

Study of Students' Interests and Attitudes in Science: SMP and Madrasah Tsanawiyah

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ABSTRAK

Minat dan sikap merupakan bagian yang berperan penting dalam perkembangan siswa dalam proses pembelajaran sehingga diperlukan penelitian yang membahas kedua variabel tersebut. Penelitian ini bertujuan untuk menganalisis hubungan minat dan sikap siswa serta mengetahui perbedaan minat dan sikap siswa di dua sekolah pada tingkat sekolah menengah. Metode penelitian ini menggunakan penelitian kuantitatif dengan prosedur penelitian survei. Teknik pengumpulan data pada penelitian ini menggunakan instrumen angket minat dan sikap yang telah divalidasi oleh validator ahli. Teknik analisis data yang digunakan dalam penelitian ini adalah uji analisis statistik deskriptif dan uji analisis statistik inferensial. Teknik pengambilan sampel adalah random sampling. Jumlah keseluruhan sampel adalah 152 sampel. Berdasarkan hasil penelitian dapat diketahui bahwa ada hubungan antara minat dan sikap siswa di SMPN dan ada hubungan antara minat dan sikap siswa di MTsN serta terdapat perbedaan minat dan sikap siswa di SMPN dan di MTsN. Disimpulkan bahwa minat dan sikap siswa saling berhubungan di dua sekolah dan terdapat perbedaan minat dan sikap siswa antara sekolah negeri dan sekolah berbasis madrasah.

ABSTRACT

Interests and attitudes play an important role in the development of students in the learning process, so research is needed to discuss these two variables. This study aims to analyze the relationship between students' interests and attitudes and to find out the differences in students' interests and attitudes in two schools at the secondary school level. This research method uses quantitative research with survey research procedures. The data collection technique in this study used an interest and attitude questionnaire instrument that an expert validator had validated. The data analysis technique used in this research is descriptive statistical analysis test and inferential statistical analysis test. The sampling technique is random sampling. The total number of samples is 152 samples. The research results show a relationship between the interests and attitudes of students at SMPN. There is a relationship between the interests and attitudes of students at MTsN, and there are differences in the interests and attitudes of students at SMPN and MTsN. It was concluded that students' interests and attitudes were interconnected in the two schools, and there were differences in students' interests and attitudes between public schools and madrasah-based schools.

1. INTRODUCTION

Human life is entering an increasingly sophisticated civilization with technological developments known as the 21st century. The 21st century is a digital era that requires human attitudes that have critical thinking skills (Dewi et al., 2017; Pahrudin et al., 2019; Suryandari et al., 2018). The life of society in the 21st century is marked by the progress of science and technology which is increasingly rapidly so that it has an impact on human life in various aspects (Bakri et al., 2019; Setiawan & Sitorus, 2017; Simanjuntak & Budi, 2018). In the 21st century, students must be ready to face future challenges because in this century science is increasingly connected and technology provides convenience in accessing learning (Astutia et al., 2017; Mutakinati & Anwari, 2018; Wardani et al., 2017). The development of the times, brought changes to education in the world. The 21st century is also known as the millennial era.

This millennial era forces innovation to maintain its existence, including in the field of education (Afandi et al., 2019; Darmaji et al., 2023; Kosim, 2020; Rahmawati, 2018). Education is a systematic process that occurs all the time to increase one's own capacity in a positive direction (Buldur & Omeroglu, 2018; Sumirat & Alamsyah, 2017; Syam, 2019). The main priority of education is to produce intellectual generations and develop students' attitudes for the better (Hartini, S. et al., 2018; Suastra et al., 2017; Yusuf & Widyaningsih, 2018). This shows how influential education is in everyone's life. There are many subjects in the world of education in Indonesia, one of which is science subjects. Science is a subject that contains knowledge in the form of very important research results (Haviz et al., 2018; Parmin & Ashadi, 2017). The subjects taught at this junior high school include physics, chemistry and biology whose learning processes shape students' attitudes (A.Novianty, 2020; Nurita & Sari, 2017; Sutarto et al., 2018). In learning, science is not only about knowledge but also about how students behave (Fibriana, 2019; Saefullah et al., 2017; Santri, 2018). So it can be said that science is an important lesson for students.

