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A study of interests and science process skills

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Abstract*:* This study aims to determine the differences and the relationship between interest and science process skills with 80 female students and 56 male students. This research uses quantitative methods so that this research is more systematic and objective. The sampling technique used in this study used simple random sampling. Analysis of the data used using hypotheses in the form of normality, linearity and homogeneity tests and assumption tests in the form of T test and correlation test. From the results of the T test and correlation test, it was found that there were differences and relationships between the sexes in the interests and skills of class VIIA and VIIB. In this case it is evidenced by a significant value <0.05. Thus, the higher the interest of students, the higher the skills of students according to their gender. It can be said that success can be seen from the level of understanding, mastery of the material, and student achievement. The higher the understanding and mastery as well as learning achievement, the higher the level of learning success.
Keywords: Interests, Science Process Skills, Science

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INTRODUCTION

The success of education in a country automatically also shows the progress of a country. In essence, education itself is a conscious effort to develop personality as well as within oneself (Mason, 2020; Hekmah et al., 2019; Mahendra, 2017). Through a level process to grow potential resources, with the substance of national education goals in social attitudes, knowledge, and skills so that they can form good student characters (Abdulah et al., 2021; Kurniawan et al. , 2019; Astalini et al., 2018). Education can be interpreted as offering one approach to improving the quality of evidence in education has focused on methods and also concerned about teaching and learning. (Cai et al., 2020; Campbell et al., 2017; Quay, 2017).

In education there is an activity called learning. Learning is basically not only learning about concepts, theories and facts, but is more concerned with applications in everyday life (Asumpta & Marlina, 2021; Santosa, 2018; Siang et al., 2017). Learning activities show a progress in students. Students in learning have their own styles that increase student motivation, increase creativity, so that the learning process can explore developments (Banggur, et al. 2018; Solihati, E. 2017; Rienties et al., 2017). In the education variable, performance and strategy are very important learning activities to evaluate (Annisa et al., 2021; Alhassan & Chen, 2019; Bruyckere et al., 2017).

Learning in all fields has the same important factors, even though in the era of natural knowledge (science) it is an effort or process to develop a scientific attitude so that it can solve problems in everyday life (Firdaus & Wilujeng, 2018; Grobler, 2018; Pamungkas et al. ., 2017). Learning science with skills can foster a more critical mind and soul. Science process skills are a person's skills in using thoughts, reasoning and actions effectively and efficiently (Pitorini et al., 2020; Elvanisi et al., 2018; Elvanisi et al., 2018;Sukmasari & Rosana, 2017). The natural sciences have proven successful in developing casual theories that explain important aspects of how the world works (Setiaji et al., 2020; Puspita, 2019; Joffe, 2017; Subekti & Ariswan, 2016).

In learning science, one of them is physics material that is familiar to students. One of the many lessons from Science and Natural Sciences education is physics (Pitorini et al., 2020; Raffaghelli et al., 2018; Nielsen et al., 2018). In studying physics, students are faced with symptoms, events, and life in

the world. this nature. physics is knowledge that studies real events (Shi et al., 2020; Wahyudi & Lestari, 2019; Trianggono, 2017). In the competence of learning physics in order to achieve the objectives of learning if students have an increase in learning achievement, especially in the field of physics. (Taqwa et al., 2019; Hamdani et al., 2017; Manini et al., 2017).

Interest in learning is a form of feeling, interest or liking for something in the field of learning. the consequences of their experiences of influence and value during learning, are captured in the concept of interest. On the other hand, interactions of different levels of context, activity or task-related are still related to interest with course components that influence their feelings of excitement and self-efficacy (Hendrickson, 2021; Høgheim & Reber, 2019; Habig et al., 2018). Fundamentally students tend to be interested in learning about science but not as presented in class. Some topics can be measured by a number of validated methods to assess student interest (Kwarikunda et al., 2020; Swirski et al., 2018; Jack & Lin, 2017). Students who have an interest in studying physics will try to concentrate on learning. Then the student will continue to study until he can understand the material (Giglio et al., 2020; Luo et al., 2020; Dou et al., 2018).

Applying the scientific method and developing science are part of the science process skills that are very important for students. Skills are very important for generating new knowledge through learning activities referring to behaviors that reveal their understanding of the world (Vartiainen & Kumpulainen, 2020; Stender et al., 2018; Vansteensel et al., 2017). Students are able to build concepts about science with a mixture of theory and observations (A. Solé-Llussà et al., 2020; Stylinski et al., 2020; Labouta et al., 2018). In this learning, students are required to experience for themselves, seek, try and draw conclusions from the process of the skills they do (Mutlu, 2020; Solé-Llussà et al., 2019; Kruit et al., 2018). So that the science process that students learn is not only familiar with theory but also can be applied or realized.

