results of Spearman's rho analysis in this study reveal a positive but very weak relationship between self-confidence and students' mathematical reasoning abilities. The fact that 48% of students have low self-confidence and 76% of students are below the minimum passing grade indicates a specific phenomenon in the region that may be influenced by mathematical anxiety or other coastal environmental factors.According to researchers, the results of an analysis of several aspects in the school environment show that the weak relationship between self-confidence and the mathematical reasoning abilities of grade XI high school students in the subject of sequences and series can be influenced this may be due to several factors. First, basic cognitive abilities, whereby students may possess strong mathematical reasoning skills thanks to their logical abilities and high general intelligence, regardless of their level of self-confidence (Peng et al., 2019). Second, anxiety toward mathematics, as many students are confident in other subjects but feel anxious when faced with mathematics, meaning that self-confidence does not always correlate directly with mathematical reasoning (Barroso et al., 2021). Third, the absence of intervention during data collection, where grade XI students took the test without any special treatment from the researchers, while the material tested had been previously studied in grade X (Hendriana et al., 2017).

To support these results, the researchers conducted unstructured interviews with three students selected from the high, medium, and low self-confidence and mathematical reasoning ability groups. One student was selected from each group. According to students who have

high self-confidence, they feel that the questions are easy to answer, except for one question that requires more careful mathematical reasoning than the others. This is because, according to them, they had to identify the problem, understand the mathematical statement, then create a number pattern and formulate a guess, and be able to draw conclusions from the first answer to solve all the questions. According to Usher & Pajares (2022), the students in this group appeared very calm and confident as they completed each step without the slightest hesitatio .

In contrast to students with self-confidence in the moderate group, students felt that the questions were challenging because they were varied. Students were slightly unsure of themselves and experienced math anxiety at the beginning of the process, but they were able to handle it in the middle of the process so that they could complete the questions well. Meanwhile, students with low self-confidence reported significant difficulties and excessive anxiety stemming from concerns that they would not be able to complete the problems on time, leading some to give up before finishing all the problems. This situation aligns with the concept of learned helplessness in the context of mathematics, where low self-confidence leads to task avoidance and reduced persistence (Murayama, 2022).

This is reinforced by Bandura (1997), opinion in Ciftchi that individuals with low self-confidence tend to avoid difficult tasks, perceive them as threats, and give up quickly when faced with difficulties; while individuals with high self-confidence usually try harder to complete tasks and are more persistent in facing challenges (Çiftçi & Yildiz, 2019).

According to Schunk (2012), low mathematical reasoning skills in students can be caused by various factors, including low student attention to teacher explanations, lack of interest in reading, and inability to connect previously learned material with new ideas (Ana et al., 2024).

Based on the facts found by researchers in the field, the relationship between self-confidence and mathematical reasoning ability is very weak. Based on test results, 76% of students' mathematical abilities were below the Minimum Passing Criteria, while 24% of students scored above the Minimum Passing Criteria.

Ahmad et al. (2018) found similar results, which found that, on average, students still have low mathematical reasoning skills and self-confidence. This is evidenced by the test results, where 75% of students scored below the minimum passing grade and only 25% scored above it, while the results of the mathematical self-confidence questionnaire showed that 50% of students had low self-confidence, 25% had moderate self-confidence, and 20% had high self-confidence. This is in line with the research conducted by Faudziah et al. (2019), which found that self-confidence has a positive influence on students' mathematical reasoning abilities by 12.4%, while 87.7% is influenced by factors other than self-confidence. There is a difference in the answers given between students who have low self-confidence and students who have high self-confidence.

Conclusion

This study shows that there is a positive but weak relationship between self-confidence and mathematical reasoning abilities of grade XI students at public high schools in Indramayu Regency on the subject of sequences and series. However, the level of this relationship is classified as weak, with a Spearman's rho correlation value of $\rho=0.365$. Overall, the results of the study indicate that the majority of students fall into the low self-confidence category

(48.39%) and have mathematical reasoning skills that do not meet the proficiency criteria (76%), with the most prominent weakness identified in the proof-taking indicator. A weak positive correlation between the two variables indicates that self-confidence is one of the factors contributing to mathematical reasoning ability, but it is not the sole determinant.

Further research is recommended to explore other affective and cognitive factors that play a more dominant role in influencing students' mathematical reasoning abilities, particularly in coastal areas. In addition, teachers are advised to incorporate HOTS-based questions and mathematical literacy into their teaching to continuously develop students' reasoning and argumentation skills.

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Declarations

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References

Ahmad, G., Akbar, M., Diniyah, A. N., Akbar, P., Nurjaman, A., Bernard, M., & Siliwangi, I. (2018). Analisis kemampuan kemampuan penalaran dan self confidence siswa sma dalam materi peluang. *Journal On Education P*, *1*(1), 14–21. https://doi.org/https://www.neliti.com/id/publications/270108/analisis-kemampuan-kemampuan-penalaran-dan-self-confidence-siswa-sma-dalam-mater#cite

Amalia, N. (2015). Pengaruh teknik pembelajaran dan kreativitas belajar siswa terhadap hasil belajar matematika. *Jurnal Kajian Pendidikan Matematika (JKPM)*, *1*(1), 31–45. http://dx.doi.org/10.30998/jkpm.v1i1.902

Ana, R. J., Putri, A. S., & Netriwati. (2024). Hubungan emotional intelligence, self confidence, self regulated learning terhadap kemampuan penalaran matematis. *Lemma: Letters of Mathematics Education*, *11*(1), 58. https://ejournal.upgrisba.ac.id/index.php/jurnal-lemma/article/view/8884