Interest is a form of attitude shown by someone in the form of interest in something. Interest can be interpreted as a reaction that can be positive or negative (Aziz et al., 2022; Handayani et al., 2019; Oyedeji, 2017; Stefan & Ciomos, 2010). In learning, interest is the driving force that guides student behavior in achieving learning goals (Prasetyono & Fitria, 2018; Putri et al., 2022; Setiawan & Sitorus, 2017; Utami et al., 2020). Educators play a big role and influence in shaping student interest (Lubis, 2018; M.Rusilowati et al., 2017; Sholihat et al., 2017). Apart from the teacher, there are many factors that play a role and influence in shaping student interest. In line with student interest, attitude also shows student interest in the lesson. Attitude plays an important role in life that determines success (Hamdani et al., 2017; Mediartika, 2018; Septine & Wijayanti, 2019). Attitude is the level of positive or negative feelings towards an object, subject or event (Febriani & Ghozali, 2020; Susilowati, 2017; Widyaningrum & Prihastari, 2018). Attitude is not innate and attitude is a dynamic impact of experiences that are useful for life (Anggraeni, 2017; N.Djukri, 2018; Sappaile, 2017). So that in learning, attitudes can be formed in various ways. This research is in line with previous research on interest in learning (Prihatini, 2017). Through his research, it can be seen that there is a significant influence between students who have a high interest in their learning outcomes. However, did not conduct research in two schools as was done in this study (Prihatini, 2017). So this research is a novelty in studying the interests and attitudes of students in two different schools. This research is also in line with research on attitudes that has also been conducted by (Prasetya & Syahril, 2018). Based on the results of his research it was found that the learning outcomes of students with high interest resulted in good learning outcomes while students with low interest resulted in poor learning outcomes. However, did not test several tests as was done in this study (Prasetya & Syahril, 2018). This study conducted a comparative test with the aim of knowing whether there was a comparison between the interests and attitudes of students at the secondary school level.

The urgency of this research is very important because to find out whether students have a high interest in learning will improve student learning outcomes. Interest is very important to increase because if there is no interest it can make students dislike the subject so that it is difficult to concentrate and ultimately affect learning outcomes. And by improving students' attitudes it is useful to place students in the right teaching and learning activities. The novelty of this research is to examine the interests and attitudes of students in two different types of schools, one is a public high school, the other is a madrasa type school. So that it can be seen whether there are differences in interests and attitudes in the two schools so that they can be used as evaluation material for teachers and schools in increasing students' interests and attitudes in learning. Teachers can help students learn according to the level of achievement and abilities and characteristics of students. The aim of this study was to compare the interests and attitudes of students at SMPN 35 Batanghari and MTsN 4 Batanghari. And to find out the difference between SMPN 35 Batanghari and MTsN 4 Batanghari.

2. METHOD

Research is a series of planned and systematic activities to solve various problems. This research uses quantitative research with survey research procedures. The quantitative research method is a method that tests various theories by examining the relationship between variables (Duli, 2019; Kusumawati et al., 2020; Sarmanu, 2017). This survey research procedure is a research that collects information about the characteristics of actions or opinions from a group of representatives who are considered as a population. The population in this study were SMP Negeri 35 Batanghari and MTs Negeri 4 Batanghari. The sampling technique is random sampling. The total number of samples is 152 samples. The sample used in learning about interests and attitudes towards metabolic material is 76 students from SMPN 35 Batanghari and 76 students from MTsN 4 Batanghari. The instrument used in this study is a questionnaire of interests and attitudes that have been validated by expert validators. The instrument in

this study used a questionnaire with 9 statement items for interest and 16 statement items for attitude. In addition, this instrument uses a 5 Likert scale. This study provides a phenomenon of logic that includes views in a population (Anggiato & Setiawan, 2019; Hennik, 2020; Tolley, 2014). The grid used in the questionnaire of interest in metabolic materials in table 1. The grid used in the attitude questionnaire instrument on metabolic material in Table 2.

Table 1. Grid of Interest Questionnaire Instruments on Metabolism Materials

Indicator	Statement item number
Attention in learning	1. 2. 3. 4
Feeling happy	10. 11. 12. 13. 14

Table 2. Grid of Attitude Questionnaire Instruments on Metabolism Materials

Indicator	Statement item number
Fun in learning science	31. 32. 33. 34. 35. 36. 37. 38. 39
Interested in a career in IPA	50. 51. 52. 53. 54. 55. 56

The data analysis technique used in this research is descriptive statistical analysis test and inferential statistical analysis test. Analysis of the data in this study using the help of the SPSS application. The presentation of data for this descriptive statistical analysis test is in the form of mean, mode, median, maximum and minimum. Meanwhile, the presentation of data for inferential statistical analysis is in the form of assumption test data and hypothesis testing. The assumption test consists of a normality test, a homogeneity test, and a linearity test while the hypothesis test is in the form of a T test. The conditions for the normality test and homogeneity test are significant values greater than 0.05 (Awaludin et al., 2020; Dehadri & Dehdari, 2020). This research was conducted in stages. The research stage begins with preparation and continues with making a proposal research objectives and determining the variables to be used. The stages are followed by a literature review looking for supporting theories and deepening the discussion of the problem under study. At the data collection stage, interest questionnaires and observation sheets were distributed to all target schools. The data is then analyzed using the help of the SPSS application program.