With science process skills in the 21st century, students can more easily know the world from the palm of their hands. The 21st century is referred to as the century of knowledge, challenges in an increasingly dynamic and increasingly advanced knowledge era require human resources (Van Mieghem et al., 2020; Dissriany & Banggur, n.d.2018; Ramadhani.2017). Sophistication of technology that can study a material, especially in physics. Multimedia technology is developing with rapidly growing science and technology (Sökmen, 2021; Shin & Bolkan, 2021; Nurzaelani et al., 2018). 21st century skills have several features to require students to think critically (Dishon, 2021; Pratiwi & Mustadi, 2021; Rusmono & Alghazali, 2019). By looking at the importance of students' interest and science process skills from the questionnaire attachment, this study aims to find out the comparison of female and male students' interest in science subjects, to find out the comparison of female and male students' interests in science subjects and understand the relationship between interest and science process skills in students with science subjects.

METHOD

Research design

The research design used is attached in table 1, as follows:

Tabel 1. Research design

Research methods	quantitative
Types of research	associative and comparative
Data used	Questionnaire
Likert scale used	5 (strongly agree, agree, disagree, moderately, strongly disagree)

This study uses quantitative methods with associative and comparative types. Quantitative research is a field of inquiry that stands alone, is scientific in nature and aims to understand social reality (Rukin, 2019; Suwendra, 2018; manzilati 2017). The data obtained using numerical data with a Likers scale 5. This study gains an understanding of a phenomenon from basic logic, usually including the perspective of the research population (Hennik et al., 2020; Anggiato & Setiawan, 2018; Tolley et al., 2017). In essence, qualitative research observes people in the environment as well as in the social sciences. (Aranda, 2020; Chandra&Shang, 2019; Rukajat. 2018).

Research Instruments

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The instrument used in this study was a questionnaire distributed to two classes at SMP 7 Muaro Jambi. The validity of the instrument was carried out using an external validity test, where the validity of the instrument was tested by comparing the existing criteria on the instrument with empirical facts in the field. The results of the validity test using the Product Moment correlation technique, it is known that the questions used have a p-value of 0.000 less than 0.05. This can be interpreted that each item is declared valid. Instructive questionnaires were used to measure knowledge that had not been systematically validated (Lee et al., 2020; Kara, 2019; Vansteensel, 2017). The grid used in the questionnaire instrument of student interest in science subjects.

Table 2. Grid of Student Interest Observation Instruments in Science Subjects

Variabel	Indicator	Number Statement Items
Students' interest in science	Attention in learning	1,2,3,4
	Student engagement	5,6,7,8,9
	Feeling happy	10,11,12,13,14
	Curiosity	15,16,17,18,19
	Learning materials and teacher attitudes	20,21,22,23,24,25
	Benefits of subjects	26,27,28,28,29,30
Number of Statements		30

Source: Astalini & Kurniawan (2019)

The grid used in the questionnaire instrument of students' science process skills in science subjects.

Table 3. Grid of Student Process Skills Observation Instruments in Science Subjects

Variabel	Indicator	Number Statement Items
Process skills of students in science	Observation	1,2,3
	Communication	4,5,6,7
	Classification	8,9,10,11,12
	Measure	13,14,15
	Conclusion	16,17,18,19
	Prediction	20,21,22,23,24
	Arrange tables	25,26,27
	Obtain and process data	28,29,30,31
	Trial analysis	32,33,34,35
	Creating a hypothesis	36,37,38,39
	Designing experiments	40,41,42,43
	Doing Experiments	44,45,46,47
Number of Statements		47

Source: Astalini & Kurniawan (2019)

Observation of the science process skills questionnaire has 47 questions that are given to students. There are intervals in each category can be seen in tables and tables 3 and table 4: As for the intervals and categories of student interest in science subjects

Table 4. Categories of Student Interest

categori	Interval Indicator		
	Feeling happy	Curiosity	Learning materials and teacher attitudes
Very Not Good	5.0 – 9.0	5.0 – 9.0	5.0 – 9.0
Not good	10.0-13.0	10.0-13.0	10.0-13.0
Enough	14.0 – 17.0	14.0 – 17.0	14.0 – 17.0
Good	18.0 -21.0	18.0 -21.0	18.0 -21.0
Very good	22.0 – 25.0	22.0 – 25.0	22.0 – 25.0

The Likert scale used in this study are: 1 (very bad), 2 (not good), 3 (quite good), 4 (good), 5 (very good) with 30 questions about interest and the Likert scale used in skills student processes, namely: 1 (very

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bad), 2 (not good), 3 (good), 4 (very good). The intervals and categories of student process skills for science subjects are described as in the following table:

Table 5. Categories of Student Process Skills

categori	Interval Indicator		
	Basic		Integration
	Communication	Conclusion	Doing Experiments
Not Good	4.0-7.0	4.0-7.0	4.0-7.0
Not good	8.0 -10.0	8.0 -10.0	8.0 -10.0
Good	11.0 -13.0	11.0 -13.0	11.0 -13.0
Very good	14.0 – 16.0	14.0 – 16.0	14.0 – 16.0

Population and Sample

In this study, the sampling technique used is simple random sampling. The total number of respondents was 136 students. At the time of testing that will be taken are male samples and female samples. The population is the person who is the subject of research or the characteristics to be studied (Roflin et al., 2021; Tegeh et al., 2020; Banks et al., 2018). Samples were taken randomly by distributing questionnaires to the target respondents. The samples used in this study are listed in table 6 below:

