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FAMILY FACTORS AS THE PRIMARY DETERMINANT OF LEARNING INDEPENDENCE: AN EMPIRICAL STUDY OF TIARA SCHOOL ELEMENTARY STUDENTS

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Abstract

This study aims to examine the influence of family factors on the learning independence of students at Tiara School Elementary School Jakarta. Family factors analyzed include parental support and attention, grade level, number of children, time spent assisting the child, family income, and parents' educational attainment. The study employed a quantitative approach using a questionnaire distributed to 55 parents of students from grades 1 to 6. Data were analyzed using multiple linear regression to determine the simultaneous and partial effects of the independent variables on students' learning independence. The results indicate that parental support and attention and grade level have a significant positive effect on learning independence, while the number of children, time spent assisting the child, family income, and parents' educational attainment do not have a significant direct effect. The regression model shows that approximately 39.9% of the variation in learning independence can be explained by the family-related variables studied. These findings suggest the importance of active and supportive parental involvement and highlight the developmental differences across grade levels in fostering students' capacity for self-directed learning. Practically, the study emphasizes the need for schools and parents to collaborate in promoting quality parental engagement that encourages autonomy and self-regulated learning in students.

Keywords: Learning Independence, Parental Support, Family Factors, Elementary School, Self-Regulated Learning

INTRODUCTION

Primary education plays a fundamental role in shaping students' academic abilities as well as their character development. At the elementary school level, the educational process is not solely oriented toward the acquisition of knowledge, but also toward the development of attitudes and sustainable learning skills. One essential competency that must be cultivated from an early age is learning independence, as this ability serves as the foundation for students to manage their learning processes actively, responsibly, and continuously (Dalas et al., 2020).

Learning independence is defined as students' ability to plan, regulate, implement, and evaluate their own learning activities without excessive dependence on others (Rizki et al., 2022). Students who demonstrate a high level of learning independence tend to possess strong intrinsic motivation, self-discipline, and initiative in completing academic tasks. Numerous studies have shown that learning independence is positively correlated with academic achievement, self-confidence, and readiness for learning at higher levels of education.

However, at the elementary school stage, learning independence does not develop naturally or automatically. Children are still in a phase of cognitive and emotional development that is highly influenced by their surrounding environment. Therefore, external factors, particularly the family environment, play a dominant role in shaping students' learning behaviors. The family represents the first and primary educational environment in which values, habits, and learning attitudes are established before children enter formal schooling (Setiawan et al., 2024).

One of the most influential family-related factors in the development of learning independence is parental support and attention. Empirical studies indicate that parental involvement in the form of learning assistance, effective communication, and motivational encouragement contributes significantly to students' learning independence. Children who receive consistent parental attention tend to exhibit better self-control and are more capable of completing learning tasks independently. This provides a theoretical basis for the hypothesis that parental support and attention (X1) influence students' learning independence (Y) (Zhang et al., 2020).

In addition to parental attention, the grade level attended by students (X2) also affects learning independence. From a developmental perspective, students in higher grades generally demonstrate greater cognitive and emotional maturity than those in lower grades. Research in educational psychology suggests that as students advance in grade level, they become more capable of managing their study time, understanding academic responsibilities, and developing independent learning strategies. Therefore, grade level is assumed to have an effect on students' learning independence (Mao, 2022).

Another relevant family factor is the number of children within the family (X3). Previous research indicates that family size may influence the intensity of parental attention and learning support provided to each child. In families with a larger number of children, parental attention is often divided, which may reduce the effectiveness of learning assistance. This condition may, in turn, affect the development of students' independent learning habits. Conversely, children from smaller families tend to receive more focused parental attention, which may support the development of learning independence.

Furthermore, the amount of time parents spend assisting their children with learning activities (X4) is a crucial factor in fostering learning independence. Empirical evidence suggests that both the quantity and quality of parental involvement influence students' motivation and learning habits. Appropriate parental guidance without excessive control can help children understand effective learning strategies and gradually become independent learners.

The family's income level (X5) also contributes to students' learning independence. Adequate income enables families to provide better learning facilities, such as books, educational media, a conducive study environment, and access to educational technology. Numerous studies have demonstrated that socioeconomic status is closely related to the quality of the home learning environment, which ultimately affects students' ability to engage in independent learning (Covarrubias & Valle, 2025).