3. RESULT AND DISCUSSION

Result

The results in this study came from data obtained from two schools, namely SMPN 34 Batanghari and MTsN 4 Batanghari. The amount of data used in each school is 72 data. Then the data were analyzed to obtain the results of descriptive statistical test analysis, the results of the analysis of assumption tests, and the results of the analysis of hypothesis testing. Data analysis using application program on SPSS. The results of the descriptive statistical test analysis of student interest in indicators of attention in learning at SMPN 35 Batanghari and MTsN 4 Batanghari in Table 3.

Table 3. Descriptive Statistical Test of Interest in Attention Indicators in Learning at SMPN 35 Batanghari and MTsN 4 Batanghari

School	Interval	Kategory	Mean	Median	Min	Max	%
SMPN 35	4.0 – 7.2	Very not good	3.72	4.00	2.00	5.00	0
	7.3 – 10.4	Not good					8.6
	10.5 – 13.6	Enough					32.9
	13.7 – 16.8	Good					35.7
	16.9 – 20.0	Very good					22.9
	Total						100
MTsN 4	4.0 – 7.2	Very not good	3.68	4.00	1.00	5.00	2.9
	7.3 – 10.4	Not good					7.1
	10.5 – 13.6	Enough					34.3
	13.7 – 16.8	Good					30.0
	16.9 – 20.0	Very good					25.7
	Total						100

The results of the descriptive statistical test analysis of student interest in indicators of feeling happy at SMPN 34 Batanghari and MTsN 4 Batanghari in Table 4.

Table 4. Descriptive Statistical Test of Interest in Happy Feeling Indicators at SMPN Batanghari

School	Interval	Kategori	Mean	Median	Min	Max	%
SMPN 35	5.0 – 9.0	Very not good	3.47	3.00	2.00	5.00	0
	9.1 – 13.0	Not good					10.0
	13.1 – 17.0	Enough					41.1
	17.1 – 21.0	Good					40.0
	21.1 – 25.0	Very good					8.6
	Total					100	
MTsN 4	5.0 – 9.0	Very not good	3.21	3.00	1.00	5.00	1.4
	9.1 – 13.0	Not good					11.1
	13.1 – 17.0	Enough					55.7
	17.1 – 21.0	Good					27.1
	21.1 – 25.0	Very good					4.3
	Total					100	

The results of the descriptive statistical test analysis of student attitudes on the indicators of enjoyment in learning science at SMPN 35 Batanghari and MTsN 4 Batanghari in [Table 5](#).

Table 5. Statistical Test of Student Attitudes on the Indicator of Enjoyment in Learning Science at SMPN 35 Batanghari and MTsN 4 Batanghari

School	Interval	Kategori	Mean	Median	Min	Max	%
SMPN 35	9.0 – 16.2	Very not good	8.60	32.00	16.0	45.0	0
	16.3 – 23.4	Not good					12.9
	23.5 – 30.6	Enough					22.9
	30.7 – 37.8	Good					55.7
	37.9 – 45.0	Very good					8.6
	Total					100	
MTsN 4	9.0 – 16.2	Very not good	8.75	32.00	16.0	16.00	0
	16.3 – 23.4	Not good					14.3
	23.5 – 30.6	Enough					52.1
	30.7 – 37.8	Good					28.6
	37.9 – 45.0	Very good					5.0
	Total					100	

The results of the descriptive statistical analysis of student attitudes on the indicators of interest in a career in science at SMPN 35 Batanghari and MTsN 4 Batanghari in [Table 6](#).

