

A PISA Data 2018 Analysis: Do Parents' Education and Students' Learning Supports Affect Learning Achievement?

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Abstract: A PISA Data 2018 Analysis: Do Parents' Education and Students' Learning Supports Affect Learning Achievement? Objectives: This study aims to determine the effect of parents' education level and students' learning supports on students' academic achievement. **Methods:** A quantitative approach was applied carried out multiple linear regression analysis as the technique. The data was obtained from the result of Program International Student Assessment (PISA) in 2018. The sample size was 10.820 students from 397 schools in Indonesia. **Findings:** The results indicated: 1) fathers' level of education has a significant effect on learning achievement; 2) mothers' education level has a significant effect on learning achievement; 3) students' learning supports at homes have a significant effect on learning achievement; 4) parents' education level and students' learning support significantly affect students' learning achievement. **Conclusion:** Parents' education level and students' learning supports at home are the most essential factors on learning achievement because high education level of parents and satisfied learning supports enhance students' learning achievement in Indonesia.

Keywords: parents' education level, learning support, learning achievement.

Abstrak: Analisis Data PISA 2018: Apakah Pendidikan Orang Tua dan Penunjang Pembelajaran Siswa Mempengaruhi Prestasi Belajar? Tujuan: Tujuan penelitian ini untuk mengetahui pengaruh tingkat pendidikan orang tua dan penunjang pembelajaran terhadap prestasi belajar siswa. **Metode:** Penelitian ini menggunakan pendekatan kuantitatif dengan teknik analisis regresi linier berganda. Data diperoleh dari hasil Program Penilaian Siswa Internasional (PISA) pada tahun 2018. Jumlah sampel 10.820 siswa dari 397 sekolah di Indonesia. **Temuan:** Hasil penelitian menunjukkan: 1) tingkat pendidikan ayah berpengaruh signifikan terhadap prestasi belajar siswa; 2) tingkat pendidikan ibu berpengaruh signifikan terhadap prestasi belajar siswa; 3) penunjang pembelajaran di rumah siswa berpengaruh signifikan terhadap prestasi belajar siswa; 4) tingkat pendidikan orang tua dan penunjang pembelajaran siswa berpengaruh signifikan terhadap prestasi belajar siswa. **Kesimpulan:** Tingkat pendidikan orang tua dan penunjang pembelajaran di rumah adalah faktor terpenting terhadap prestasi belajar siswa karena tingkat pendidikan orang tua yang tinggi dan penunjang pembelajaran yang lengkap dapat mendorong meningkatkan prestasi belajar siswa di Indonesia.

Kata kunci: tingkat pendidikan orang tua, penunjang pembelajaran, prestasi belajar.

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■ INTRODUCTION

Education is a fundamental mechanism to improve the citizen quality in a certain country. It is a foundation to shape children quality. Children education does not only affect individual achievement but also produces good quality and innovation to develop a certain country (Heckman, 2011). Educational success has strength to change individual quality of life (OECD, 2016). Learning achievement is one of important factors to assess students' success in education. It is a factor among other factors that influence children's educational success (Chen, Kong, Gao, & Mo, 2018; Jæger, 2012; S. Li, Xu, & Xia, 2020; Morsy & Rothstein, 2015; Sastry & Pebley, 2010; Smits & Hopgör, 2006).

The previous studies found out several factors affect students' educational success such as parents' socioeconomic status namely income, education, and job; teachers' qualification and motivation; school geographical location; parents' involvement (Conger & Conger, 2002; Jæger, 2012). A research conducted by Sirin (2005) meta-analysis of social status and learning achievement reveals that there are many studies applied a combination of one or more factors including parents' education, job, and expectation. This research demonstrates that a problem occurred in our education, especially in junior high school, is related to various factors on students' learning achievement. This research explores how parents' education level and students' learning supports affect students' learning achievement in junior high school (Chen et al., 2018).