In addition to income, parents' highest level of education (X6) influences parenting patterns and learning support strategies. Parents with higher educational attainment generally possess a better understanding of the importance of learning independence and are more capable of implementing effective learning guidance strategies. Previous research has shown that parental education level is positively associated with children's learning attitudes, motivation, and independence in learning.

In the context of Tiara School Elementary School, variations in students' levels of learning independence have been observed despite their exposure to the same school environment. This phenomenon indicates that factors outside the school setting, particularly family-related factors, play a significant role in shaping students' learning independence. Differences in parental attention, family background, and socioeconomic conditions are assumed to contribute to these variations.

Based on the foregoing discussion, this study is important to empirically examine the influence of parental support and attention, grade level, number of children in the family, parental assistance time, family income, and parents' educational attainment on the learning independence of students at Tiara School Elementary School. The findings of this study are expected to contribute theoretically to the field of elementary education research and practically to the development of collaborative strategies between schools and parents to foster students' learning independence from an early age.

REVIEW OF LITERATURE

Self-Determination Theory (SDT)

Self-Determination Theory (SDT) is a theoretical framework that explains the influence of intrinsic and extrinsic motivation on the development of an individual's personality (Chiu, 2024). SDT is a motivation theory concerned with how individuals interact with their social environment. It primarily focuses on elucidating the role of intrinsic motivation in personality development. In general, Self-Determination Theory emphasizes intrinsic motivation that originates within the individual and drives behavior based on one's own volition. Developed by Deci and Ryan (1985), Self-Determination Theory explains human motivation and personal development by examining the differing effects of intrinsic and extrinsic motivation. Intrinsic motivation refers to motivation that arises from within an individual without external pressure or control. In contrast, extrinsic motivation emerges as a result of external regulation or control imposed on the individual. SDT posits three basic

psychological needs that are essential for optimal functioning and development: autonomy, competence, and relatedness (Fung et al., 2024; Kostromina et al., 2022; Oszwa & Knopik, 2023; Roca & Gagné, 2008).

Learning Independence

Learning independence refers to an individual learning process that emphasizes students' initiative and responsibility in managing their own learning activities (Novalia et al., 2025). This includes the ability to set learning objectives, identify and select appropriate learning resources whether in the form of people or instructional materials diagnose personal learning needs, and regulate learning strategies to achieve predetermined goals. In this context, learning independence reflects students' active involvement in the learning process, where they are not merely recipients of information but active agents who take control of their learning decisions (Maisyaroh et al., 2024).

Furthermore, learning independence is closely associated with students' ability to engage in learning activities without excessive reliance on others. According to Suhendri and Mardalena, independent learning occurs when students are able to carry out learning activities autonomously in order to achieve learning objectives. Independent learners demonstrate self-awareness and self-regulation in acquiring knowledge and skills, enabling them to apply what they have learned to solve real-life problems. This ability indicates not only cognitive maturity but also the development of responsibility and confidence in one's own learning capabilities (Fitriyana et al., 2024).

Independent learning is also driven by intrinsic motivation, which encourages learners to solve problems, construct knowledge, and develop skills independently (Baharun & Solehudin, 2023). Students who learn independently take responsibility for determining learning goals and selecting appropriate learning strategies, including the management of study time, choice of learning environment, learning methods, learning resources, and the evaluation of learning outcomes. Through this process, independent learning fosters lifelong learning skills, as students become capable of adapting to new learning challenges and continuously improving their competencies without constant external guidance (Listiana et al., 2025).

There are several factors that influence learning independence, including (Li & Rahman, 2025; Özgenel & Avcı, 2025; Song et al., 2024):

1. Parental support and attention
   Parental support and attention refer to the involvement of parents in guiding, motivating, and supervising their children's learning activities. Research has shown that children who receive consistent attention and encouragement from their parents tend to exhibit higher levels of learning independence. This support helps students develop self-regulation skills, improve problem-solving abilities, and maintain motivation in learning without excessive reliance on teachers or peers.
2. Grade level
   The grade level that a student is currently attending reflects their cognitive and emotional development stage. Students in higher grades generally have more advanced cognitive abilities, better time management skills, and greater responsibility for their own learning. Therefore, grade level can influence a

student's ability to plan, monitor, and evaluate their own learning activities, contributing to greater learning independence.

