

The Influence of Parenting Styles and Academic Self Efficacy on Mathematics Learning Achievement of Elementary Students

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Abstract

This research aims to 1) determine the influence of parenting styles on Mathematics learning achievement; 2) determine the influence of academic self-efficacy on learning achievement in Mathematics; and 3) determine the influence of parenting styles and self-efficacy on learning achievement in Mathematics. This research uses a quantitative approach. The research subjects were students in grades 4, 5, and 6 of elementary schools. The data collection techniques used were questionnaires and documentation. Data analysis was carried out using simple and multiple linear regression formulas. The results of the research show that 1) There is a positive and significant influence between parental parenting styles on student learning achievement in Mathematics; 2) There is a positive and significant influence between self-efficacy on student learning achievement in Mathematics; and 3) There is a positive and significant influence between parenting styles and self-efficacy on student learning achievement in Mathematics. Based on the results of research, it can be stated that to optimize communication between the school and parents, so that in the future the school can improve and optimize student learning achievement by discussing with parents so that positive interactions occur in the school environment, outside the school and family.

Keywords: *Academic Self-Efficacy, learning achievement, parenting styles.*

Abstrak

Penelitian ini bertujuan untuk 1) mengetahui pengaruh pola asuh orang tua terhadap prestasi belajar Matematika; 2) mengetahui pengaruh efikasi diri akademik terhadap prestasi belajar Matematika; dan 3) mengetahui pengaruh pola asuh orang tua dan efikasi diri terhadap prestasi belajar Matematika. Penelitian ini menggunakan pendekatan kuantitatif. Subjek penelitian adalah siswa kelas 4, 5, dan 6 sekolah dasar. Teknik pengumpulan data yang digunakan adalah angket dan dokumentasi. Analisis data dilakukan dengan menggunakan rumus regresi linier sederhana dan berganda. Hasil penelitian menunjukkan bahwa 1) Terdapat pengaruh positif dan signifikan antara pola asuh orang tua terhadap prestasi belajar Matematika siswa; 2) Terdapat pengaruh positif dan signifikan antara efikasi diri terhadap prestasi belajar Matematika siswa; dan 3) Terdapat pengaruh positif dan signifikan antara pola asuh orang tua dan efikasi diri terhadap prestasi belajar Matematika siswa. Berdasarkan hasil penelitian dapat dikemukakan bahwa untuk mengoptimalkan komunikasi antara pihak sekolah dengan orang tua, agar kedepannya pihak sekolah dapat meningkatkan dan mengoptimalkan prestasi belajar siswa dengan cara berdiskusi dengan orang tua agar terjadi interaksi yang positif di lingkungan sekolah, di luar sekolah, sekolah dan keluarga.

Kata kunci: *Academic Self-Efficacy, prestasi belajar, pola asuh orang tua.*



INTRODUCTION

Mathematics is part of formal education that contributes to building quality human resources. This is because mathematics is the knowledge that underlies the development of science and technology and has an important role in everyday life. Optimal mathematics learning will produce people who have the ability to think logically, analytically, systematically, critically and creatively. However, it is very unfortunate, there are still many students who experience difficulties in learning Mathematics. Anthony (2014) states that no school subject divides children more than math. While many children thrive at topics like problem-solving, geometry and numeracy, others find math so hard to learn that they feel overwhelmed, frustrated or anxious when doing anything math-related. Another opinion comes from the results of the 2021 PISA (Program of International Student Assessment) survey on a comprehensive test through measuring mathematical abilities, Indonesia ranks 64th out of 65 countries.

One of the reasons for the low learning achievement of students in Mathematics is that students' self-efficacy is also still low. Self-efficacy is a student's belief in their ability to carry out academic tasks such as doing daily assignments and preparing for exams (Jimerson, et al., 2010, p. 145). Most students think that Mathematics is a difficult subject because it is related to various kinds of numbers, patterns and series of formulas which seem complicated to learn. This problem is the same as that which occurs in students in grades IV, V and VI of elementary schools (SD) in Dagangan sub-district, Madiun district. Based on the results of observations made by researchers in pre-research on October 14 2023, it is known that Mathematics is considered an annoying and boring subject. This is proven by the daily reality of classroom learning where there are many students who experience difficulty in solving the questions given by the teacher. Mathematics is considered a difficult subject because students have developed an understanding in their minds that mathematics is difficult and complicated because it is always related to numbers, formulas and calculations. The students' initial thoughts will clearly influence their self-efficacy towards mastering Mathematics because previously they felt they could not understand the Mathematics material. These students already felt uninterested before trying it, or in other words the students' self-efficacy was low.

