An Analysis of Parents' Education Level on Middle School Students' Motivation to Learn Physics in Kontukowuna District

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Abstract - The purpose of the study was to see how much influence the level of parental education had on students' motivation to learn physics in two secondary schools in Kontukowuna District, Muna Regency. This research is quantitative research, with the population used is all students of class XI science at SMAN 1 Kontukowuna and all students of class VIII at SMPN 1 Kontukowuna. The sampling technique used was non-probability sampling with the category of random sampling, where the samples used were 28 people for high school and 30 people for junior high school. The data analysis technique uses simple linear regression analysis through SPSS 16. Data analysis using the t-test regression equation shows a significant influence of the students' parents' education level on their motivation to learn physics, 94.1% for SMAN 1 Kontukowuna and SMPN 1 Kontukowuna with a significant effect of 84.8%. From the results obtained, it can be concluded that there is an influence of the level of parental education on students' learning motivation.

Keywords: Parents' Education Level; Motivation Learning; Physics.

INTRODUCTION

At the time of emergence of the COVID-19 pandemic, the learning process shifted to online learning and after that, new rules emerged for face-to-face learning in the new normal era (Dewantara and Nurgiansah 2021). This condition also occurs in all schools in Muna Regency, including in all Senior (SMA) and Junior (SMP) High Schools in Kontukowuna sub-district.

Education is the main service offered to the community to prepare the workforce of future generations. Therefore, the objectives of education must meet the demands of the changing world. The concept of learner-centred, active learning has broad and growing support in the research literature as the empirically validated teaching practice that best promotes learning for modern students (Theobald and Freeman 2014).

Parents are supporters who can influence the development of children. They have the power to shape character and have the ability to develop the creativity of their children in learning and educational activities (Ceka and Murati 2016). Based on initial data obtained from teachers at both SMPN 1 Kontukowuna and SMAN 1 Kontukowuna, it was discovered that the average level of education of the parents of students there fell under the category moderate, meaning that they only finished high school. As for higher education, there are only a few parents who went to college. And these conditions affect the abilities possessed by their children.

A child's ability to succeed in school depends on how successfully the child is managed by his parents in home environment. It is an environment where children learn skills, attitudes, and how to behave that can enable them to become productive and successful students. However, not every child comes from a

home that can provide them with the educational resources needed for their academic success. (Kumar and Vellymalay 2012). In the two schools studied, success in terms of children's cognitive were still influenced by the teaching and learning activities in their respective schools.

In the learning process, motivation plays a very important role. Motivation is a process that comes from within a person that is able to guide, activate and maintain behavior. This motivation is very good, be it for teachers and especially for students, although there are many different types, intensities, goals and directions of motivations. The motivation also refers to learning that comes from students' self-generated thoughts and behaviors that are systematically directed to their learning goals (Slavin 2011). The indicators in measuring learning motivation are persistence, tenacity, interest, desire to succeed, independence and appreciation (Uno 2014).

The low learning motivation of students at SMAN 1 Kontukowuna and at SMPN 1 Kontukowuna in learning physics has an impact on the score of the results of their learning evaluation. From interviews with teachers at both schools, students' disinterest in physics is due to the presence of formulas. Hence, they are not able to generate motivation in learning as proven from the drop in the physics scores during the exam for students who come from parents with middle and low level of education.

This is supported by research conducted by Pramaswari 2018 in which it was discovered that parents-provided attention was able to increase children's learning motivation (Pramaswari 2018). So based on the conditions and facts in the field, this research is necessary to be conducted because no one has ever investigated how parents' education level influences motivation to learn physics.

RESEARCH METHODS

The type of research used is quantitative research with a survey method, conducted to see how much influence parental education level has on motivation. This study uses two methods for analysis, namely descriptive and inferential statistical methods. Descriptive analysis is used to determine the average level of education of the respondents' parents (Sugiyono 2015), while inferential analysis is used to see how much influence the independent variable has on the Dependent variable.

This research is located in 2 secondary schools, namely in class XI IPA (eleventh graders of the Science major) of SMAN 1 Kontukowuna and class VIII (eighth graders) of SMPN 1 Kontukowuna. This research is conducted during the odd semester in 2021 in Kontukowuna District, Muna Regency, where sampling is carried out using non-probability sampling technique with incidental sampling category, considering the schools' limited face to face meetings during a pandemic. Hence, the number of samples obtained is 28 students for high school and 30 students for junior high school. The instrument used in this study is a questionnaire that has been previously validated to measure learning motivation for physics subjects according to the indicators of learning motivation. Interviews were conducted to determine the level of parental education and for documentation. All of this is needed to see whether there is said influence of the level of parental education. The data analysis technique used is descriptive and inferential with a simple linear regression test that was previously tested with normality and linearity tests. Normality and linearity tests serve as a prerequisite for conducting a

simple linear regression test to see the effect of parental education level variable on students' motivation to learn physics with the formula $Y = \alpha + \beta X$.

RESULTS AND DISCUSSION

The description for the results of research on students' motivation to learn physics as seen from the level of parental education can be seen in the explanation below.

SMA Negeri 1 Kontukowuna

As a whole, the education level of parents in this school is secondary. On average, they only reached high school level and, based on interviews with teachers and the deputy headmaster, worked as farmers and small traders in the traditional markets there. More details can be seen in Figure 1.
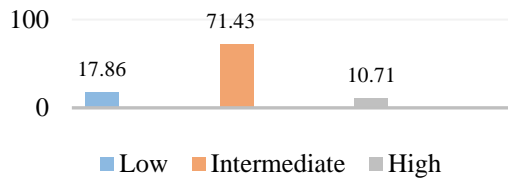

Figure 1. The Classification of the Parents' Education Level

Based on Figure 1, it is discovered that the education level for the students' parents mostly falls under the category middle, that is, as much as 71.43%. For the high category, the percentage is 10.71%, while the rest are in the low category of 17.86%.

