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Pancaran Pendidikan

Pancaran Pendidikan FKIP Universitas Jember Vol. 8, No. 1, Page 31-44, February, 2019 DOI: 10.25037/pancaran.v8i1.214

ISSN 0852-601X e-ISSN 2549-838X

### Mediation Effect of Motivation Mediation Effect of Motivation on Learning Achievement

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#### ARTICLE INFO

#### Article History:

Received Date: 1th January 2019
Received in Revised Form Date: 10th January 2019
Accepted Date: 15th January 2019
Published online Date 01st
February 2019

#### Key Words:

Parents' Education, Parents' Socioeconomic status, Learning Environment, Learning Facilities, Learning Motivation, Learning Achievement

#### **ABSTRACT**

The level of education of parents is a major factor for students' learning achievement. In addition to education, parents' socioeconomic status, learning environment and learning facilities also affect students learning if these factors are mediated by students' learning motivation. This study aims to analyze and evaluate the effect of education, socioeconomic status, learning environment, and learning facilities on students' learning achievement viewed from direct and indirect effects by mediation of learning motivation. The research used explanatory research type involving samples from grade XI students of State Senior High Schools in the City of Jember in the academic year 2017/2018 in total of 206 respondents. The study applied primary data collected by questionnaires, in addition to observation and documentation. The analytical tool used was path analysis to determine the direct and indirect effects. The results of the study showed that parents' education, socioeconomic status, learning environment, learning environment and learning facilities directly affect learning motivation. Meanwhile, education, socioeconomic status, learning environment, learning facilities and learning motivation directly affect students' learning achievement. Learning motivation mediates the effect of education, socioeconomic status, learning environment, and learning facilities on students' achievement.

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#### INTRODUCTION

Education is one of the foundations of the nation to create generations capable of competing in the globalization era. Education is one way to gain knowledge through which later education can create human resources. Indeed, every nation measure the quality of its human resources, whether they are superior or not. Accordingly, every

nation strives to improve the quality of its human resources as a support for the success of national development.

The success of national development is inseparable from the development and use of personnel for effective achievement of individual, organization, community, nation, goals and international goals (Ivancevich and Matteson, 2005). One way to improve the quality of human resources is by education. Development in the field of education has a reciprocal relationship with the efforts to improve human resources and both affect each other. Education is a conscious and planned effort to realize an active learning process that will develop students' potentials to have spiritual strength, self-control, personality, intelligence, noble character and the skills that they, society, nation and country need.

Education is contributive in preparing the quality human resources that are later able to compete in the globalization era. The preparation for human resources depends not only on students and teachers but also on the parents' roles which are strategic because, before entering schools, children first obtain moral education from families, especially from parents, so that children can socialize with the surrounding environment and peers. Education, which is also frequently conducted earlier, can stimulate children's achievement in formal education. In addition to parents' participation in improving students' achievement, government students must be actively involved in improving the quality of students' education.

The level of parents' education is a major factor in reaching students' learning achievement. Indeed, learning achievement has a relationship with the parents' education, which has a positive impact on students, families and the surrounding communities. The levels of parents' education, from unfinished elementary school, completed elementary school, junior high school, senior high school and college, also affect students' achievement. Parents who have higher education usually have high aspiration for children's education. They want higher education for children or equal to their parents' education. These ideals and motivation will affect parents' attitudes and attention to the children's success at school.

In addition to education, parents' socioeconomic status also greatly affects students' learning achievements that need support for students' learning process. The family's economic condition is closely related to the learning outcomes of students who are studying in addition to basic needs such as food, clothing, health protection and others. Various kinds of learning facilities can only be fulfilled if the family has sufficient fund to fulfill them.