As an internal factor in the learning process, self-efficacy is important. Self-efficacy determines how individuals feel, think, behave, and motivate themselves. This involves cognitive abilities, motivation, affectivity, and the selection process. Self-efficacy influences how students think, motivate themselves, and behave. Self-efficacy is a student's perspective or assessment of how to complete academic assignments. Beliefs in self-efficacy can influence students' actions in choosing what to achieve, the challenges and goals set, commitment to trying to achieve goals, and how to overcome existing obstacles, self-resilience, and self-ability to overcome pressure (Ahyani, et al., 2018) . Based on several opinions, it can be said that the more confident they feel about their abilities, the greater the effort made by students because they feel confident in their abilities and can help them in carrying out assignments and facing obstacles or hurdles to achieve academic achievement.

In interviews conducted with class IV, V and VI teachers in Dagangan sub-district, Madiun district, during pre-research on 17 October 2023, students' mathematics scores on fractions were low on average. Students always grumble first when ordered to do a Mathematics assignment, and sometimes complain before trying to do it. Through observations made during the pre-research, it was seen that many students still cheated on their friends' assignments when the daily tests were held. This indicates that the student's level of self-efficacy is low because they are not confident in themselves to be able to do the test with their own ability. Apart from that, the

Mathematics subject scores on fractions show that around 30% of these students have to take remedial courses.

Apart from self-efficacy, another thing that influences student learning achievement is the parenting style of parents. Gunarsa (2018) states that parenting is the interaction between parents and children during parenting activities. This care means that parents educate, guide and discipline children to achieve good learning outcomes. Parental care is basically created by the interaction between parents and children in daily relationships not only through words but also by example of behavior. According to Setiawan (Hurlock, 2020), parents must be able to provide appropriate parenting patterns according to their child's development so that children can receive the parenting style given to them well which can motivate their learning so that the child's learning outcomes increase. Each parent provides different parenting styles in guiding and educating children. One thing that influences children's learning outcomes at school is the parenting style of parents towards children. The family is the first and most important center of education because the family always influences the character growth of each child. Caring for and guiding children means educating them with sincerity and love. In general, the responsibility for caring for children is the responsibility of the parents, namely the father and mother.

Based on the results of pre-research conducted by researchers on students in grades IV, V, and VI of elementary schools (SD) in Dagangan sub-district, Madiun district on October 26 2023, there are several parenting patterns applied by the parents of each student. Some parents apply an authoritarian parenting style (very strong and quite strict in controlling children's behavior so that it inhibits the emergence of open communication between parents and children), democratic (enforcing rules made jointly by the family members concerned), and permissive (always providing as much freedom as possible for the child to regulate himself). These various parenting styles of course greatly influence students' learning activities, and ultimately influence their learning achievement. Due to the differences in parenting patterns applied by parents, researchers are interested in examining whether these tendencies really influence student learning achievement.

Several previous studies have been conducted regarding parenting patterns and student learning achievement, including research conducted by Malmia, Wa, et al. (2022) regarding the influence of parental parenting on elementary school students' mathematics learning achievement. The results of this research indicate that there is an influence of parental parenting on the learning achievement of class IV students. The contribution of parental parenting to the learning achievement of class IV students in Mathematics based on a simple linear regression test obtained an R value of 0.346. This causes the contribution of parenting patterns to student learning achievement of 12%, while the rest is influenced by other variables. Another research conducted by Sinurat, et al. (2022) regarding the influence of parental parenting on mathematics learning outcomes for grade IV students. This research proves that parenting styles and mathematics learning outcomes for grade IV students have a high influence. The hypothesis (H_a) from this research is accepted, namely that there is an influence of parental parenting on Mathematics learning outcomes for class IV students.

Several other studies have been conducted relating to students' self-efficacy and learning achievement, including research conducted by Hartati, et al. (2021) regarding the influence of student self-efficacy on elementary school students' mathematics learning achievement. The results of this research state that there is a positive and significant relationship between self-efficacy and Mathematics learning achievement. The resulting summary effect size was 0.08 in the interval -0.78 to 0.97. The summary effect size is categorized as a medium effect, meaning that self-efficacy has a positive effect on Mathematics learning achievement. The large effect size produced through random effects analysis cannot be separated from the small standard error value

produced and the absence of publication bias. Another research was conducted by Ningrum and Rahmawati (2022) regarding the influence of self-efficacy on elementary school students' mathematics learning achievement. This research proves that there is a positive and significant influence of the self-efficacy variable on students' Mathematics learning achievement. This means that the higher the self-efficacy that students have, the higher their learning achievement will be, conversely, the lower the self-efficacy that students have, the lower their learning achievement will be. This statement is proven by the results of the analysis that has been carried out with a result of 20.5% with a significance value of $0.000 < 0.05$ with a fcount of 5.785.