Learning achievement in relation to socioeconomic background is one of the persistent issues in educational research. Coleman reports that school itself does not give much contribution on students' academic result and what they bring in school, inequalities environment related to home environment imposed on students, and peers' environment faced in the final year of school. Socioeconomic

background can be used variously in an educational research. In the Organisation for Economic Co-operation and Development (OECD), a big scale international assessment followed by 70 countries in 15 years, Programme of International Assessment (PISA), is represented by socio-economic status and culture which is the combination score of the main components analysis consisting of job, parents' education level, family wealth, education resources index, and property index/ learning support at homes (OECD, 2017).

Indonesia uses this international evaluation as an educational evaluation in the country. Based on the availability of the educational evaluation, then the result of PISA analysis can be used as a measurement for the quality of education in a certain country compared to others. It gives big effects to 79 countries contributed in PISA from 2000-2018 (OECD, 2019b). The result of PISA in 2018 shows that Indonesia is in number 73 for students' reading quality, 71 for mathematic ability, and 74 for the students' ability on science. PISA reveals that Indonesian students have low ability in analysis, reasoning, and evaluation of higher cognitive aspects (OECD, 2019). Even though not all experts believe that students' achievement can be measured by students' ability on literacy, mathematics, and science, but *Program for International Students Assessment* (PISA) report has been determined as an insight of educational policy in every country (Trinidad, 2020).

Students' low achievement is public issues in every primary and secondary school and higher education institution. Indonesia requires improving the quality of their education for the sake of its willingness to be a developed country. Considering this issue then it is important to find the factors affect students' low achievement. There are several factors influence students' learning achievement. Usman (2017) states that there are two factors, internal and external factors,

obtained by an individual. Internal factor covers passion, motivation, students' characteristics, intellectual quotation, physical condition, psychological condition, and students' learning activity. Meanwhile, external factors consist of family environment, learning environment, school, teacher, learning facility, learning resource, learning method, learning medium, and family socioeconomic status. Both external and internal factors give contribution to get higher learning achievement in junior high school.

One of the main factors influencing children education is parents' education (Chen et al., 2018; Jæger, 2012; Gary N. Marks, 2006; Wiederkehr, Darnon, Chazal, Guimond, & Martinot, 2015). Higher level of education raises parents' incomes. Educated parents which proceed school since younger, does not only acquire privilege to have knowledge and experience on education, but building high hopes and aspirations to their children (Eccles, 2005; S. Li et al., 2020). Having parents acquiring good educational background and material can motivate their children to learn and acquire higher learning achievement (Liu & Lu, 2008).

Another factor can influence learning achievement is the learning support at home. It often relates to the educational resources or facilities such as books, games, and interactive learning materials. Learning supports at home have function to support learning process and to facilitate active and efficient learning, as if it does not contribute positive influence, then it might produce lower learning achievement (Long & Pang, 2016). Several studies show that parents income has big effects on students' learning achievement (Chen et al., 2018; Wang, Li, & Li, 2014). Parents who have strength on economic tend to facilitate impactful learning to their children (Zhan, 2006).

Learning supports at home are factors that influence individuals or groups to be able to learn and to ease students' learning activities. This

learning facility can support academic and non-academic activities. One of the roles of learning facilities is supporting students' learning result which impacts their achievement. This highlights that learning support at homes or known as learning facilities are essential things to be fulfilled both at school and home. Satisfied learning facilities absolutely help students to achieve a good objective of learning (Cynthia, Martono, & Indriayu, 2016). Providing learning facilities can optimize and maximize learning achievement.

Even though the studies show that parents' education and learning support influence students' learning achievement theoretically limited. It occurs since most of the studies only focus on developed countries. As the fact, this pays limited contribution for developing countries such as Indonesia. Other than that, the researchers determine the limited studies are caused by the academic data produced by students which are objectives and obtain various aspects such as teacher students' relation, students' perception towards school, and parents' involvement in facilitating learning.