Learning achievement is influenced by the students' learning motivation where the driving factors are available from participating in learning in the classroom. Motivation can also be said as a series of efforts to provide certain conditions for which someone wants and likes to do something and, if he does not like it, he will try to negate or avoid that feeling of dislike. Motivation is a psychological factor that is very influential in carrying out an activity. Someone who does activities such as learning activities, in order to succeed with his goals to be achieved, need to pay attention and always develop his motivation, so that the goals and expectations can be fulfilled. Learning achievement is influenced by good motivation that comes from the students' internal and external factors to be directed towards learning achievement.

A number of researchers have proven that parents have a considerable effect on their children's achievement. This is consistent with what was put forward by Coleman, Bradley, Mayer and Mc Lanahan that, regardless of family income, high parents'

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attention and efforts to educate their children help improve children's academic performance (Tsui, 2005). Schenider and Coleman also argue that parents' direct interest and attention to children's performance at school are also important indicators of children's success in school (Kraaykamp. 2000). Family, as an informal educational institution, is the first and foremost educational environment. Family, in this case represented by parents, has an influence on their children's learning achievement (Houtenville and Conway, 2007).

Furthermore, environment has a role in the students' learning achievement achieved. The environment covers the community environment around the residence of students, peers, and media, either printed or electronic. According to Barnett and Casper (2001), the human environment includes the surrounding physical environment, social relations and cultural environment, which are defined as a group of people with certain functions and interact with each other.

Environment involves conditions, situations, and interactions between humans. The environment also includes all individuals, groups, organizations, and systems where someone relates to them (Zastrow and Kirst-Ashman, 1988). In the teaching and learning process, the environment is a source of learning that has a lot of influence on the learning process that takes place in it.

Walter's and Bowen's studies (in Bowen et al., 2007) found that peer group acceptance is indirectly related to academic results, with attitudes and behaviors related to school. The results of studies by Gonzales et al. (1996) show that peer support is positively related to the value of adolescents living in low-risk environments. This fact shows that peers have a significant effect on all aspects of a children's life, including academic achievement.

Based on the description above, it is interesting to study and analyze the effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on student learning achievement both directly and indirectly by mediating learning motivation.

### **METHODOLOGY**

The population of this study was all students of State Senior High School (SMA) in the City of Jember in total of 1,260 students. The inclusion criterion of this study is grade XI students of senior high school in Jember City in the academic year 2017/2018. The sampling technique used the Slovin method of 421 XI grade students in the academic year 2017/2018 with a tolerance of 5%, so that it obtained samples of 206 students. The main data in the study used primary data collected by observation and questionnaires. Questionnaire filling was conducted from January to February 2019.

The measurement of parents' education used 5 scales, namely very low for parents' education of primary school level, low for junior high school, middle for senior high school, high for undergraduate education and very high for education higher than bachelor. The measurement of parental socioeconomic status consisted of 4 scales and 11 question items. The learning environment used 5 scales and consisted of 14 questions. Learning facilities used 3 scales and consisted of 15 questions. Learning motivation used 5 scales and consisted of 13 questions adopted from questionnaires developed by Vallerand and Bissonnette (1992). The measurement of learning achievement used the average score of grade XI academic report of even semester in the academic year 2017/2018. Questions in questionnaires were used as instruments, developed and validated to obtain relevant data.

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Path analysis was used as a method of data analysis aimed at knowing the direct effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on students' learning achievement and indirect effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on student learning achievement mediated by motivation to learn.

#### RESULT AND DISCUSSION

### 1. Respondents' Data

The samples used in this study were 206 respondents consisting of XI grade students of high school in Jember City in the academic year 2017/2018. Data on respondents' characteristics included gender and fulfillment of minimum learning achievement (KKM) and data taken from the research variables were education and parents' income. The description of each of these characteristics is presented in Table 1.