The researcher's reason for choosing parenting patterns as a research variable is that the family is the smallest, most core community. According to Toha (2019), the family is an educational institution. Everyone who is in this institution will definitely experience change and development. The family environment is the first and main educational environment for children, because it is in the family that children receive education and guidance for the first time. This opinion emphasizes that in a family, children begin to receive education before entering formal education at school, therefore the parenting style of parents in educating children will influence the child's success in learning. The role of parents as educators in the family will be optimal in developing children's knowledge when supported by the parents' ability to use parenting patterns that can serve as role models. Meanwhile, self-efficacy was also chosen as a variable in this research because students' confidence in being able to achieve good Mathematics learning achievement is a very important internal factor that comes from students' self-awareness. Without this self-confidence, it is very difficult to achieve good Mathematics learning achievement.

What this research has in common with relevant previous research is that it is applied to Mathematics subjects for elementary school (SD) students. The difference is that this research takes the variables of parental parenting, self-efficacy, and Mathematics learning achievement simultaneously, whereas previous studies only took two variables, namely the influence of parental parenting on student self-efficacy, or the influence of parental parenting on student achievement. Another difference is that this research was conducted at schools in one sub-district area by taking a sample of two schools, whereas previous studies were only conducted at one school. This research was conducted on students in grades IV, V, and VI of Elementary School (SD), whereas previous studies were conducted in only one class. This research is entitled "The Influence of Parenting Patterns and Self-Efficacy on Mathematics Learning Achievement".

METHOD

Research Design and Procedure

In this research, researchers used quantitative research, namely research used to examine certain populations and samples (Margono, 2019). The sampling technique was carried out randomly, data collection used questionnaire research instruments and documentation, analysis and quantitative statistics with the aim of testing the established hypotheses.

Judging from the type of data, this research uses quantitative research methods, data in the form of numbers. The quantitative approach focuses attention on symptoms that have certain characteristics in human life which are called variables. Meanwhile, data analysis in this research uses quantitative data analysis using multiple linear regression analysis (two independent variables), namely a parametric statistical technique used to test the meeting of 2 predictors (X_1 and X_2) with the criterion variable (Sugiyono, 2021).

Research Subject

In this study the population was 31 elementary schools (SD) in Dagangan district, Madiun district. Researchers take a population of all students because they have the

same character or traits. Students have a low level of self-efficacy, this can be seen from the fact that most students still cheat when studying and on daily tests. Apart from that, the students' parents indicated that they implemented a democratic parenting style, namely a parenting style that is considered good and ideal at this time. From the documentation results, the students' Mathematics scores showed no significant differences. In sampling, this research uses a simple random sampling technique, namely taking sample members from the population randomly without paying attention to the strata in the population (Prasetya, 2019). The sample in this research was taken from a population of 31 elementary schools (SD) in the Dagangan district of Madiun district.

Research Instrument

The data needed in this research is data about the parenting patterns of students' parents, data about students' self-efficacy, and data about students' mathematics learning achievement. To collect data on parenting patterns (X1) and student self-efficacy (X2) a questionnaire was used, while for Mathematics learning achievement (variable Y) documentation of grades obtained from the teacher was used. The questionnaire was prepared using indicators of parental parenting patterns, namely authoritarian, authoritative and permissive parenting patterns. Indicators for the self-efficacy variable are magnitude, strength, and generality.

Data Analysis

This research uses a quantitative research approach. Data analysis was carried out using simple and multiple linear regression formulas.

RESULTS AND DISCUSSION

The Influence of Parenting Patterns on Students

From the results of simple linear regression analysis calculations regarding parenting patterns on student learning achievement, it is obtained that $F_{hitung} (15.441) > F_{tabel} (3.98)$ so that H_0 is rejected. This means that parental parenting has a significant effect on student learning achievement. The coefficient of determination (R^2) is 18.3%, meaning that parental parenting has an influence of 18.3% on student learning achievement, while 81.7% is influenced by other factors not included in the model.