3. Number of children in the family
   The number of children in a family can affect the amount of attention and resources available to each child. In larger families, parental attention may be divided among several children, which can reduce the support available for each child's learning. Conversely, in smaller families, children often receive more focused parental guidance and assistance, which can foster stronger learning independence.
4. Time spent assisting the child
   The duration and quality of time parents dedicate to assisting their children in learning activities is a crucial factor. Parents who allocate sufficient time to guide, discuss, and supervise their children's learning help them understand effective strategies and encourage self-directed learning. This active involvement strengthens the child's confidence and ability to manage learning independently.
5. Family income
   Family income influences the availability of learning resources and facilities at home, such as books, educational media, a comfortable study environment, and access to technology. Higher family income allows parents to provide better educational support, which can enhance the child's ability to engage in independent learning activities. Conversely, limited financial resources may restrict access to these supportive tools, potentially hindering learning independence.
6. Parents' education attainment
   The highest level of education attained by parents affects their capacity to guide and support their children's learning. Parents with higher education levels are generally more aware of effective learning strategies and the importance of fostering learning independence. They are often able to provide better cognitive and motivational support, thereby encouraging their children to take responsibility for their own learning and develop self-directed learning habits.

RESEARCH METHOD

The research method used in this study is quantitative. Data were collected using a questionnaire containing questions regarding information and respondents' perceptions related to children's learning independence. The questionnaire was measured using a Likert scale of 1–4 to obtain quantitative information from the students' parents. The research subjects were parents of students at Tiara School Elementary School Jakarta, with a total of 55 parents completing the questionnaire. The respondents were parents of students from grades 1 to 6. The questionnaire was administered on December 7–8, 2025, so the data obtained represents the condition at the time the research was conducted. Tiara School Elementary School Jakarta is a private school with 21 years of experience and has a strong academic record in the Duren Sawit district. Historical data show that when the National Examination was still implemented, Tiara School Elementary School consistently ranked among the top five schools based on average scores. The data obtained were analyzed using multiple linear regression. This method is used to determine the influence of two or more

independent variables on a single dependent variable simultaneously. Multiple linear regression was chosen because it can explain the causal relationship between independent and dependent variables, as well as measure the direction of influence (positive or negative) and the magnitude of the contribution of each independent variable to the dependent variable.

RESULTS AND DISCUSSION

Normality and Heteroskedasticity Test Results

Table 1. Results of Normality and Heteroskedasticity Tests

Assumption	Test Statistic	p-value	Description
Normality			
Kolmogorov Smirnov	0.098	0.200	Normal
Heteroskedasticity			
Breuch-Pagan	0.018	0.893	Homogen

Based on the normality test using the Kolmogorov-Smirnov method, the test statistic was 0.098 with a significance value (p-value) of 0.200. Since the p-value is greater than 0.05, it indicates that the residuals in the regression model are normally distributed. Therefore, the normality assumption in this study is fulfilled. The heteroskedasticity test using the Breusch-Pagan method yielded a test statistic of 0.018 with a significance value (p-value) of 0.893. Because the p-value is greater than 0.05, it can be concluded that there is no heteroskedasticity in the regression model, indicating that the residual variance is homogeneous.

Multicollinearity Test Results

Table 2. Results of Multicollinearity Test

Variable	VIF	Description
X1	1.200	Meets Assumption
X2	1.103	Meets Assumption
X3	1.109	Meets Assumption
X4	1.090	Meets Assumption
X5	1.226	Meets Assumption
X6	1.438	Meets Assumption

The multicollinearity test results show that the Variance Inflation Factor (VIF) for all independent variables (X1–X6) is less than 10. All VIF values are well below the maximum threshold of 10, indicating that there is no multicollinearity among the independent variables in the regression model.