Using the data released by PISA gives opportunities to complete the previous studies. PISA report shows that several factors related to students' learning achievement can be measured objectively through reading, mathematics, and science tests. Moreover, by using representative data, the researcher produces a comprehensive study than the previous ones. Considering the statements above, there are four contributions provided in this study: First, providing deep information focusing on parents' education, explaining the influence between father' education level and students' learning achievement; second, presenting the influence between mother's education and students' learning achievement; third, demonstrating the influence between learning supports and students' learning achievement; last, explaining the influence between parents'

education level and learning supports on students' learning achievement.

■ **METHOD**

Research Design

This research analyzed secondary data using quantitative approach. It used various available data resulted from a survey of Programme for International Students Assessment (PISA) 2018. The data was taken from the number of 15 years old Indonesian students included in PISA 2018 which was 3.768.508. Then, by applying proportionate stratified random sampling, the number of students covered was 12.980 students spread among 397 public and private schools, in urban and rural areas. Furthermore, before conducting statistic analysis, the researcher prepared the data to analyze by removing the outliers and covering the data of students who completed information related to parents' education and students' learning support. Therefore, the total number of the sample used was 10.820 participants.

Data Collection Technique

The data collection technique used in this study was a test and non-test instrument. The data collection was obtained from documentation in the form of questionnaires, codebooks, and data sets from PISA 2018. The test instruments were used to measure student achievement. The test instruments followed the previous research using the average value of student achievement in Indonesia with 3 assessments of the combined scores of the three components of learning achievement contained in the total score obtained from literacy results in the school's main subjects, namely reading literacy, mathematical literacy, and scientific literacy. Each individual literacy score was coded as PV (plausible value), for scientific literacy scores PV1SCIE to PV10SCIE, mathematical literacy scores PV1MATH to

PV10MATH, and for reading literacy scores PV1READ to PV10READ. This question was answered based on the combined total score of the three literacies ranging from the lowest score of 0 to the highest score of 10.

Moreover, non-test instruments were used to estimate the level of parents' education and the learning support at home. The level of father's education and mother's education were measured by PISA questions in the students' questionnaire coded as ST005, ST006, ST007, and ST008 about parental education. The questions existed in the questionnaire on mother's educational were ST005 "What is the highest level of schooling that your mother completed", ST006 "Does your mother have the following qualifications?". Meanwhile, the questions on father's education were ST007 "What is the highest level of school that your father completed", ST008 "Does your father have the following qualifications?". Parents' educational level was classified using ISCED. Parents' education was indexed by re-coding educational qualifications into the following categories: (0) none, (1) basic education, (2) lower secondary, (3) upper/vocational secondary, (4) Bachelor, (5) postgraduate. This measurement was to measure the level of education of the father (FISCED), and the mother (MISCED). Learning supports at home were coded as ST011 "Are there any of the following items in your house?". The researcher recoded the responses to the questions in the ST011 questionnaire.

Data Analysis

The quantitative approach with secondary data analysis used in this study was from data obtained in PISA 2018. This study hypothesized that the level of education of parents and learning supports affect students' learning achievement. Three statistical steps were applied to prove the hypothesis of this study. First, the researcher

made a descriptive analysis of all the variables used. Second, correlation analysis was applied to determine the relationship of each independent variable to the students' achievement. Third, multiple linear regression was applied to examine the effect of all independent variables consisting of the educational level of parents and the learning supports on the dependent variable at a significance level of 0.05. Multiple linear regression analysis was also applied to prove the

proposed research hypothesis. The three statistical analyzes were performed using STATA Version 16.0 Software.