Table 6. Research Sample

SMPN 7 Muaro Jambi							
Interest				**science process skills**			
VII A		VII B		VII A		VII B	
Female	Male	Female	Male	Female	Male	Female	Male
20	14	20	14	20	14	20	14

Data Analysis Techniques

The student interest questionnaire in science subjects uses a connecting scale consisting of 5 categories and the science process skills questionnaire consists of 4 categories, so that there is an interval in each category. The results of students' answers to the attitude questionnaire were analyzed using descriptive statistics. Descriptive statistics are often referred to as frequency distributions that provide accurate measurements from the smallest to the largest data (Hartanto & Yuliani, 2019; Khosharay et al., 2018; Al Mutairi, 2018). The descriptive statistics used in its presentation use estimated and experimental values, from two parameters, namely the mean, arithmetic, and standard deviation (Khalil & Najm, 2018; Haj-Kacem et al., 2017; Lapinova & Saichev, 2017). By using this type of associative research to determine the relationship or type of variable used. Therefore, differential statistics are used with assumptions consisting of normality test, linearity test and homogeneity test as well as hypothesis testing, namely T test and correlation test. The use of differential statistical tests to answer the research objectives. Where the normality test aims to determine whether a data can be said to be normal or not, while the homogeneity test aims to determine whether the data from the two samples is homogeneous or not. The first step in this research is to determine the normality and homogeneity of the data using the normality test and homogeneity test. If the data is normally distributed and linear, then it can be continued for testing with the assumption using the T test and correlation test. The test is to see if there is a comparison and relationship of interest to students' science process skills (Dehadri & dehdari.2020; Awaludin et al., 2020; Kim et al., 2018). Researchers chose the method of analysis in order to analyze the data obtained so as to provide a conclusion.

Research procedure

The data obtained in this research is qualitative data. Then this data will be analyzed using descriptive statistics. After being analyzed using descriptive statistics, it will be continued with assumption tests starting from normality, homogeneity and linearity tests. If the data being tested is normal, homogeneous and linear data, then it ends with a hypothesis test to see whether there is a significant relationship and comparison between male students and female students using the T test and correlation test. The research process carried out can be seen in Figure 1.

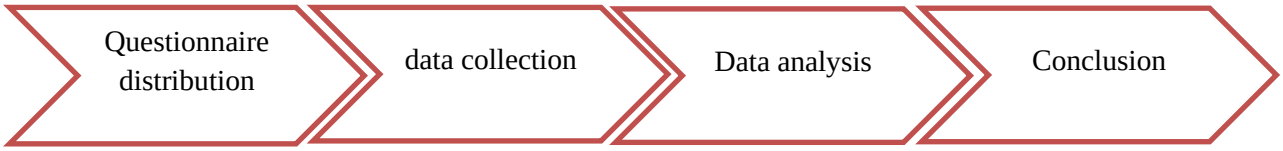

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***Fig 1**. Research procedure*

RESULTS AND DISCUSSIONS

RESULTS

The following describes the results of descriptive statistics on students' interest and science process skills in science subjects. With questions on interest indicators: Attention in learning, student involvement, learning materials and teacher attitudes. Question indicators on science process skills: Communication, Classification, Conclusions, Making hypotheses, conducting experiments. Where the results obtained from the distribution of questionnaires to SMP N 7 Muaro Jambi to two classes, namely class VII A and VII B.

The description of students' interest in science in grades VII A and VII B with indicators of Attention in learning

Table 7. Description of students' interest in science class VII A and VII B on the Attention indicator in learning

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	4.0 -7.2	1	5%	Very Not Good				
VII		7.3-10.4	2	10%	Not good				
A		10.5-13.6	5	25%	Enough	3.60	4.00	1.00	5.00
		13.7-16.8	8	40%	Good				
		16.9-20.0	4	20%	Very good				
	Male	4.0 -7.2	1	7.1%	Very Not Good				
		7.3-10.4	5	35.7%	Not good				
		10.5-13.6	2	14.3%	Enough				
		13.7-16.8	6	42.9%	Good	2.92	3.00	1.00	4.00
		16.9-20.0	0	0%	Very good				
	Female	4.0 -7.2	0	0%	Very Not Good				
VII		7.3-10.4	6	30%	Not good				
B		10.5-13.6	9	45%	Enough				
		13.7-16.8	4	20%	Good	3.00	3.00	2.00	5.00
		16.9-20.0	1	5%	Very good				
	Male	4.0 -7.2	0	0%	Very Not Good				
		7.3-10.4	4	28.6%	Not good				
		10.5-13.6	6	42.9%	Enough				
		13.7-16.8	4	28%	Good	3.00	3.00	2.00	4.00
		16.9-20.0	0	0%	Very good				

Based on the results from table 7, it can be seen that the most dominant interest category in female students is good with a percentage of 40%. For male students, the most dominant is in the good category with a percentage of 42.9%. In this case, it can be said that the superior interest fell to the male students of class VII A with the indicator of attention in learning.While the most dominant interest category in female students is sufficient with a percentage of 45%. For male students, the most dominant is in the sufficient category with a percentage of 42.9%. In this case, it can be said that the higher interest falls to the female students of class VII B with indicators of attention in learning. In that case, it can be explained that men have good enough attention so that in that case they can grow interest and produce an increase in their learning achievement.