Table 1. Data on Respondents'	Characteristics
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Description	Distri	Distribution		
	Frequency	Percentage		
		(%)		
Male	98	47.6		
Female	108	52.4		
Very low	11 11/10			
Low	14	6.8		
Middle	73	35.4		
High	112	54.4		
Very high	7	3.4		
< IDR 1,500,000	2	1.0		
IDR 1,500,000 –	50	24.3		
2,000,000				
IDR 2,500,000 –	121	58.7		
3,500,000				
> IDR 3,500,000	33	16.0		
Below KKM	29	14.1		
V A	- 21	- //		
KKM	177	<mark>8</mark> 5.9		
Total		100		
	Male Female Very low Low Middle High Very high < IDR 1,500,000 IDR 1,500,000 – 2,000,000 IDR 2,500,000 – 3,500,000 > IDR 3,500,000 Below KKM	Male         98           Female         108           Very low         -           Low         14           Middle         73           High         112           Very high         7           < IDR 1,500,000		

Based on Table 1, it can be seen that most of the research respondents were female (52.4%) and had fulfilled the KKM (85.9%). Based on the parent's education, some of the respondents had received higher education (54.4%) and the parents' incomes were mostly between IDR 2,500,000 and IDR 3,500,000 (58.7%).

#### 2. Data Quality Test

The test of the research instrument includes the validity and reliability of the data on the variables of learning environment, learning facilities and students' learning motivation, gaining a correlation coefficient from 0.368 to 0.891 with a significance value of 0,000, thus indicating a significance value that is less than  $\alpha$  (0.05). This means that all items of the learning environment, learning facilities and students' learning

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motivation are valid. Instrument reliability testing shows that the Cronbach's Alpha coefficient value is 0.862 (learning environment), 0.883 (learning facilities) and 0.824 (learning motivation) and is greater than 0.60, so the instrument for the variables of learning environment, learning facilities and learning motivation is declared reliable (Hair et al., 2010).

### 3. Path Analysis

The results of testing the direct effect of the variables of parents' education, parents' socioeconomic status, learning environment and learning facilities on learning motivation as well as variables of parents' education variables, parents' socioeconomic status, learning environment, learning facilities and learning motivation on students' achievement are presented in Table 2.

Table 2. Testing of Direct Influence Hypotheses

Hypothesis	Regression Model	Direct	t-count	Sig.
		Effect		
$H_1$	Parents' education (X <sub>1</sub> )	0.192	2.762	0.006 **
	$\rightarrow$ Learning motivation (Z)	-		
$H_2$	Parents' socioeconomic status	0.135	2.006	0.046 *
	$(X_2)$			
	→ Learning motivation (Z)			40
$H_3$	Learning environment (X <sub>3</sub> )	0.132	2.010	0.046 *
	→ Learning motivation (Z)			
$H_4$	Learning facilities (X <sub>4</sub> )	0.178	2.579	0.011 *
	→ Learning motivation (Z)			
$H_5$	Parents' education (X <sub>1</sub> )	0.215	3.165	0.002 **
	→ Students' achievement			
	(Y)		177	
$H_6$	Parents' socioeconomic status	0.137	2.104	0.037 *
	$(X_2)$			
	→ Students' achievement			
	(Y)			
$H_7$	Learning environment (X <sub>3</sub> )	0.145	2.285	0.023 *
	→ Students' achievement			
	(Y)			
$H_8$	Learning facilities (X <sub>4</sub> )	0.153	2.270	0.024 *
	→ Students' achievement			
	(Y)	0.107	2004	2017
$H_9$	Learning motivation (Z)	0.135	2.001	0.047 *
	→ Students' achievement			
	(Y)			
Nota: ** ar	nd * cignificant at $\alpha = 10\%$ and $50\%$			

Note: \*\* and \* significant at  $\alpha = 1\%$  and 5%

The results of testing the hypothesis of direct effect (Table 2) show that all coefficients are positive, which means that every increase in the independent variables (parents' education, parents' socioeconomic status, learning environment and learning facilities) will be followed by increase in the dependent variables (students' learning motivation and learning achievement).

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The results of testing of indirect effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on students' learning achievement mediated by learning motivation are presented in Table 3.