Child care is believed to have an impact on the development of individual learning achievements. There are three factors, namely sociological, psychological, and biological factors and a common thread can be seen stretching from one factor to another. This is related to parents. In sociological factors, background, will be found regarding parents. Psychological factors highlight the relationship between children and parents. Meanwhile, biological factors imply a genetic relationship which of course is obtained from parents. Thus, in general it can be said that the parenting style of students' parents has a significant impact on Mathematics learning achievement.

The Influence of Student Self-Efficacy

From the results of simple linear regression analysis calculations regarding self-efficacy on student learning achievement, it is obtained that $F_{hitung} (6.039) > F_{tabel} (3.98)$ so that H_0 is rejected. This means that self-efficacy has a significant effect on student learning achievement. The coefficient of determination (R^2) is 8%, meaning that self-efficacy has an influence of 8% on student learning achievement, while 92% is influenced by other factors not included in the model.

Self-efficacy can improve achievement and well-being in various ways. Self-efficacy influences the person who makes choices. People who have self-efficacy tend to choose tasks or activities that make them feel competent and confident, and conversely will avoid activities that they consider cannot be completed. Thus, in

general it can be said that student self-efficacy has a significant influence on Mathematics learning achievement.

The Influence of Self-Efficacy and Parenting Patterns on Mathematics Learning Achievement

From the results of multiple linear regression analysis calculations regarding the self-efficacy of parents' parenting patterns on learning achievement, it is obtained that $F_{hitung} (8.347) > F_{tabel} (3.13)$ so that H_0 is rejected. This means that self-efficacy and parental parenting have a significant effect on student learning achievement. The coefficient of determination (R^2) is 19.7%, meaning that self-efficacy and parental parenting have a 19.7% influence on student learning achievement, while 80.3% is influenced by other factors not included in the model.

Individuals who have high self-efficacy consider failure as a result of a lack of hard effort, knowledge and skills. Individuals who have low self-efficacy will stay away from difficult tasks because the task is seen as a threat to them. Individuals like this have low aspirations and low commitment to achieving the goals they choose or set. Individuals who have low self-efficacy do not think about how to best deal with difficult tasks. This results in low learning achievement.

The way parents educate their children can influence the level of children's learning motivation. If the parenting style is authoritative, the parenting style gives the child responsible freedom. Children are free to choose activities they like both at school and outside school, but parents have taught children how to be responsible so that children know which are their rights and which are their obligations as learning, namely learning so that children have the motivation and awareness to improve their achievements.

This is different from parents who use a permissive parenting style where parents give children the freedom to act without supervision and parents do not provide responsibility so that children learn as they please, which causes children's interest in learning to be low. This is different from parents who use an authoritarian parenting style where the child's activities are limited by the parent and the child must always follow the parent's orders. If not, they will be punished, this will result in children's learning motivation being low, because children will be pressured to learn. However, if this continues for a long time it can cause the child's learning motivation to be high which can improve his learning achievement because if his grades are bad the parents will punish him.

Thus, it can be concluded that there is a significant influence between parental parenting styles and self-efficacy on students' Mathematics learning achievement. This statement is accordance with what Jamsons (2020) states that parenting style and academic self-efficacy can impact a student's academic performance. There is a positive impact of responsiveness and control parenting style on students' academic achievement. A weak significant mediating effect of self-efficacy was found between the parenting styles (responsiveness and control) and academic achievement.

CONCLUSION

From the analytical description of the research discussion above, the researcher can conclude three things related to the problem formulation:

1. There is a positive and significant influence between parenting styles on the mathematics learning achievement of students in grades IV, V and VI in Dagangan sub-district with an influence percentage of 18.3%, while 81.7% is influenced by other factors not included in the model.
2. There is a positive and significant influence between self-efficacy on the mathematics learning achievement of students in grades IV, V and VI in Dagangan sub-district with an influence percentage of 8% while 92% is influenced by other factors not included in the model.

3. There is a positive and significant influence between parenting style and self-efficacy on the mathematics learning achievement of students in grades IV, V and VI in Dagangan sub-district with an influence percentage of 19.7%, while 80.3% is influenced by other factors not included.