Furthermore, the normality and linearity test were carried out as a prerequisite for testing the hypothesis using a simple linear regression test. For the results of the normality test, SPSS Kolomogrov-Smirnov was used, as shown in table 1. As for the linearity, it was tested using SPSS Compare means.

Table 1. Normality test

	Sig.	Distribution
Parent Education Level	0.672	Normal
Learning Motivation	0.885	Normal

From table 1 above, it is found that all data are normally distributed, which can be seen from the significance value of > 0.05. Here, the level of parental education has a significance value of 0.672. Meanwhile, for learning motivation, a significance value of 0.885 was obtained.

Table 2. Linearity Test

			F	Sig.
Learning Motivation * Parents' Educational Level	Between Groups	(Combined)	67.706	.000
		Linearity	401.907	.000
		Deviation from Linearity	.865	.521
	Within Groups			
	Total			

From the results of the linearity ANOVA table test, it was discovered that the significance value of deviation from linearity is 0.521>0.05, meaning that there is a significant linear relationship between learning motivation and the parents' education level. The two prerequisite tests that have been carried out have met the qualifications, and thus next the hypothesis test will be conducted through regression.

Table 3. Correlation Coefficient Significance Test

Model	R	R Square	Std. Error of the Estimate
1	.970[a]	.941	4.02076

Based on the results of the correlation coefficient test in the table with summary model, it is observable that the value of r square is 0.941 or 94.1%. This means that the influence of parental education level on learning motivation is very strong, that is, as much as 94.1%. As for the remaining 5.9%,

it is influenced by other variables that are not in the model.

Table 4. Regression Equation Test

Model	B	Std. Error	Beta	t	Sig.
(Constant)	34.493	2.052		16.808	.000
Parents' Education Level	9.035	.445	.970	20.313	.000

Based on the results of the analysis of the regression equation test, a significance value of 0.000 <0.05 was obtained. This means that there is a very significant influence that parent education level imposes on learning motivation, with the regression equation of Y = 34,493 + 9,035 X. So based on the regression equation, it means that when there is an increase in 1 point from the parents' education level variable, then there will also be a 9.035 increase in learning motivation. This is supported by research conducted by Ulfiani (2020) which found that there was an influence of the level of parental education on learning motivation in class IX of SMP Gandasari in Tangerang City (Ulfiani 2020). The influence of the level of parental education is caused by the crude and limited facilities provided by parents. Coupled with the students' also helping their parents work in the market and gardens, this makes students' motivation decrease. In addition, the difficulty of physics material to understand further reduces students' motivation in learning. This is different from the condition faced by the students from parents with higher education who tend to only study and play with educational facilities which can increase their interest in physics even though it is a bit difficult.

SMP Negeri 1 Kontukowuna

From the results of interviews and documentation, it was found that the education level of the parents in this junior high school was mostly in the high school level. The results can be seen below.
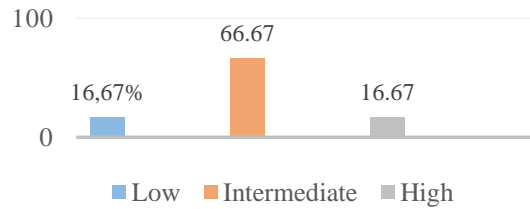

Figure 2. The Classification of the Parents' Education Level

From Figure 2, it is found that the education level of the parents is mostly in the middle category, that is, as much as 66.67% of the parents are in this category. For the high and low categories, the percentage was the same, that is, 71%. This classification is not very different from that in SMAN 1 Kontukowuna because of the same environmental conditions.

The study then proceeds with normality and linearity tests with SPSS as a prerequisite for hypothesis testing with simple linear regression

Table 5. Correlation Coefficient Significance Test

Model	R	R Square	Std. Error of the Estimate
1	.921[a]	.848	7.06064

From the test results above, it is obtained that the influence of the level of parental education on motivation is very strong, that is, at 0.848 or 84.8%. This means that the independent variable is 84.8% influenced by the dependent variable and the other 15.2% is influenced by other variables that cannot be explained here.

Based on the results of the analysis of the regression equation test, it was obtained that the significance value was 0.000 <0.05, meaning that the level of parental education has a very significant influence on learning

motivation, with the regression equation of $Y = 34{,}493 + 9{,}035\,X$.

Table 6. Regression Equation Test

| Model | Unstandardized Coefficients | | | |
	B	Std. Error	t	Sig.
(Constant)	31.930	3.716	8.592	.000
Parents' Education Level	8.832	.707	12.500	.000

Hence, based on the regression equation, when there is an increase in 1 point from parents' education level variable, then there will also be a 9,035 increase in learning motivation. This is caused by the higher education background owned by parents. The parents can then teach their children to study according to the level of knowledge their children have and in accordance with the expected competencies. This is in accordance with the theory put forward by Mcneal (2014), which states that parental involvement in children's education within the family environment can influence the behavior and traits possessed by children. Hence, it will also indirectly affect the child's learning motivation, both at school and at home.

This is supported by research from Susanti, which states that the parents' education level simultaneously affects the learning motivation of students (Susanti 2012). Furthermore, Ariyo Widodo (2015) states that parents have an important role in building interest in learning for their children. The formal educational background of parents also participates in educating, shaping character and motivating children to learn.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that there is a very strong and significant influence of the parents' education level on the students' motivation to learn physics at SMAN 1 Kontukowuna by 94.1% and at SMPN 1 Kontukowuna by 84.8%.

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