Results of Data Analysis

Table 3. Results of Data Analysis

Variable	Coefficient	SE	t	p-value	Desciption
X1 (Parental Support and Attention)	0.810	0.175	4.621	0.001	Significant
X2 (Grade Level)	0.077	0.033	2.368	0.022	Significant

X3 (Number of Children)	0.098	0.068	1.429	0.160	Not Significant
X4 (Time Spent Assisting the Child)	-0.078	0.063	-1.227	0.226	Not Significant
X5 (Family Income)	-0.042	0.057	-0.744	0.460	Not Significant
X6 (Parents' Educational Attainment)	-0.027	0.063	-0.427	0.671	Not Significant
R^2 Adjusted				0.399	Moderate
Simultaneous Test (F-test)				6.866	Significant (p = 0.001)

Based on the results of the multiple linear regression analysis, several important findings were obtained regarding the influence of family factors on the learning independence of students at Tiara School Elementary School Jakarta. The Adjusted R^2 value of 0.399 indicates that approximately 39.9% of the variation in students' learning independence can be explained by the independent variables studied, namely parental support and attention (X1), grade level (X2), number of children (X3), time spent assisting the child (X4), family income (X5), and parents' educational attainment (X6). This falls into the moderate category, suggesting that family factors have a moderate influence on learning independence. The F-test result of 6.866 with p = 0.001 indicates that the regression model is significant simultaneously, meaning that the independent variables collectively have a significant effect on students' learning independence.

1. Parental Support and Attention (X1)

   Parental support and attention were found to have a positive and significant influence on students' learning independence, with a coefficient of 0.810 (t = 4.621, p = 0.001). This suggests that when parents actively support, guide, and pay attention to their children's learning processes, students tend to develop stronger abilities to manage and regulate their own learning. This finding aligns with research indicating that parental involvement plays a critical role in shaping children's learning behaviors and outcomes, especially during elementary and secondary education (Chen & Mok, 2023).

   Several studies also highlight that active parental involvement fosters students' motivation and self-regulation. For instance, research shows that perceived parental involvement is positively associated with academic adaptability and motivational orientations in students, which in turn support autonomous learning (Chen & Mok, 2023). Furthermore, research on primary school students has found that parental support contributes to the satisfaction of basic psychological needs such as autonomy and competence which are essential for intrinsic motivation and self-directed learning (Liu et al., 2024).

   In the context of this study, the significant positive effect of parental support and attention suggests that when parents are engaged in their children's learning, students feel more secure and confident to undertake learning tasks independently. This observation supports the broader literature that emphasizes the importance of

parental involvement not just as logistical support (e.g., supervision) but as emotional and motivational support that encourages independent learning (Chen & Mok, 2023).

2. Grade Level (X2)

   The analysis showed that the grade level of students has a positive and significant relationship with learning independence (coefficient = 0.077, t = 2.368, p = 0.022). This finding suggests that students in higher grades tend to exhibit greater learning independence compared to those in lower grades. One plausible explanation for this pattern is that cognitive and emotional maturation that accompanies age and grade progression enhances students' capacity to self-regulate, plan, and monitor their learning activities more effectively.

   Empirical findings from educational research support this notion, indicating that older students typically demonstrate higher levels of self-directed learning skills and greater competence in managing academic responsibilities. These skills are often developed through accumulated school experiences, a deeper understanding of learning processes, and increased confidence in academic tasks. As students progress through grades, they often face more complex learning demands that require greater autonomy and self-monitoring.

   Moreover, developmental psychology literature suggests that older children have more advanced executive functions such as working memory, planning, and inhibitory control which enable them to take responsibility for their learning processes. These cognitive developments, together with school experiences, make grade level a meaningful predictor of learning independence among elementary school students (Dignath et al., 2008).

3. Number of Children (X3)

   The coefficient for the number of children in the family was found to be 0.098 with a p-value of 0.160, indicating no significant effect on learning independence in this study. This suggests that, within the context of SD Tiara School Jakarta, the number of siblings a student has does not substantially influence their ability to learn independently. One possible explanation is that the quality of parent-child interactions and parental support may matter more than mere family size in shaping learning behaviors.

   This finding is consistent with research suggesting that the influence of family size on academic outcomes and learning behaviors is not always significant and is often contingent upon the quality of parenting practices rather than the number of children per se. According to previous studies, larger families might face challenges related to resource allocation, but effective parental engagement can mitigate potential disadvantages (Lee et al., 2023; Metallidou & Vlachou, 2010).