■ **RESULTS AND DISCUSSION**

The research finding and discussion on the effect of parents' education level and students' learning supports towards students' achievement reported individually in Indonesia using national data from the latest PISA survey 2018 as follows:

Table 1. Analysis result of descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Learning achievement	10,820	407.9664	71.7934	210.296	664.1129
Fathers' Education Level	10,820	2.822089	1.405511	0	5
Mothers' Education Level	10,820	2.692699	1.388264	0	5
Learning Supports	10,820	5.851017	2.550821	0	11

Descriptive statistics (mean, standard deviation, minimum and maximum values) for the variables in this study are shown in table 1. Overall, the respondents indicated that. Table 2 demonstrates that all independent variables are significantly correlated with student achievement. The education level of the father provides a positive and quite high correlation ($r= 0.66^*$), the mother's education level ($r= 0.44^*$), and learning support ($r= 0.46^*$) all variables show a significant correlation with students' learning achievement. These results indicate that students with higher education level of their parents' education and having fulfilled learning support will achieve better learning achievement than the students with parents possessing lower education and unfulfilled learning support.

Table 3. Presents the results of linear regression to investigate how parents' education level and learning supports at homes affect student achievement in Indonesia. Model 1 on the results of the regression analysis shows that there is a positive and significant influence between the father's education level ($\alpha = 13.151 < 0.01$)

on students' learning achievement in Indonesia. This means that the higher father's education level, the higher student's learning achievement. With the results of the R-Square value 0.066, it means that the father's education level variable affects student learning achievement by 6.6%, the remaining 93.4% is explained from other variables not measured in this study. The results of this study are in line with previous research stating that parents' education affects students' achievement (Whitney, Prewett, Wang, & Chen, 2018). This occurs because different parents' education level can create different learning environment. Entwislea & Astone (1994) state that the higher level education of parents can help their children to work, support them to the higher education, and develop their language skills. Other than that, educated parents possess higher fulfilling quality of education, meanwhile less educated parents have limited access to the higher quality of education service (Schiller, Khmelkov, & Wang, 2002). Several studies show that parents' achievement

Table 2. Correlation of independent variables and students' learning achievement.

	Father's Education Level	Mother's Education Level	Learning Support
Father's Education Level	1		
Mother's Education Level	0.6628*	1	
Learning Support	0.4642*	0.4404*	1

n= 10,820; *p < 0.05; **p < 0.01; ***p < 0.001

Tabel 3. Linear regression of parents' education level and learning support on students' learning achievement

Variabel	Model 1 Coeff. (s.e)	Model 2 Coeff. (s.e)	Model 3 Coeff. (s.e)	Model 4 Coeff. (s.e)
Father's Education Level	13.151*** (0.475)			5.556*** (0.631)
Mother's Education Level		11.352*** (0.485)		0.885 (0.630)
Learning Support			9.961*** (0.253)	8.328*** (0.290)
Constant	370.852*** (1.496)	377.399*** (1.470)	349.683*** (1.615)	341.178*** (1.776)
Observations	10,820	10,820	10,820	10,820
R-squared	0.066	0.048	0.125	0.136

*Significant codes: *** p < 0.01, ** p < 0.05, * p < 0.10*

is correlated to their children's learning achievement. Parents' education, both father and mother's, influence students' achievement in the international study context (Y. Liu, Wu, & Zumbo, 2006; Senechal, 2013; Tomul & Savasci, 2012).

Model 2 explains that mother's education level has a positive and significant effect on student achievement ($\alpha = 11.352 < 0.01$). With the results of the R-Square value of 0.048, it means that the mother's education level variable affects student's learning achievement by 4.8%, while the remaining 95.2% is explained from other variables not measured in this study. This finding is in line with previous research stating that the mother's level of education affects student's achievement (Hartas, 2011; Lacour & Tissington, 2011). Li and Qiu (2018) indicate that the higher the education level of

the mother, the higher the student's learning achievement. This is due to mothers with higher education helping children in learning such as reading to their children and helping with homework compared to the mothers less education qualifications. They tend to be better at accessing support and stimulating cognitive services and materials that beneficial to their children. Mother who possesses shorter years of education might have less access to effective educational services. Mothers with fewer years of education were found to read less frequently to their children (Raikes et al., 2006) and have less ability on language and literacy skills (Rowe, Pan, & Ayoub, 2005) which influence the quality and quantity of children's interaction verbally (Hoff, 2003). Educated parents who access proper years of education do not only experience in learning,

but help their children to build hopes and aspiration in learning (Hartas, 2011).