Table 6. Descriptive Statistical Test of Attitudes on Indicators of Interest in a Career in Science at SMPN 35 Batanghari and MTsN 4 Batanghari

School	Interval	Kategori	Mean	Median	Min	Max	%
SMPN 35	7.0 – 12.6	Very not good	3.64	4.00	2.00	5.00	0
	12.7 – 18.2	Not good					7.1
	18.3 – 23.8	Enough					32.9
	23.9 – 29.4	Good					48.6
	29.5 – 35.0	Very good					11.4
	Total					100	
MTsN 4	7.0 – 12.6	Very not good	3.70	4.00	2.00	5.00	0
	12.7 – 18.2	Not good					1.4
	18.3 – 23.8	Enough					40.0
	23.9 – 29.4	Good					45.7
	29.5 – 35.0	Very good					12.9
	Total					100	

The results of the analysis of the normality test of students' interests and attitudes towards the subject of metabolism material biology at SMPN 35 Batanghari and MTsN 4 Batanghari in [Table 7](#). In the normality test, it is known that the data of SMPN 35 Batanghari and MTsN 4 Batanghari data are normally distributed with a significant value greater than 0.05 (sig. > 0.05).

Table 7. Normality Test of Student Interests and Attitudes at SMPN 35 Batanghari and MTsN 4 Batanghari

School	Variable	N	Statistik	Sig.
SMPN 35	Interests	76	0.964	0.896
	Attitudes		0.969	0.894
MTsN 4	Interests	76	0.957	0.867
	Attitudes		0.955	0.879

The results of the analysis of the homogeneity test of students' interests and attitudes towards the subject of metabolism material biology at SMPN 35 Batanghari and MTsN 4 Batanghari in Table 8. In the homogeneity test, it is known that the data of SMPN 35 Batanghari and MTsN 4 Batanghari data are homogeneous with a significant value greater than 0.05 (sig. > 0.05).

Table 8. Test of Homogeneity of Interests and Attitudes of Students at SMPN 35 Batanghari and 4 Batanghari

School	Variable	N	F	Sig.
SMPN 35	Interests	76	1.761	0.973
	Attitudes			
MTsN 4	Interests	76	2.281	0.959
	Attitudes			

The linearity test of students' interests and attitudes at SMPN 35 Batanghari and MTsN 4 Batanghari in Table 9. In the linearity test, it can be seen that there is a linear relationship between interest and attitude at SMPN 35 Batanghari with a significant value greater than 0.05 (sig. > 0.05). Linearity test was also carried out on MTsN 4 Batanghari data. Through the linearity test, it can be seen that there is a linear relationship between interest and attitude at MTsN 4 Batanghari with a significant value greater than 0.05 (sig. > 0.05).

Table 9. Linearity Test of Interests and Attitudes at SMPN 34 Batanghari and MTsN 4 Batanghari

School	N	F	Sig.
SMPN 35	76	0.944	0.522
MTsN 4	76	0.932	0.570

The results of the T-test analysis of students' interests and attitudes towards the subject of metabolism material biology at SMPN 35 Batanghari and MTsN 4 Batanghari in Table 10.

Table 10. T-Test of Student Interests and Attitudes at SMPN 35 Batanghari and MTsN 4 Batanghari

Variabel	Sekolah	N	Mean	Sig.	Sig. (2-tailed)
Minat	SMPN 35	76	109.95	0.218	0.019
	MTsN 4		106.50		
Sikap	SMPN 35	76	110.13	0.115	0.029
	MTsN 4		107.13		

The results of the analysis of the correlation test of students' interests and attitudes at SMPN 35 Batanghari and MTsN 4 Batanghari in Table 11.

Table 11. Interest and Attitude Correlation Test at SMPN 35 Batanghari and MTsN 4 Batanghari

School	Variable	N	Pearson Correlation	Sig. (2-tailed)
SMPN 35		76	0.624	0.020
MTsN 4	Interest and Attitude	76	0.647	0.012

Based on the table above, it can be seen that there is a relationship between interests and attitudes at SMPN 35 Batanghari and there is a relationship between interests and attitudes at MTsN 4 Batanghari seen from the significance value (2-tailed), namely the sig value. (2-tailed) < 0.05.

Discussion

Based on the results of the analysis through the application program on SPSS, it can be seen that SMPN 35 Batanghari and MTsN 4 Batanghari have moderate to very good interests. This can be seen from the percentage of descriptive statistical analysis test results in each school. In this interest variable, the researcher uses two indicators, namely an indicator of attention in learning and an indicator of feeling happy. In the first indicator, namely the indicator of attention in learning at SMPN 35 Batanghari, the percentage of students in the very bad category is 0%, the percentage of students in the bad category is 8.6%, the percentage of students with enough category is 32.9%, the percentage of students with good category is 35.7%, and the percentage of students with very good category is 22.9%. While at MTsN 4 Batanghari, the percentage of students in the very bad category is 2.9%, the percentage of students in the bad category is 7.1%, the percentage of students in the moderate category is 34.3%, the percentage of students in the good category is 30.0%, and the percentage of students in the very good category is 25.7%. In the second indicator, namely the indicator of feeling happy at SMPN 35 Batanghari, the percentage of students in the very bad category is 0%, the percentage of students in the bad category is 10.0%, the percentage of students in the moderate category is 41.1%, the percentage of students in the good category is 40.0%, and the percentage of students with very good category is 8.6%. While at MTsN 4 Batanghari, the percentage of students in the very bad category is 1.4%, the percentage of students in the bad category is 11.1%, the percentage of students in the moderate category is 55.7%, the percentage of students in the good category is 27.1%, and the percentage of students in the very good category is 4.3%.