   In addition, some research has shown that learning independence may depend more on the emotional and cognitive support received at home rather than demographic variables like the number of siblings. Thus, while the number of children could affect parental attention distribution, it does not necessarily translate into reduced learning independence if parents maintain consistent involvement with each child (Blake, 1986).

4. Time Spent Assisting the Child (X4)

The variable measuring time spent by parents assisting their children was not found to be significant (coefficient = -0.078, p = 0.226). This result suggests that the quantity of time parents spend with their children is not directly associated with learning independence. Instead, the quality of engagement, such as how parents interact and support learning, may be more influential than the total duration of time spent. This conclusion is supported by educational research emphasizing that effective involvement is characterized by meaningful, supportive interactions that encourage children's autonomy.

Studies have highlighted that parental involvement should facilitate autonomy, allowing children to take ownership of their learning rather than creating dependency. In essence, time spent simply supervising or controlling learning activities may not foster independence if children are not given opportunities to make decisions and solve problems on their own (Chen & Mok, 2023).

Additionally, research suggests that parental guidance that emphasizes encouragement and scaffolding rather than direct instruction or continuous oversight enables students to develop self-regulation skills more effectively. Such engagement supports students in becoming self-directed learners, implying that the quality of support matters more than the amount of time. These insights help explain why the time measure in this study did not show a significant direct effect on learning independence (Pangestuti et al., 2019).

5. Family Income (X5)

The coefficient for family income was negative (-0.042) with a p-value of 0.460, indicating that family income does not have a significant influence on learning independence in this sample. This finding suggests that socioeconomic status alone may not be a direct determinant of students' ability to learn independently, at least within the context of SD Tiara School. Previous research has noted that the relationship between family income and learning outcomes is often mediated by other factors, such as the quality of the home learning environment and parental involvement practices (Chen & Mok, 2023).

Socioeconomic status can affect access to learning resources, but its impact on learning independence may not be direct. For instance, families with limited financial resources might still provide strong emotional and pedagogical support that compensates for material constraints. In contrast, higher income alone does not guarantee that students will be encouraged to develop self-regulated learning behaviors without appropriate parenting practices (Qiu & Ye, 2023).

Moreover, research suggests that parental involvement and support, regardless of income level, are more predictive of learning motivation and self-directed learning than income itself. The absence of a significant effect in this study reinforces the idea that social and relational factors within the family may play a more crucial role than economic conditions in shaping independent learning (Zhang et al., 2020).

6. Parents' Educational Attainment (X6)

Parents' highest level of education showed a non-significant coefficient (-0.027, p = 0.671), indicating that educational attainment alone does not directly contribute to students' learning independence in this study. Although parental

education is often associated with attitudes toward education and expectations for children, its effect on learning independence may operate through more proximal mechanisms, such as parental involvement behaviors and the quality of cognitive stimulation at home. Some studies have found that higher parental education correlates with better academic achievements, but this relationship can be mediated by parenting practices that stimulate autonomy and learning engagement. If the educational level of parents does not translate into effective support strategies, it may not significantly impact learning independence (Saa`da, 2021).

Additionally, research suggests that the nature of parental involvement—not just educational qualifications determines how effectively parents encourage independent learning. Educational attainment may provide parents with better knowledge of academic processes, but without supportive involvement behaviors that encourage autonomy, it may not directly enhance students' independent learning behaviors (Guan et al., 2025).

CONCLUSION

Based on the results of this study, it can be concluded that family factors, particularly parental support and attention (X1) and grade level (X2), have a significant influence on the learning independence of students at Tiara School Elementary School Jakarta. Other variables, including the number of children (X3), time spent assisting the child (X4), family income (X5), and parents' educational attainment (X6), were not found to have a significant direct effect. The regression model shows that approximately 39.9% of the variation in students' learning independence can be explained by the family-related variables studied, indicating a moderate level of influence.

The findings have important practical implications for educators and parents. Schools should encourage and facilitate active parental involvement in the learning process, emphasizing both emotional support and guidance that promotes autonomy. Additionally, recognizing that older students tend to exhibit higher learning independence, teachers can tailor strategies that gradually develop self-regulated learning skills across grade levels. Parents are encouraged to focus on the quality of engagement with their children, fostering independence through supportive interactions and motivation rather than simply increasing the time spent supervising learning. These strategies can help optimize students' capacity for self-directed and autonomous learning.

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