Analysis Of The Influence Of Social Factors On Students' Understanding Of Physics Material

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ABSTRACT

This study aims to assess the extent to which social factors influence students' understanding of physics concepts. The factors examined include social relationships within the family, peer influence, and the students' environment. The research employs a quantitative approach using simple linear regression and descriptive correlation methods. Data were collected through questionnaires involving 34 female students in a physics class. The analysis results indicate that in the F test, the obtained value was 0.126 with a significance of 0.00, while in the regression test, the regression value was 0.063. The correlation test for students' conceptual understanding of physics resulted in a significance value of 0.725. Based on these findings, it can be concluded that social factors do not have a significant influence on learning outcomes and students' understanding of physics concepts. This suggests that other factors beyond social aspects play a more significant role in supporting students' comprehension of physics material.

Keywords: Social Factors, Student Understanding

INTRODUCTION

Education is a key that plays an important role in human life. Education is a benchmark in a nation, the extent to which the nation is quality and safe. Achievement in the world of education will provide global recognition of the quality of a country (Rosida & Suprihatin, 2011). With education, a person is able to differentiate between right and wrong and can advance a country through increasing human resources, which will ultimately trigger new discoveries that will have an influence in the future. Therefore, education must be implemented as well as possible in order to achieve the desired achievements. Education can be said to be successful if in the teaching and learning process there is a link between the components so that it results in the implementation of learning smoothly, effectively and efficiently to achieve national learning goals, in the form of

making the nation's life smarter (Shaleh, 2014). Education is a complex activity which involves many variables that can influence the success of teaching and learning activities (KBM), including teachers who play a very important role in developing students' interest and motivation to learn (Setiawan, Rachmawati, & Suswandi, 2016). Students' interest in learning greatly influences their success and learning outcomes, so that their attention will be focused on students to better understand the material being studied. Therefore, high interest in learning and learning motivation greatly influences improving the quality of student learning (Leo, Tri, & Asmara, 2019).

Physics is a natural science that cannot be separated from every individual because physics material explains the movement of material development in the universe, supports the development of technology to facilitate human activities. A physics educator, in this

case a physics teacher, is required to be able to attract students' interest in physics education (Syam, 2021). This interest in trying to have an important and necessary role in every student which will later have a big impact on changes in student behavior and attitudes. It can be seen that students who are interested and enthusiastic about learning physics will try harder to understand the physics material or concepts, while students who do not have interest tend to be bored and sleepy when faced with physics material (Charli, Ariani, & Asmara, 2019). In understanding material, especially physics material, it is not enough just to present the material but must be accompanied by experiments to support students' understanding of the material they have studied (Nurwahidah & Sari, 2022).

Apart from that, the level of student learning success is also influenced by family factors. The upbringing of parents, the relationships between family members, the conditions at home, the economic conditions of the family, and the attention of parents also determine the quality of children's learning to become individuals who grow and develop both in terms of knowledge and others (Trianah & Sahertian , 2020). A student's high learning achievement will greatly influence his ability to master the learning material. Especially in physics learning which requires maximum support from both teachers and parents. Apart from family relationships and encouragement from teachers, peers also influence students' level of learning success. This can be proven if their interests are not the same as those of their peers, their friends will reject them, which will result in feelings of discomfort such as loneliness, inferiority and so on (Trianah & Sahertian, 2020). From our peers we will find the good side, such as obtaining information by exchanging ideas with them, being able to learn culture from them and also being able to learn morals and life values that we can benefit from (Ardiansyah, 2021). So it is necessary for parents and teaching staff to foster learning motivation in students in order to improve their learning outcomes.

The low level of education is because many children choose to hang out with their friends who prefer to work, marry young, or leave school, while societal culture tends to consider education unimportant, especially for women who prefer to be housewives without education. Lack of motivation from society and the government also contributes to a lack of awareness of the importance of education (Pakaya, H. Posumah, & Dengo, 2021). One of the factors that causes students to achieve their learning goals is encouragement from parents. However, it turns out that there are still parents who are less aware of the importance of their role in supporting enthusiasm in the learning process, with some even handing over this responsibility entirely to educators, in this case physics teachers (Budiati & Muhadi, 2022). The aim of this research is to investigate the influence of students' social factors on understanding physics material.