The description of students' interest in science in class VII A with indicators of student involvement

Table 8 Description of students' interest in physics class VII A on the indicators of student involvement

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	5.0 – 9.0	0	0%	Very Not Good				
V		10.0-13.0	0	0%	Not good				
II		14.0-17.0	13	65%	Enough	3.35	3.00	3.00	4.00
A		18.0 -21.0	7	35%	Good				
		22.0–25.0	0	0%	Very good				
	Male	5.0 – 9.0	0	0%	Very Not Good				
		10.0-13.0	1	7.1%	Not good				
		14.0-17.0	4	28.6%	Enough				
		18.0 -21.0	9	64.3%	Good	3.57	4.00	2.00	4.00
		22.0–25.0	0	0%	Very good				
	Female	5.0 – 9.0	0	0%	Very Not Good				
		10.0-13.0	1	5%	Not good				

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V		14.0-17.0	9	45%	Enough				
II		18.0 -21.0	7	35%	Good	3.60	3.50	2.00	5.00
B		22.0–25.0	3	15%	Very good				
	Male	5.0 – 9.0	0	0%	Very Not Good				
		10.0-13.0	4	28.6%	Not good				
		14.0-17.0	5	35.7%	Enough				
		18.0 -21.0	4	28.6%	Good	3.14	3.00	2.00	5.00
		22.0–25.0	1	7.1%	Very good				

Based on the results of table 8 it can be seen that the most dominant interest category in female students is sufficient with a proportion of 65% . For male students, the most dominant is in the good category with a percentage of 64.3%. In this case it can be said that the male students' interest is superior in class VII A with indicators of student involvement. While the most dominant interest category in female students is sufficient with the proportion of 45%. For male students, the most dominant is in the medium category with a percentage of 35.7%. In this case it can be said to be superior to students in class VII A with indicators of student involvement. From these results it can be explained that women are superior in their involvement such as involvement in learning which is often done in learning, namely answering, being active in answering questions and discussing

The description of students' interest in science in grades VII A and VII B with indicators of learning materials and teacher attitudes

Table 9. Description of students' interest in science class VII A on indicators of learning materials and teacher attitudes

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	6.0-10.8	0	0%	Very Not Good				
V		10.9-15.6	1	5%	Not good				
II		15.7-20.4	8	40%	Enough				
A		20.5-25.2	10	50%	Good	3.55	4.00	2.00	5.00
		25.3-30.0	1	5%	Very good				
	Male	6.0-10.8	0	0%	Very Not Good				
		10.9-15.6	0	0%	Not good				
		15.7-20.4	4	28.6%	Enough				
		20.5-25.2	8	57.1%	Good	3.85	4.00	3.00	5.00
		25.3-30.0	2	14.3%	Very good				
	Female	6.0-10.8	0	0%	Very Not Good				
V		10.9-15.6	1	5%	Not good				
II		15.7-20.4	11	55%	Enough				
B		20.5-25.2	5	25%	Good	3.50	3.00	2.00	5.00
		25.3-30.0	3	15%	Very good				
	Male	6.0-10.8	0	0%	Very Not Good				
		10.9-15.6	0	0%	Not good				
		15.7-20.4	6	42.9%	Enough				
		20.5-25.2	8	57.1%	Good	3.57	4.00	3.00	4.00
		6.0-10.8	0	0%	Very good				

Based on the results of table 9 it can be seen that the most dominant interest category in female students is sufficient with a percentage of 50%. For male students, the most dominant is in the medium category with a percentage of 57.1%. In this case, it can be said that male students in class VII A are superior with indicators of learning materials and teacher attitudes. Meanwhile, it can be seen that the most dominant interest category in female students is sufficient with a proportion of 55% as many as 11 students. For male students, the most dominant is in the good category with a percentage of 57.1%. In this case it can be said to be superior to male students in class VII B with indicators of learning materials and teacher attitudes. Male students have greater interest because of the preferred learning and teacher's attitude in teaching. In this case the teacher becomes an influential subject in students' interest in studying physics.