Table 3. Testing of Indirect Effect Hypotheses

Hypothesis	Regression Model	Indirect Effect	t-count	Sig.
H <sub>10</sub>	Parents' education $(X_1) \rightarrow$ Learning motivation $(Z) \rightarrow$ Students' learning achievement	0.232	2.340	0.022 *
	(Y)			
H <sub>11</sub>	Parents' socioeconomic status $(X_2)$ $\rightarrow$ Learning motivation $(Z)$ $\rightarrow$ Students' learning achievement	0.022	2.119	0.037 *
H <sub>12</sub>	Learning environment $(X_3) \rightarrow$ Learning motivation $(Z) \rightarrow$ Students' learning achievement $(Y)$	0.014	2.140	0.035 *
H <sub>13</sub>	Learning facilities $(X_4) \rightarrow$ Learning motivation $(Z) \rightarrow$ Students' learning achievement $(Y)$	0.029	2.047	0.044 *

Note: \* significant at  $\alpha = 5\%$ 

Based on Table 3, the results of testing the hypotheses of indirect effects, all indirect pathways have a significant effect. Learning motivation can mediate the effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on students' learning achievement. The testing of direct, indirect and total effects between variables of parents' education, parents' socioeconomic status, learning environment, learning facilities, learning motivation and student learning achievement is presented in Table 4.

Table 4. Direct, Indirect and Total Effects

Regression Model	Direct	Indirect	Total
1 101	Effect	Effect	Effect
Parents' education $(X_1) \rightarrow Students'$ learning achievement $(Y)$	0.215	0.232	0.447
Parents' socioeconomic status $(X_2) \rightarrow$ Students' learning achievement $(Y)$	0.137	0.022	0.159
Learning environment $(X_3) \rightarrow Students'$ learning achievement $(Y)$	0.145	0.014	0.159
Learning facilities $(X_4) \rightarrow \text{Students'}$ learning achievement $(Y)$	0.153	0.029	0.182

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Based on the table, it is known that each of the total effect of the independent variables is parents' education by 44.7%, parents' socioeconomic status by 15.9%, learning environment by 15.9% and learning facilities by 18.2%. Briefly, the results of path analysis are summarized in Figure 2.



Figure 2. Path coefficient of direct and indirect effercts

#### **Discussion**

Parents' education has a positive and significant effect on learning motivation. This means that the higher the parents' education, the more highly motivated the students to learn. These results are in line with the results of studies by Atta and Jamil (2012) that found that there is a significant and positive effect of parents' motivation and effect on the students' learning achievement at the secondary school. Students' educational attainment under the parents' effect and motivation is better.

The parents' socioeconomic status has a positive and significant effect on learning motivation. This can be interpreted that the indicators in the parents' socioeconomic status can increase learning motivation. The parents' social status can at one time determine their attitude towards education or the role of education in human life. The economic status determines the ability of the family to provide learning facilities that are needed by children in reviewing learning material in school. When parents do not motivate their children through gifts for excellent performance in school through providing textbooks and proper feeding, children may find themselves unsuccessful in school (Igwe, 2017).

The calculation results show that the learning environment has a positive and significant effect on learning motivation which means that indicators in the learning environment can increase learning motivation. A good learning environment will make students feel comfortable in learning. Tasks will be resolved properly if supported by a good environment. This, of course, has an effect on students' learning motivation. Students will feel satisfied in learning when supported by a learning environment that can make them feel comfortable. In their children's education, improving teaching and learning, providing sustainable professional development for teachers and improving

learning resources can offset the lack of a good learning environment at home (Muijis et al., 2004).

Learning facilities have a positive and significant effect on learning motivation, which means that indicators in learning facilities can increase learning motivation. Students from families with low socioeconomic status do not receive adequate facilities from their parents. The lack of financial resources makes it increasingly difficult for parents to motivate their children. As a result, students whose needs are not fulfilled at home will find their learning motivation in school lessening (Koban, 2016).