RESEARCH METHODS

This research uses a quantitative approach with simple linear regression and descriptive correlation methods. Quantitative research using the regression method is a research method that means whether there is a significant impact between the independent variable and the dependent variable. Meanwhile, correlation has been proposed by (Nugraheni, 2020), descriptive correlation research is that which studies the relationship between two or more variables. The components studied (independent variables) include social relationships within the family, the influence of peers and the students' social environment which has an influence on improving their understanding of physics material (dependent variable). Data collection in this research is a survey method (questionnaire). The survey method is to give several statements or questions to respondents which must then be answered based on the respondent's environmental situation. This research was

conducted at MA Miftahul Ulum Bettet Pamekasan in the even semester of the 2023/2024 academic year. The sample in this study was 34 female students of class.

RESULTS AND DISCUSSION

Based on research conducted at MA Miftahul Ulum Bettet Pamekasan, the results of the hypothesis test values in this research can be presented as follows.

1) Simultaneous Significant Test (F-Test)

The F test is generally used to indicate whether all independent variables have an influence on the dependent variable.

Figure 1. Simultaneous Significant Test (F-Test)

In the F Test research results, it can be observed that the calculated F value is 0.126 and is significant at 0.00. This shows that the calculated F is 0.126 greater than the F table, so it can be stated simultaneously that social factors do not really influence students' understanding of concepts. To measure whether the independent variable has an influence on the dependent variable, that is by looking at the probability value. If the probability value is less than 0.05, it means there is an influence between the independent variable and the dependent variable. If the probability value is more than 0.05, it means there is no influence between the independent variable (social factors) and the dependent variable (understanding of physics material). This shows that MA Miftahul Ulum Bettet Pamekasan students have a low level of parental attention and peer interaction, as well as a low social environment that is less able to support and influence their understanding of physics material. The results of this research differ from the opinion expressed by (Soleh, 2014) that the students' social environment has a positive and significant impact on students'

understanding in mastering learning. The data results from linear regression analysis are as follows.

Figure 2. Regression Test

In the regression test in Figure 2, to find out how big the influence is between social factors (X) and understanding of physics concepts (Y), according to the results of statistical calculations, an R value of 0.063 is obtained, which means that there is an influence of the independent variables (social factors) on students. on the dependent variable (students' understanding of physics) because the value is close to 1. In this study, the value used is the R Square (R^2) value with a value of 0.004. So, in calculations using the R test, students' social factors do not have a significant influence on their understanding of physics material. This is not in accordance with Annajah and Falah's research in the journal (Khairunnisa & Rigianti, 2023) that the social environment has a significant influence on student learning success because the higher the quality of the social environment, the higher the learning success.
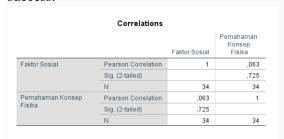

Figure 3. Correlation Test

Based on Figure 3 above, the correlation test of social factors on students' conceptual understanding shows that the 2 tailed sig value is 0.725 > 0.05. So it can be concluded that there is a significant correlation but only a small amount of social factors on students' understanding of concepts in Physics subjects.

if the correlation number is 1 then it can be said to be perfect, if the correlation number is 0 then vice versa. Because the higher the correlation value, the correlation between two variables also increases. (Hamzah & Mahmudah) stated in their journal that this shows that there is a level of relationship between learning activities and students' understanding of concepts which has a correlation coefficient value of 0.924. Meanwhile (Wibowo & Kurniawan) stated that in the correlation results there was a relationship between social factors and student understanding.

CONCLUSION

Based on the results of the analysis that has been carried out in accordance with the description of the problem formulation above using regression and correlation techniques with computer assistance through the SPSS application program. It can be concluded that MA Miftahul Ulum Bettet Pamekasan students have an inadequate social environment in improving their understanding of physics material. This can be seen in the R test and F test which produce low significance values, namely 0.04 in the R test and 0.725 in the F test. In the sense that there are other factors besides social factors that can support their understanding of physics material, whether social factors, family or Peer factors can influence students' interest in learning, which in this journal is only limited to explaining social factors.

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