The description of students' science process skills on science in grades VII A and VII B with communication indicators

Table 10. Description of students' science process skills on science grades VII A and VII B on communication indicators

student response	Interval	F	percentage	Categori	Mean	Median	Min	Max

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	Female	4.0-7.0	4	20%	Very Not Good				
V		8.0 -10.0	7	35%	Not good				
II		11.0 -13.0	3	15%	Enough	2.55	2.00	1.00	4.00
A		14.0-16.0	6	30%	Good				
		4.0-7.0	2	14.3%	Very good				
	Male	8.0 -10.0	2	14.3%	Very Not Good				
		11.0 -13.0	5	35.7%	Not good				
		14.0-16.0	5	35.7%	Enough	2.92	3.00	1.00	4.00
		4.0-7.0	1	5%	Good				
V	Female	8.0 -10.0	6	30%	Very good				
II		11.0 -13.0	7	35%	Very Not Good	2.90	3.00	1.00	4.00
B		14.0-16.0	6	30%	Not good				
	Male	4.0-7.0	3	21.4%	Enough				
		8.0 -10.0	2	14.3%	Good				
		11.0 -13.0	3	21.4%	Very good				
		14.0-16.0	6	42.9%	Very Not Good	2.85	3.00	1.00	4.00

Based on the results of table 10 it can be seen that the most dominant interest category in female students is less good with a percentage of 35%. For male students, the most dominant is in the good and very good categories with a percentage of 5. In this case it can be said that interest is superior to male students in class VII A with communication indicators. While the most dominant interest category in female students is good with a proportion of 35%. For male students, the most dominant is in the very good category with a percentage of 42.9%. In this case, it can be said that the superior interest in male students in class VII B with communication indicators. Active communication is seen in male students, in this case male students are more daring in giving opinions during practice so that it fosters interest in physical learning.

The description of students' science process skills on science in grades VII A and VII B with classification indicators

Table 11. Description of students' science process skills grades VII A and VII B on classification indicators

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	5.0 -8.75	1	5%	Very Not Good				
VII		8.85 -12.5	4	20%	Not good	2.80	3.00	1.00	4.00
A		12.6-16.25	1 3	65%	Enough				
		16.35-20.0	2	10%	Good				
		5.0 -8.75	3	21.4%	Very good				
	Male	8.85 -12.5	4	28.6%	Very Not Good				
		12.6-16.25	6	42.9%	Not good	2.35	2.50	1.00	4.00
		16.35-20.0	1	7.1%	Enough				
		5.0 -8.75	0	0%	Good				
VII	Female	8.85 -12.5	3	15%	Very good				
B		12.6-16.25	1 1	55%	Very Not Good	3.15	3.00	2.00	4.00
		16.35-20.0	6	30%	Not good				
	Male	5.0 -8.75	3	21.4%	Enough				
		8.85 -12.5	7	50%	Good				
		12.6 –16.25	3	21.4%	Very good	2.14	2.00	1.00	4.00
		16.35-20.0	1	7.1%	Very Not Good				

Based on the results of table 11 it can be seen that the most dominant interest category in female students is good with a proportion of 65%. For male students, the most dominant in the good category with a percentage of 42.9% as many as 6 students. In this case, it can be said that the higher interest falls on class VII A students with classification indicators. While the most dominant interest category in female students is good with a proportion of 55% For male students the most dominant in the poor category with a proportion of 50%. In this case, it can be said that the higher interest falls on class VII B students with classification indicators. In the classification can know the type of learning physics, can classify a form of material physics. With these advantages, students are more interested in studying physics.

The description of students' science process skills on science in grades VII A and VII B with conclusion indicators

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Table 12. Description of students' science process skills on science grades VII A and VII B on indicators Conclusion

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	4.0-7.0	3	15%	Very Not Good				
V		8.0 -10.0	4	20%	Not good				
II		11.0 -13.0	5	25%	Enough	2.90	3.00	1.00	4.00
A		14.0-16.0	8	40%	Good				
		4.0-7.0	1	7.1%	Very good				
	Male	8.0 -10.0	4	28.6%	Very Not Good				
		11.0 -13.0	7	50%	Not good				
		14.0-16.0	2	14.3%	Enough	2.71	3.00	1.00	4.00
		4.0-7.0	4	20%	Good				
V	Female	8.0 -10.0	7	35%	Very good				
II		11.0 -13.0	7	35%	Very Not Good	2.35	2.00	1.00	4.00
B		14.0-16.0	2	10%	Not good				
	Male	4.0-7.0	0	0%	Enough				
		8.0 -10.0	4	28.6%	Good				
		11.0 -13.0	8	57.1%	Very good				
		14.0-16.0	2	14.3%	Very Not Good	2.85	3.00	2.00	4.00

Based on the results from table 12, it can be seen that the most dominant interest category in female students is very good with a percentage of 40%. For male students, the most dominant is in the good category with a percentage of 50%. In this case, it can be said that the superior interest falls to the female students of class VII A with a conclusion indicator. While the most dominant interest categories in female students are not good and good with a percentage of 35%. For male students, the most dominant is in the good category with a percentage of 57.1%. In this case, it can be said that the superior interest fell to the male students of class VII B with a conclusion indicator.