This study found that parents' education has a positive and significant effect on students' learning achievement. This means that the higher the parents' education, the higher their learning achievement. Data from the research show that students from parents with low educational levels have low academic achievement. Children from parents with low and middle education have low learning achievement compared to those from parents with high levels of education. It is proven that most parents with low levels of education do not really prioritize their children's education compared to those with higher education. This study is in line with Rothestein (2004), Hill et al. (2004), who argue that children from parents with higher education level are more curious about learning compared to those from parents with low levels of education. Other studies supporting this result are studies by Abubakar et al. (2017) and Khan et al. (2015) who found that students from parents with a higher level of education achieve better in learning than those from parents with low levels of education.

Parents' socioeconomic status has a positive and significant effect on students' learning achievement. This means that indicators in learning facilities can improve students' learning achievement. The family's socio-economic condition can play a role in improving students' learning achievement because family is the first social group in human life where children learn and declare themselves as social beings in relationship with their groups. All activities carried out by children are a reflection of what have been taught by their parents. Parents must be able to motivate their children, so that they can learn as much as possible to get maximum results. This finding complements the findings of other researchers stating that parents' status not only affects students' academic performance but also makes children from low socioeconomic background unable to compete with their peers from high socioeconomic backgrounds under the same environment (Adewale, 2012).

Students' learning achievement is also affected by the learning environment. Students who live in families, schools, and communities that support their learning activities will tend to have good learning achievements when compared to those who live in families, schools, and communities that do not support their learning activities. The learning environment significantly affects the orientation of the students' learning goals, assignment values, self-efficacy, and self-regulation in business, management, and economic learning. Task orientation emphasizes students' accessibility to opportunities for personal development and self-improvement. To encourage students who control themselves, educators must first implement strategies that can increase students' motivation towards business, management, and economic learning (Ariani, 2017).

Learning facilities have a positive and significant effect on students' learning achievement which means that indicators in learning facilities can improve students' learning achievement. Good education is the process of developing one's skills in the

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form of attitudes and behaviors applicable in society, where the social process is influenced by the environment (especially the school environment) and can achieve social skills and develop personalities. In the encyclopedia of education, it is explained that education is a conscious effort to facilitate people as whole persons, so that their potentials can be actualized and developed to reach the desired level of growth through learning (Carter and Wojtkiewicz, 2000).

Learning motivation has a significant positive effect on students' learning achievement. This can be interpreted that indicators in learning motivation can improve students' learning achievement. Motivation to learn is a psychological driving force from the inner part of a person to be able to carry out learning activities and add skills and experience (Lin et al., 2014). Motivation encourages and directs students to learn in achieving a goal. Students will study hard because they are motivated to find achievements. In learning activities, motivation is very necessary since, without motivation in learning, someone will impossibly do learning activities. Students who have strong motivation will have a lot of energy to do learning activities. Learning outcomes will be optimal if there is appropriate motivation. Dindar (2017) found that students are more motivated to learn science when they have more opportunities to connect science with real-world problems. Therefore, science teachers must put more emphasis on the connection of science in schools with real life to motivate students to study science.

Learning motivation mediates the effect of parents' education on students' learning achievement. This means that indicators in parents' education are able to improve students' learning achievement supported by learning motivation. The direct effect of parents' education on students' learning achievement is 21.5%, while the indirect effect of parents' education on students' achievement mediated by learning motivation is 23.2%. This shows that indirect effect is greater than the direct effect of parents' education on students' learning achievement without going through learning motivation. This means that learning motivation is able to mediate the effect of parents' education on students' learning achievement. This result is seen from the significance value of 0.022, which is smaller than  $\alpha$  (0.05). Parents' education will affect students' achievement when they are motivated to learn to match the level of education achieved by their parents. The results of the study by Omar et al. (2017) found there is a full mediating effect between motivation to achieve and parents' education on students' achievement. This finding contributes to understanding the relationship of parents' education and motivation to achieve which is reported in general with students' achievement among students in vocational schools.