The educational level of the father and mother in the explanation of the research explains that there is a relationship on student's achievement. Researchers in this study also examined the support for home education in relation

to student achievement in Indonesia. From the results of regression analysis, model 3 explains that supporting education at home or what is usually called learning facilities shows a positive and significant effect on student achievement ($\alpha = 9.961 < 0.01$). With the results of the R-Square value of 0.125, it means that the learning support variables affect student's learning achievement by 12.5%, the remaining 87.5% is explained from other variables not measured in this study. This indicates that if the learning support at home is fulfilled properly, it will ease students to do learning activities, in order to improve student learning achievement. The findings are the same as the results of previous studies which state that the learning support at home has a significant effect on improving student learning achievement (Liu et al., 2006; Takashiro, 2017; Yoshino, 2012). Thus, the learning support or usually known as learning facilities are better fulfilled by parents so that students obtain better result.

Several studies have argued that students' academic success is positively influenced by the financial condition of their families. Wealthy parents can invest more in their children's education. Rich parents in most cases spend money on students' learning resources such as books, educational games, laptops and also on extracurricular courses (Koza Çiftçi & Cin, 2017; Sirin, 2005). Students who has more learning supports (such as book and computer) tend to have more benefits than others (Takashiro, 2017). This finding is consistent with Japanese International research revealing that the level of

mathematics achievement is influenced by socioeconomic status across their schools. Students who have more access such as computers and books tend to have more benefits than those who have fewer access (Liu et al., 2006; Yoshino, 2012).

According to Takashiro (2017) research entitled "A multilevel analysis of Japanese middle school student and school socioeconomic status influence on mathematics achievement", Students' SES namely the number of books, computer ownership, father and mother's learning achievement are positively correlated to the students' mathematics achievement. It is in line with a research conducted by Long & Pang (2016) which states that family wealth significantly predicts student achievement (mathematical achievement). A fulfilling learning support at home will affect student learning achievement, because books, computers and other learning facilities are able to support children's improvement in learning. Thus, it affects children's learning achievement. Moreover, the support of high socioeconomic status owned by parents can improve learning achievement by fulfilling their children's learning facilities. Lack access of learning support, both tools and learning facilities such as transportation to school, textbooks, computers, and other devices are inadequate to their children, so that they feel less comfortable in learning. It is suggested that the high parents' income can increase the success of students in achieving their learning success.

Model 4 describes the effect of father's education, mother's education level, and learning support at home on student's achievement in Indonesia is generally significant ($R=0.136$), then there is one variable that is not significant, namely the level of education of the mother. Tested simultaneously, the regression results showed

consistent results, but the mother's education level variable did not significantly affect student achievement as seen from the magnitude of the p-value smaller than 0.05 or with a significance level of more than 10 percent. This indicates that the mother's education level variable is not consistent and the effect is weak.

Based on the results of the regression analysis conducted by researchers, it shows that the father's education level has a significant effect on student's achievement. It can be said that the higher level of education of the father can be directly proportional to increase the students' achievement. In other words, students' achievement is better with a high level of father's education compared to children who have a low level of father's education. The results of this study are in line with previous research which states that parental education affects student achievement (Davis-Kean, 2005; Liu & Lu, 2008; Reskia et al., 2014). Another research conducted by Reskia et al. (2014) state that there is significant effect between father's education level and student's achievement. The calculation results obtained that R count is 0.627, while R table is 0.404. It is in line with a research conducted by Liu & Lu (2008), the result shows that father's education has a positive effect on student's education in China. Students with high family social and economic status and high educational background of parents with relatively good economic conditions can buy learning support equipment and books to guide their children. Davis-Kean (2005) said that parents' education affects their children's achievement in many ways. Parents who have higher level of education can provide more assistance to students with school work, and parental education level influences parental behavior and beliefs which further affects children's behavior and achievement.