The description of students' science process skills on science in grades VII A and VII B with indicators making hypotheses

Table 13. Description of students' science process skills on science grades VII A and VII B on indicators for making hypotheses

student response		Interval	F	percentage	Categori	Mean	Median	Min	Max
	Female	4.0-7.0	7	35%	Very Not Good				
V		8.0 -10.0	8	40%	Not good	2.00	2.00	1.00	4.00
II		11.0 -13.0	3	15%	Enough				
A		14.0-16.0	2	10%	Good				
		4.0-7.0	7	50%	Very good				
	Male	8.0 -10.0	4	28.6%	Very Not Good	1.78	2.50	1.00	4.00
		11.0 -13.0	2	14.3%	Not good				
		14.0-16.0	1	7.1%	Enough				
		4.0-7.0	4	20%	Good				
V	Female	8.0 -10.0	2	10%	Very good	2.85	3.00	1.00	4.00
II		11.0 -13.0	7	35%	Very Not Good				
B		14.0-16.0	7	35%	Not good				
	Male	4.0-7.0	0	0%	Enough				
		8.0 -10.0	4	28.6%	Good	3.21	3.50	2.00	4.00
		11.0 -13.0	3	21.4%	Very good				
		14.0-16.0	7	50%	Very Not Good				

Based on the results from table 13, it can be seen that the most dominant interest category in female students is not good with a percentage of 40%. For male students, the most dominant is in the very bad category with a percentage of 50%. In this case, it can be said that the higher interest falls to the female students of class VII A with the indicator of making a hypothesis. While the most dominant interest category in female students is very good and good with a percentage of 35%. For male students, the most dominant is in the very good category with a percentage of 50%. In this case, it can be said that the superior interest fell to the male students of class VII B with the indicator making a hypothesis.

The description of students' science process skills on science in class VII A with indicators of conducting experiments.

Table 14. Description of students' science process skills class VII A on the indicators of conducting experiments

student response	Interval	F	percentage	Categori	Man	Median	Min	Max

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	Female	4.0-7.0	0	0%	Very Not Good				
V		8.0 -10.0	4	20%	Not good				
II		11.0 -13.0	16	80%	Enough	2.80	3.00	2.00	3.00
A		14.0-16.0	0	0%	Good				
		4.0-7.0	1	7.1%	Very good				
	Male	8.0 -10.0	7	50%	Very Not Good				
		11.0 -13.0	4	28.6%	Not good				
		14.0-16.0	2	14.3%	Enough	2.50	2.00	1.00	4.00
		4.0-7.0	2	10%	Good				
V	Female	8.0 -10.0	9	45%	Very good				
II		11.0 -13.0	6	30%	Very Not Good	2.50	2.00	1.00	4.00
B		14.0-16.0	3	15%	Not good				
	Male	4.0-7.0	6	42.9%	Enough				
		8.0 -10.0	5	35.7%	Good				
		11.0 -13.0	3	21.4%	Very good	1.78	200	1.00	3.00
		14.0-16.0	0	0%	Very Not Good				

Based on the results from table 14, it can be seen that the most dominant interest category in female students is good with a percentage of 80%. For male students, the most dominant is in the bad category with a percentage of 50%. In this case, it can be said that the superior interest fell to the female students of class VII A with the indicator of conducting experiments. While the most dominant interest category in female students is not good with a percentage of 45%. For male students, the most dominant is in the very bad category with a percentage of 42.9%. In this case, it can be said that the higher interest falls to female students in class VII B with the indicator of conducting an experiment.

The data is normally distributed as seen from the significance value, if the significance value is > 0.05. The following are the results of the normality test shown in table 15

The normality test of student interest in science in grades VII A and VII B is described in the following table:

Table 15. Normality test of interest class VII A and VII B

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Interest A	.098	34	.200*	.970	34	.397
Interest B	.127	34	.137	.959	34	.185
Process skills A	.099	34	.200	.978	34	.720
process skills B	.090	34	.200*	.966	34	.363

Based on the results of table 15. It can be said that the data is normally distributed, in the normality test the Kolmogorov-Smoniv test is obtained with a significance value of 0.200 > 0.05 and 0.137 > 0.05. So it can be said that the data is normally distributed. The normality test was obtained using the Kolmogorov-Smoniv test with a significance value > 0.05 with a result of 0.200 > 0.05 for KPS A and 0.200 > 0.05 for KPS B. In this case it can be seen that the data taken is normally distributed so that the test This can be determined on the data that can be continued to the next stage of testing or using other tests.

The next test is carried out in order to see a linear relationship between two or more variables. The conditions for this test, if the significance value is > 0.05. The results obtained are shown in table 16.

The linearity test of students' interests and science process skills in class VII A is described in the following table:

Table 16. Linearity test of interest and science process skills of class VII A . students

			Sig.
Interest_A* **Process skills** _A	Between Groups	Deviation from Linearity	.806
Interest_B* **Process skills** _B	Between Groups	Deviation from Linearity	.834

Based on table 16 it can be concluded that there is a linear relationship between interest and science process skills in class VII A students, in this case the linearity test results have been obtained with a significance value of 0.806 and have met the requirements > 0.05. Furthermore, in class VII B, the results of the linearity test were obtained at a significance value of 0.834 which had met the requirements > 0.05.