Ariati, C., & Juandi, D. (2022). Kemampuan penalaran matematis: Systematic literature review. *Jurnal Lemma*, *8*(2), 61–75. https://doi.org/10.22202/jl.2022.v8i2.5745

Barroso, C., Ganley, C. M., McGraw, A. L., Geer, E. A., Hart, S. A., & Daucourt, M. C. (2021). A meta-analysis of the relation between math anxiety and math achievement. *Psychological Bulletin*, *147*(2), 134–168. https://doi.org/10.1037/bul0000307

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H freeman and Company. (hal. 39)

Bozgun, K., & Akin-Kosterelioglu, M. (2023). Self-confidence as the predictor of metacognitive awareness in high school students. *Participatory Educational Research*, *10*(1), 375–388. https://doi.org/10.17275/per.23.20.10.1

Çiftçi, K., & Yildiz, P. (2019). The effect of self-confidence on mathematics achievement: The meta-analysis of Trends in International Mathematics and Science Study (TIMSS). *International Journal of Instruction*, *12*(2), 683–694. https://doi.org/10.29333/iji.2019.12243a

Demirkol, S., & Kelecioğlu, H. (2023). Investigation of student and teacher characteristics associated with mathematics achievement in the transition to secondary education exam. *International Journal of Contemporary Educational Research*, *10*(2), 312–326. https://doi.org/10.52380/ijcer.2023.10.2.486

Fardani, Z., & Surya, E. (2021). Analisis kepercayaan diri (self-confidence) siswa dalam pembelajaran matematika melalui model problem based learning. *Paradikma: Jurnal Pendidikan Matematika*, *14*(1). https://doi.org/10.24114/paradikma.v14i1.24809

Faudziah, L., Kadarisma, G., Siliwangi, I., Terusan, J., Sudirman, J., Tengah, C., Cimahi, K., & Barat, J. (2019). Pengaruh self confidence siswa terhadap kemampuan penalaran matematis siswa SMK Negeri di kota Cimahi. *Journal On Education*, *01*(3). https://doi.org/10.31004/joe.v1i3.146

Hendriana, H., Rohaeti, E. E., & Sumarmo, U. (2017). *Hard skills dan soft skills matematik siswa*. Refika Aditama.

Jelita, L., & Zulkarnaen, R. (2019). Studi kasus kemampuan penalaran matematis siswa kelas VIII dalam menyelesaikan soal TIMSS. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika*.

Kemendikdasmen. (2025). *Capaian pembelajaran mata pelajaran matematika fase E: Guru Kemdikbud*.

Kosim, A. (2020). *Analisis pengaruh penerapan matematika realistik terhadap kemampuan pemecahan masalah dan self-confidence siswa pada materi barisan dan deret.* (Tesis)

Kusharyadi, R., (2024). *Pencapaian kemampuan penalaran matematis siswa melalui implementasi desain didaktis pada materi barisan dan deret*. (Tesis S2. Universitas Pendidikan Indonesia).

Murayama, K. (2022). A reward-learning framework of knowledge acquisition: An integrated account of curiosity, interest, and intrinsic–extrinsic rewards. *Psychological Review*, *129*(1), 175–198. https://doi.org/10.1037/rev0000349

Nababan, S. A. (2020). Genta mulia: Analisis kemampuan penalaran matematis siswa melalui model problem based learning. *Jurnal Genta Mulia*, *11*(1). https://doi.org/10.61290/gm.v11i1.212

OECD. (2023). *PISA 2022 result (volume 1): The state of learning and equity in education*. OECD Publishing. https://doi.org/10.1787/53f23881-en

Pangestu, R. A., & Sutirna, S. (2021). Analisis kepercayaan diri siswa terhadap pembelajaran matematika. *MAJU*, *8*(1). https://www.neliti.com/id/publications/505035/analisis-kepercayaan-diri-siswa-terhadap-pembelajaran-matematika

Peng, P., Wang, T., Wang, C., & Lin, X. (2019). A meta-analysis on the relation between fluid intelligence and reading/mathematics: Effects of tasks, age, and social economics status. *Psychological Bulletin*, *145*(2), 189–236. https://doi.org/10.1037/bul0000174

Ratu, H., Nagara, P., Santosa, F. H., & Siagian, M. D. (2024). Overview of student's mathematics reasoning ability based on social cognitive learning and mathematical self-efficacy. *Mathematics Teaching Research Journal*, *16*(1). https://eric.ed.gov/?q=habibi&ff1=pubJournal+Articles&id=EJ1427397

Salmina, M., & Nisa, S. K. (2017). Kemampuan penalaran matematis siswa berdasarkan gender pada materi geometri. *Jurnal Numeracy*, *5*(1). https://ejournal.bbg.ac.id/index.php/numeracy/article/view/304

Schunk, D. H. (2012). *Teori-teori pembelajaran: Perspektif pendidikan* (edisi ke 6). (Y. Hamdiah, Penerjemah). Pustaka Pelajar.

Setyaningrum, A., Ariyanto, L., & Sutrisno, D. (2017). *Pengaruh self-confidence terhadap kemampuan penalaran matematis siswa kelas VII*. (2). https://doi.org/https://www.researchgate.net/publication/320841736

Sugiyono. (2017). *Metode penelitian kuantitatif kualitatif R & D*. Alfabeta.

Usher, & Pajares. (2022). *Self-efficacy beliefs of adolescents*. Emerald Group Publishing.

Vebrian, R., Putra, Y. Y., Saraswati, S., & Wijaya, T. T. (2021). Kemampuan penalaran matematis siswa dalam menyelesaikan soal literasi matematika kontekstual. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *10*(4), 2602. https://doi.org/10.24127/ajpm.v10i4.4369