The educational background of the father and mother are positively correlated to student's achievement, especially fathers who possess a greater influence than mothers on students' mathematics scores, this sample happened in Japan. This study also found that the educational background of the father is more influential than the educational background of the mother. However, researchers do not deny the influence of mother's education in contributing to give children's achievement improvement (Gary Neil Marks, 2008; Tomul & Savasci, 2012). Many studies have shown that the level of educational attainment of parents has relation to the achievement of their children. The educational background of parents affects student achievement in both international and national studies (Liu et al., 2006; Sánchez, Montesinos, & Rodríguez, 2013).

Related to the mother's education level, it was significant in this model. However, the significance disappeared when it was added other variables (see table 3, model 4) whereas the p-value < 0.05 . It indicated that the significance of mother's education level was inconsistent. Therefore, the theories telling that mother's education level positively affect children's achievement was not supported, because the significance was inconsistent in Indonesian context. It is in line with a research conducted by Liu et al. (2006) revealing that they do not find parents' education not significantly influent students' mathematics achievement in Korea, Singapore, and Hongkong. However, Indonesia has diverse background so that it does not have a significant effect and there are other variables that affect student achievement. The other factors that affect student achievement are internal factors and external factors. Internal factors consist of physical, psychological, and physical and psychological maturity. While external factors

consist of social factors (family environment, school, community, and group), cultural factors, and physical environmental factors (Ahmadi & Supriyono, 2011). From these factors, it can be seen that students who have high learning achievement are influenced by various factors that can encourage students to obtain high learning achievement, not only from the mother's education level.

On the other hand, students who have high learning achievement are influenced by their internal factors. Students who are motivated, interested, and flexible in learning tend to have a very high connection in learning. Intrinsic motivation coming from individual to do a thing can help children coping their learning problems (Khalaila, 2015; Kim, Kim, Wagaman, & Fong, 2017). This indicates that students who have strong motivation can raise their learning achievement, despite of their parents' low socioeconomic status. It shows that active and good habit in learning cope their personal issues (Chen et al., 2018; S. Li et al., 2020; Gary N. Marks, 2006). By saying this, it can be concluded that students' learning motivation improves students' achievement among their parents' low socioeconomic status. In addition, the school and community environment can also influence students' interests in learning. In this case, students who have a supportive environment for learning will have an influence on their peers in the environment to learn so that it affects the learning achievement they get. It can be seen that there are various factors that can affect student achievement. Thus it can be said that the mother's education level has a direct influence on student achievement, but students who have high learning achievement can also be influenced by various factors that affect student achievement. Starting from the internal factors that exist within the student, it grows in line as well as the external factors that can affect the learning achievement of junior high school students in Indonesia.

Learning supports at home or usually referred as learning facilities is a measurement of socioeconomic status used in the PISA 2018 questionnaire along with some aspects such as parents' wealth as educational resources including books, games, interactive learning materials at home, quiet study areas, personal rooms, study desk, software, television, car, and so on. Children who have parents with good socioeconomic status, they are more able to provide learning facilities that support the success of education (Gustafsson, Nilsen, & Hansen, 2016). This statement is in line with Ahmar & Anwar (2013) who stated that it is universally believed that children with middle and high socioeconomic status can be seen in the learning environment because of the adequate availability of learning facilities.

The results showed that there was a significant positive effect between learning supports at home and student's achievement. This indicates that sufficient learning supports help students improve their learning achievement, while limited learning supports limit students' achievement. This supports The Liang Gie (2002) theories that to have a good learning circumstance, it is needed to have proper learning supports which consist of sufficient handbooks, lighting, and learning kits. This finding is in line with the previous research conducted by Tesfagiorgis et al. (2020) reveal that the socioeconomic status of parents affects the learning achievement of junior high school students, other than that the results of the research also reveal that education, property index ownership are correlated with student learning achievement. This shows that in general, the higher the socioeconomic status of parents, the higher the student's learning achievement, and vice versa. Similarly, Saifi & Mehmood (2011) state that Family socioeconomic impacts on student learning achievement through various ways, such as suitable parental education instilled in children

through learning facilities and technology that supports learning.