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Subsequent tests were carried out to determine whether the x and y data were homogeneous or not. The requirement in this test is that if the significance value is > 0.05, it can be said that the x and y data are homogeneous (same). If the significance value < 0.05 then the data is not homogeneous (not the same). The results obtained are shown in table 17. The homogeneity test of interest of class VII A and VII B students is described in the following table:

Tabel 17. Homogeneity test of interest of class VII A and VII B

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Interest	Based on Mean	2.767	1	66	.104
	Based on Median	2.767	1	66	.106
	Based on Median and with adjusted df	.146	1	61.991	.344
	Based on trimmed mean	.132	1	66	.717
Process skills	Based on Mean	.362	1	66	.550
	Based on Median	.368	1	66	.546
	Based on Median and with adjusted df	.368	1	63.583	.547
	Based on trimmed mean	.369	1	66	.545

Based on table 17. It can be concluded that the variance of the two variables is the same or homogeneous with the results obtained from the homogeneity that is obtained is a significance value based on mean of 0.104 which has met the requirements > 0.05. So, it can be concluded that the variance of the two variables is the same or homogeneous with the results obtained from the homogeneity test that is obtained is a significance value based on the mean of 0.550 which has met the requirements > 0.05.In this case, interests and skills have a relationship that can increase achievement in learning physics.

the next test, it is carried out in order to be able to find out the difference between the variables in science subjects. The condition in this test is if the significance value is > 0.05, it can be said that the variable has no difference. If the significance value is <0.05, then the variable has a significant difference. The results obtained are shown in table 18. The T-test of student interest in grades VII A and VII B is described in the following table:

Table 18. T-test of interest and process skills of students in grades VII A and VII B

Gender			N	Sig.	Sig. (2-tailed)
Interest	VII A	Male	14	0.804	0.029
		Female	20		
	VII B	Male	14	0.738	0.039
		Female	20		
Process skills	VII A	Male	14	0.758	0.030
		Female	20		
	VII B	Male	14	0.659	0.040
		Female	20		

From table 18, it is found that there are differences in the attitudes of female students and male students in class VIIA towards science subjects. This is evidenced by the value of sig (2-tailed) 0.029 < 0.05. Meanwhile, it was found that there were differences in the attitudes of female students and male students in class VIIA towards science subjects. This is evidenced by the value of sig (2-tailed) 0.030 < 0.05. The T-test of the science process skills of students in class VII A is described in the following table: Meanwhile, there are differences in the attitudes of female students and male students in class VIIA towards science subjects. This is evidenced by the value of sig (2-tailed) 0.039 < 0.05. Thus, it was found that there were differences in the attitudes of female students and male students in class VIIA towards science subjects. This is evidenced by the value of sig (2-tailed) 0.040 < 0.05.

the last test, it is carried out in order to determine the relationship of the variable to science subjects. The condition in this test is if the significance value is > 0.05, it can be said that the variable has no relationship. If the significance value is <0.05, then the variable has a significant relationship. The results obtained are shown in table 19.

The correlation test of students' interest and science process skills in grades VII A and VII B is described in the following table:

Tabel 19. Correlation test of interest and science process skills for grades VII A and VII B

Gender	Class	N	Pearson Corelation	Sig. (2-failed)

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FeMale	VII A	20	0.813	0.003
Male		14	0.738	0.039
Female	VII B	20	0.657	0.012
Male		14	0.642	0.034

From table 19, it is found that there is a relationship between the interest and science process skills of female and male students in class VII A on science subjects. This is evidenced by the value of sig (2-failed) 0.003 < 0.05 for female students and the value of sig (2-failed) 0.039 < 0.05 for male students. Meanwhile, it was found that there was a relationship between the interest and science process skills of female and male students in class VII B on science subjects. This is evidenced by the value of sig (2-failed) 0.012 < 0.05 for female students and the value of sig (2-failed) 0.034 < 0.05 for male students.

DISCUSSIONS

In descriptive statistical testing, the variable used is the variable of interest by paying attention to 3 question indicators. Descriptive statistics itself is the most basic data analysis process by focusing on data management, presentation and classification (Awaludin et al., 2020). From the results of the table that has been presented, it is found that for indicators of attention in learning in class VIIA male students are 42.6% superior to female students and 40% in class VIIB are female students are superior to male students. From these differences, it can be explained that learning attention cannot be predicted based on gender because it can be influenced by the surrounding environment. In this case, learning attention can also be influenced by the way the teacher teaches. Sometimes the way male students and female students pay attention to the teacher teaching has its own way of each according to their comfort in learning. Therefore, female and male students in grades XII A and XII B of SMP 7 Muaro Jambi have a balance in learning attention.

Furthermore, for indicators of student involvement in class VIIA, male students have an advantage over female students and in class VIIB, female students have an interest advantage over male students. From these differences, it can be explained that student involvement in learning cannot be predicted based on gender. If it is seen from these 2 indicators, for class A male students have better interest than female students and for class B female students have better interest than male students. This can occur due to environmental influences from within the classroom. So with the indicators of learning materials and teacher attitudes from class VII A and class VIIB male students show superiority compared to female students. It is clear that men have an interest in learning according to the attitude of the teacher and the learning materials. Male students tend to get bored quickly of a lesson so that when a teacher teaches using the lecture method, male students may not focus on paying less attention to the teacher teaching. Regarding the attitude of the teacher to be a reference for students to understand physics. Because many students feel pressured in learning if the teacher who teaches is a little scary or scary so students will be slow to respond to the material taught by the teacher.