The effect of parents' socioeconomic status on students' learning achievement is mediated by learning motivation. This means that indicators in socio-economic parents can improve students' learning achievement supported by learning motivation. The direct effect of parents' socioeconomic status on students' learning achievement is 13.7%, while the indirect effect of parents' socioeconomic status on students' achievement mediated by learning motivation is 2.2%. This shows that the direct effect is greater than the indirect effect of parents' socioeconomic status on students' learning achievement without going through learning motivation. This means that motivation to learn can mediate the effect of parents' socioeconomic status on students' learning achievement even though it is small. This result is viewed from the significance value of 0.037, which is smaller than  $\alpha$  (0.05). Parents with high socio-economic background influence their children's level of understanding of the importance of education, so they

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will create a home atmosphere that is conducive to children's learning activities at home to motivate them in learning. If they are motivated, they will achieve maximum results. The parents' socio-economic background will be able to improve students' learning achievement if they are motivated to learn. Indeed, without learning, a student will not be able to gain maximum achievement (Zghidi and Loumi, 2016).

Learning motivation mediates the effect of the students' learning environment on students' learning achievement. This means that indicators in the learning environment can improve students' learning achievement supported by learning motivation. The direct effect of the learning environment on students' learning achievement is 14.5%, while the indirect effect of the learning environment on students' learning achievement mediated by learning motivation 1.4%. This shows that the direct effect is greater than the indirect effect of the learning environment on students' learning achievement without going through learning motivation. It means that learning motivation is able to mediate the effect of learning environment on students' achievement even though it is small. This result is seen from the significance value of 0.035, which is smaller than α (0.05). A good learning environment will make students feel comfortable in learning. Tasks will be done well if supported by a good environment. This surely influences students' learning motivation. Students will feel comfortable when supported by a learning environment that can make them feel comfortable. Conversely, the uncomfortable environment will result in students' feeling of discomfort, so that they become less enthusiastic in carrying out their duties as students. If they feel dissatisfied, their learning achievement will automatically lessen. Parents' support and the home environment for learning are positively related to students' academic motivation and persistence in mathematics in the classroom, which, in the long run, can improve the mathematics achievement of middle school students (Shukla et al., 2015).

Learning motivation mediates the effect of learning facilities on students' learning achievement. This means that indicators in learning facilities are able to improve students' learning achievement supported by learning motivation. The direct effect of learning facilities on students' learning achievement is 15.3%, while the indirect effect of learning facilities on students' learning achievement mediated by learning motivation is 2.9%. This shows that the direct effect is greater than the indirect effect of learning facilities on students' learning achievement without going through learning motivation. It means that learning motivation is able to mediate the effect of learning facilities on students' learning achievement even though it is small. This result is seen from the significance value of 0.044 which is smaller than  $\alpha$  (0.05). The facilities at school are adequate, so that students do not have obstacles in learning. Therefore, the learning outcomes obtained by students are very good. For examples of the facilities are classrooms and learning tools that make the students feel convenient as stated in the answer to the questionnaires.

#### **CONCLUSION**

The study was conducted on 206 high school students in the city of Jember to study and analyze the factors that affect students' achievement. The results showed that the variables of parents' education, parents' socioeconomic status, learning environment and learning facilities directly have a positive and significant effect on learning motivation and students' learning achievement. The indirect learning motivation can

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mediate the effect of parents' education, parents' socioeconomic status, learning environment and learning facilities on students' achievement in the city of Jember.

The limitation in this study is that this research was carried out on students at the level of State High Schools in the City of Jember. The research samples were only taken from students from State High Schools and only limited to the city environment (three districts), while students of private high schools and regions outside the three districts were not touched. Future studies can be carried out by comparing research variables to respondents from other districts or by comparing public schools and private schools. In addition, research can also be carried out on other variables and not only focuses on students' learning achievement.

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