The way the parents' nurturing, supporting, and stimulation are important for the students' development and learning. Effective characteristics and reference are provided by their families to provide rich, responsive, and secure learning circumstance. Socioeconomic status commonly refers to parents' education level and income (Bradley & Corwyn, 2002) which later affect in the availability of learning supports given to the children. Similarly, it connects to a study conducted by Riley, Scaramella, & McGoron (2014) found that economic losses tend to reduce parents' ability to provide warm care and reduce children's access to cognitively stimulating materials (e.g. toys, books) and experiences which enrich socially (e.g. cultural activities). Specifically, economic difficulties can increase family pressures and have a negative impact on parents' emotions, behavior, and relationships which ultimately have a negative impact on parenting patterns and child relationships Conger, Conger, & Martin (2010). Having parents with proper educational and material background enhance students' learning and reach better achievement.

The finding of this research highlights some factors coming from family determine students' learning achievement. Family background influences students' learning achievement. Students' achievement is the measurement of students' and teachers' success in the learning process which is interpreted in numbers. Some factors that are closely related to the success of the student learning process are factors which if properly functioned can be a factor to improve student achievement. These factors include the level of education of parents and supporting education at home.

The high and low level of parents' education, and the completeness or absence of learning supports at home, will determine the level of student achievement. It is in line with Usman (2017) state that internal and external factors influence students' achievements.

■ CONCLUSIONS

Considering the discussion above, the conclusions of this study are as follows: 1) Father's level of education has a significant effect on students' learning achievement, so the higher the level of education of the father, the higher the student's learning achievement. 2) The mother's education level has a significant effect on learning achievement, so the higher the mother's education level, the higher the student's learning achievement. 3) Learning supports at home has a significant effect on learning achievement, so that the higher the support, the higher the student learning achievement. 4) Father's education level, mother's education level, and learning supports at home have a significant effect on student learning achievement by 13.65%. Each independent variable has a different effect on student achievement, namely every an increasing value of the father's level of education, will increase the probability value of student learning achievement by 5.55%; every an increasing coefficient value on the mother's last education level, will increase the probability value of student's learning achievement by 8.8%; every an increasing value of learning supports at home, will increase the probability value of student learning achievement by 8.32%. Based on the analysis of the data above, it is concluded that the level of education of the father, the level of education of the mother and the learning supports at home have a significant influence simultaneously on the learning achievement of junior high school students in Indonesia. This

shows that in general, the higher the education level of parents and learning support, the higher the student's learning achievement, and vice versa.

The findings of this research illustrate the complexity of the relationship between parents' education level and learning supports on student achievement in a developing country context and provide important insights for researchers and practitioners. Therefore, this study extends the existing literature by showing that the level of parents' education and learning support of student's achievement in the Indonesian context. This means that although the correlation between parents' education and learning supports on students' learning achievement has been well documented in developed countries, this study provides additional evidence to support the literature. These findings have important implications in improving student achievement, especially for the policy makers.

Some of the limitations of this study are related to the mother's education level which does not have a significant effect when simultaneous regression analysis is carried out. The limitations of this study mean that the research findings need to be interpreted with caution, since there might be other factors related to student achievement. Future research is needed to include other factors such as the type of occupation of the parents, income, and parental involvement. It is suggested as the fact that several recent studies have included several variables in relation to students' achievement. The third limitation is that the data collected is cross sectional. Further research is suggested to have more additional complex variables that may affect students' achievement in order to see the stronger measurement of student achievement. It is also suggested to develop a wider range of research with different characteristics, such as conducting a research which compares the relationship between variables with developed and developing countries.

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