In descriptive statistical testing with the science process skills variable, there are 5 question indicators used. Three of them are science process skills with basic categories and two of them are integration. From the results obtained that the indicators of communication and classification of male students are superior to female students in class VIIA and class VIIB. while for indicators of conclusions and making hypotheses in class VIIA female students have superior skills compared to boys. Meanwhile, in class VIIB the male students are superior to the female students. In the indicators of conducting experiments in both classes, female students have an advantage over male students. So that in this test each indicator has its own advantages over gender. So it can be said that gender is not a major factor in science skills. In this case, it can occur due to the influence of the surrounding environment and the student's own learning patterns.

In testing the data before conducting the T test, this data is required to perform an assumption test which contains a normality test, linearity test and homogeneity test. In this test, the data used were normally distributed and there was a linear relationship between interest and science process skills in class A and class B. With the homogeneity test, it was found that the data tested had the same variance. In testing this assumption, it becomes the determinant of the parametric test. In normally distributed data, it can be assumed that the data is taken randomly from the normal population. Then the homogeneity test in variables X and Y is homogeneous with variable X is the student's interest and Y is the student's process skills. From the two existing variables that there is a linear relationship so that from these results a data can be tested using hypothesis testing.

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The test was continued by testing the hypothesis which consisted of a T-test only. From what has been done that there are differences in each gender in the class. From class VIIA with the science process skill variable, the significance value of the T test was 0.039 < 0.05 and in class VII B the significance value was 0.040 < 0.05. From the T test, there are differences or comparisons of interests between genders. For correlation testing, it can be said that there is a relationship between the interest and science process skills of female students and male students in grade VII A

This research is in line with previous research on interest. However, previous studies have shortcomings in the variables tested. In the journal "Context characteristics and their effects on students' situational interest in chemistry" this journal discusses the analysis of the influence of the context of students' situational interest characteristics, referring to context as a task parameter in the first project and as a learning activity in the second (Habig et al., 2018). This journal uses indicators regarding the analysis of student interest from task parameters. The lack of measurement in students' science process skills makes the initial step of the article a weakness.

This research is like previous research on science process skills. However, previous studies have weaknesses in the variables tested. The journal "Examples of successful videos to improve process skills of elementary school students: fruit decomposition inquiry activity" discusses examples of videos that work to provide students with cognitive schemas for inquiry processes and have a positive effect on their science process skills (Anna Solé-Lluss et al., 2019). In this case, the journal is lacking in measuring students' interest in science process skills. Science process skills measured in interest will have a great impact on students.

In this test, researchers have variables of interest and science process skills which aim to understand the control, thought processes, motivational attitudes, and psychology faced by students in studying science subjects. With this test, it can be seen that students' interest in learning has an influence on the psychology faced by students when starting science subjects. With good interest and science process skills students can develop knowledge, skills regarding science subjects. skills in science can find problems related to science subjects. In this way, a good personality is formed from each student. Several previous studies have also succeeded in showing confidence in science process skills in influencing students' interest in learning science.

The results of this study indicate several things, including: (1) interacting with the teachers visited, (2) the implications of learning with student learning skills and interests. The implications of this research can be used as a reference in designing learning that can improve student skills and student interest in learning science (Natural Sciences). Essence discusses the differences and the relationship between students' interests and science process skills between gender and class. In other words, these differences and relationships describe students' interest and science process skills in science subjects. it can be seen that there are differences and relationships between interests and scientific process skills that have been tested.

The generalization of this research is that female students are superior in process skills and have higher interest than boys. this is a conclusion, because it is taken from the test results on statistical tests. This study only measures the interest and science process skills in students, but has not been tested with other variables such as motivation and other learning models. So it is permissible to read other articles containing other variables to support the reference. Solutions that can be given to students who do not have interest and process skills in learning physics by continuing to be active in learning and from teachers must also make students more interested in learning (natural science) by paying special attention to students, especially students who do not understand and interested in learning science (natural science).

CONCLUSION AND SUGGESTION

In this test, the data used are normally distributed, linear and homogeneous. With a significant value generated from interest and KPS in class A and B of 0.200 > 0.05 Using the linearity test, the data tested showed that there was a linear relationship between interest and science process skills in class A which was obtained significantly at 0.806 > 0.05 and in class B obtained significant at 0.834 > 0.05. With the homogeneity test, it was found that the data tested had the same or homogeneous variance with a significance of 0.104 > 0.05 in class A and a significance of 0.550 > 0.05 in class B. From the results

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of the hypothesis test, it was found that the relationship between interest and science process skills of female students and male students in grades VII A and VII B on science subjects. It is proven that the value of sig (2-failed) is 0.003 < 0.05 for female students and the value of sig (2-failed) is 0.039 < 0.05 for male students in class VII A and the value of sig (2-failed) is 0.012 < 0.05 for female students. and the value of sig (2-failed) 0.034 < 0.05 for male students in class VII B.

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