REFERENCE

- Ahyani, Latifah Nur. Pramono, Ridwan Budi. Astuti, Dwi. (2018). Empati dan efikasi diri guru terkait kegiatan belajar mengajar bebas bullying. *Jurnal Psikologi Ilmiah*, 10(2), 141-151. <http://journal.unnes.ac.id/nju/index.php/INTUISI>
- Anna, Catharina Tri. (2017). *Psikologi Belajar*. Unnes Press.
- Arifin, Zaenal. (2018). *Evaluasi Pembelajaran: Prinsip, Teknik, Prosedur*. PT Remaja Rosdakarya.
- Asri, Dahlia Novarianing. Anggriana, TyasMartika. (2019). *Pemahaman Individu*. Program Studi Bimbingan dan Konseling Fakultas Ilmu Pendidikan IKIP PGRI Madiun.
- Aunurrahman. (2019). *Belajar dan Pembelajaran*. Penerbit Alfabeta.
- Basith, Abd., et. al. (2020). Academic self-efficacy as predictor of academic achievement. *Jurnal Pendidikan Indonesia*, 9(1), 163-170. <https://doi.org/10.23887/jpi-undiksha.v9i1.24403>
- Darmawan, Deni. (2020). *Metode Penelitian Kuantitatif*. Remaja Rosdakarya.
- Djamarah, Syaiful Bahri. (2020). *Pola Asuh Orang Tua dan Komunikasi dalam Keluarga*. Rineka Cipta.
- Djamarah, SyaifulBahri. (2019). *Prestasi Belajar dan Kompetensi Guru*. Usaha Nasional.
- Feist, Jess dan Feist, Gregory J. *Teori Kepribadian*. (2018). Salemba Humanika.
- Ghufron, M. Nur & S, Rini Risnawati. (2021). *Teori-Teori Psikologi*. Ar- Ruzz Media.
- Gunarsa, Singgih D. (2018). *Dari Anak Sampai Usia Lanjut: Bunga Rampai Psikologi Perkembangan*. Gunung Mulia.
- Hamalik, Oemar. (2022). *Proses Belajar Mengajar*. PT Bumi Aksara.
- Hidayat, Dede Rahmat. (2018). *Teori dan Aplikasi Psikologi Kepribadian dalam Konseling*. Ghalia Indonesia.
- Hurlock, Elizabeth B. (2020). *Psikologi Perkembangan*. Yayasan Mitra Netra.
- Ilali, Mohammad Takdir. (2018). *Quantum Parenting: Kiat Sukses Mengasuh Anak Secara Efektif dan Cerdas*. Ar-Ruzz Media.
- Indrijati, Herdina. (2021). *Psikologi Perkembangan dan Pendidikan Anak Usia Dini*. Kencana.
- Jimerson, Shane R., et. al. (2010). *Handbook of Bullying in Schools: An International Perspective*. Routledge.
- Margono, S. (2019). *Metodologi Penelitian Pendidikan*. Rineka Cipta.
- Ma'rufah, Rosidatul. Pristiwiyanto. (2021). Peran sekolah dalam menanggulangi perilaku bullying: studi kasus di madrasah Ibtidaiyah negeri 1 gresik. *Fatawa: Jurnal Pendidikan Agama Islam*, 2(1), 18-28. <http://jurnal.stai-alazharmenganti.ac.id/index.php/fatawa>
- Prasetyo, Bambang. Jannah, Lina Miftahul. (2019). *Metode Penelitian Kuantitatif: Teori dan Aplikasi*. Raja Grafindo Persada.
- Rahman, Hardianto, dkk. (2023). Analisis dampak perilaku bullying terhadap prestasi belajar peserta didik pada tingkat madrasah ibtidaiyah dan sekolah dasar. *Journal on Education*, 6(1), 2374-2382. <http://ionedu.org/index.php/joe>
- Rahmat, Abdul. (2020). *Metodologi Penelitian: Pendekatan Multidisipliner*. Ideas Publishing.
- Saphiro, Lawrence E. (2019). *Mengajar Emotional Intelegensi pada Anak*. Gramedia Pustaka Utama.
- Sugiyono. (2021). *Metode Penelitian Kuantitatif, Kualitatif dan R & D*. Alfabeta.

- Sugiyono. (2021). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Alfabeta. 2012.
- Sulyani, Erda. Dewi, Salamiah Sari. (2022). Hubungan self efficacy dengan student engagement pada siswa di MAN 2 Bener Meriah. *Jouska: Jurnal Ilmiah Psikologi*, 1(2), 133-142. <http://jurnalmahasiswa.uma.ac.id/index.php/jouska>
- Tu'u, Tulus. (2017). *Peran Disiplin pada Perilaku dan Prestasi Siswa*. Grasindo.
- Veresova, Marcela. Foglova, Lucia. (2019). Academic self-efficacy, approach to learning and academic achievement. 176-196. <http://dx.doi.org/10.5772/intechopen.70948>
- Yusuf, Syamsu. (2021). *Psikologi Perkembangan Anak dan Remaja*. Remaja Rosdakarya.