In line with the results of the analysis on the variable of interest, students at SMPN 35 Batanghari and MTsN 4 Batanghari also showed attitudes in the moderate to very good category. This is indicated by the results of the descriptive statistical analysis test at each school. In this attitude variable, the researcher uses two indicators, namely an indicator of pleasure in learning science and indicator of interest in a career in science. In the first indicator, namely the indicator of pleasure in learning science at SMPN 35 Batanghari, the percentage of students in the very bad category is 0%, the percentage of students in the bad category is 12.9%, the percentage of students in the moderate category is 22.9%, the percentage of students in the poor category is with good category is 55.7% and the percentage of students with very good category is 8.6%. While at MTsN 4 Batanghari, the percentage of students in the very bad category is 0%, the percentage of students in the bad category is 14.3%, the percentage of students in the moderate category is 52.1%, the percentage of students in the good category is 28.6% and the percentage of students with very good category is 5.0%. In the second indicator, namely the indicator of interest in a career in science at SMPN 35 Batanghari, the percentage of students in the very bad category is 0% the percentage of students in the bad category is 7.1% the percentage of students in the moderate category is 32.9% the percentage of students in the poor category with good category is 48.6% and the percentage of students with very good category is 11.4%. While at MTsN 4 Batanghari, the percentage of students in the very bad category is 0% the percentage of students in the bad category is 1.4%, the percentage of students in the moderate category is 40.0% the percentage of students in the good category is 40.0% and the percentage of students with very good category is 12.9%.

The data analysis results significantly influence students who are highly interested in their learning outcomes (Hidayati et al., 2017; Putrayasa et al., 2014; Wicaksana et al., 2019). It is reinforced by previous findings, which state that the learning outcomes of students with higher interest produce good learning outcomes, while students with low interest produce poor learning outcomes (Kusuma et al., 2015; Lutfi & Nugroho, 2019; Mujahadah et al., 2021; Nurhasanah & Sobandi, 2016). Interesting research reveals that students with a high interest in learning have a more significant influence on learning outcomes than students with a low interest in learning (Cholifah & Saputro, 2022; Fadillah, 2016; Kurniasari et al., 2021). Through his research, it can be seen that there is a positive and significant relationship between students' attitudes towards learning (Ventini et al., 2018). The research shows that student attitudes affect student learning outcomes (Astalini et al., 2018; Wahyudi & Lestari, 2019; Wulandari & Febriana, 2020). All the research on interests and attitudes that have been described discusses these two variables separately. Basically, attitude is a motivating factor for someone to carry out activities. This finding is supported by the theory of factors that influence attitudes and the influence of attitudes towards learning that attitudes affect learning, which means that if a student has a positive attitude towards the teacher, the student will be happy with the lesson given by the teacher concerned (Arif & Samidjo, 2018; Hamdani et al., 2017; Warti, 2018). This situation will pave the way for the student to a successful learning experience and will cause him to learn more effectively and lead to greater success.

Research on student interests and attitudes is a topic that has been widely discussed by previous researchers. However, research on student interests and attitudes is usually discussed separately. This

research was conducted because it is rare for researchers to discuss the topic of students' interests and attitudes together. Because of this research that discusses interests and attitudes need to be done. No research is perfect. Each research has its own advantages and disadvantages. This also happened in this study. This study has drawbacks where the results of this study only take data samples from two schools with a total of 144 data. The results of this study can only describe a description of the interests and attitudes of the two schools tested. Therefore, this research can be developed using more extensive data. In addition, this research also does not use supporting media such as modules or learning videos.

4. CONCLUSION

Based on the research, it is also known that there is a relationship between the interests and attitudes of students at SMPN 35 Batanghari and there is a relationship between the interests and attitudes of students at MTsN 4 Batanghari and there are differences in the interests and attitudes of students at SMPN 35 Batanghari and at MTsN 4 Batanghari.

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