RELATIONSHIP BETWEEN SELF CONFIDENCE, STUDENT PERCEPTION ABOUT MATHEMATICS AND PARENTS ATTENTION WITH THE RESULTS OF LEARNING MATHEMATICS STUDENTS OF CLASS X

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ABSTRACT

Numerous factors influence a low grade in mathematics. Confidence, students' perceptions towards mathematics, and parents' attention are three factors that are suspected of having a relationship with students' grades in mathematics. This study aims to determine whether or not there is a positive and significant relation between confidence, students' perceptions towards mathematics, and parents' attention with the grade results of learning mathematics on the tenth-grade students of Department of Mechanical Engineering (TP) State Vocational High School (SMKN) 3 Yogyakarta in the academic year of 2016/2017. The population used in this research is all the tenth-grade students of Department of Machinery Engineering SMKN 3 Yogyakarta in the academic year of 2016/2017 that in total is 94 students and divided into three classes. The sampling class is done using a random sampling technique, which generates two classes; TP2 class as a research class and TP1 class as a trial class. The data collection technique is using a documentation method, interview, test method, and questionnaire method. The instrument test analyses used are validity test, reliability test, and distinguishing power test. The prerequisite analyses test used the normality test, independent test, and linearity test. The data analyses used are linear regression analysis and correlation analysis. The results of this study show that there is a positive and significant relationship between confidence, students' perceptions of mathematics, and parents' attention with the results of learning mathematics with linear regression equation $\hat{Y} = -208{,}056 + 0{,}909\,X_1 + 1{,}362\,X_2 + 1{,}286\,X_3$ and double correlation coefficient (R) as 0.696. Furthermore, obtained $F_{count} = 8.478$ and $F_{tabel} = 2.96$. So, $F_{count} > F_{table}$. Relative donations $(X_1) = 35.069\%$, $(X_2) = 49.845\%$ and $(X_3) = 15{,}086\%$ with coefficient of double determination as 0.696 and effective donations $(X_1) = 17.011\%$, $(X_2) = 24.178\%$, and $(X_3) = 15.086\%$.

Keywords: Confidence, students' perceptions of mathematics, parents' attention.

INTRODUCTION

Vocational High School is a formal education unit that organizes vocational education that prepares students to work in specific fields at the secondary education level following secondary schools/ equivalent. Vocational students study science and practice simultaneously to have sufficient competence, ready to enter the workforce after graduating. One of the basic sciences in vocational education in mathematics. Mathematics is an exact science based on other sciences, so mathematics is interrelated with other sciences. With a fair mathematics learning process, it is expected that vocational students will be able to get good mathematics learning outcomes and be able to apply it in vocational education so that vocational students are better prepared to face the world of work.

Mathematics learning outcomes are one indicator to determine success in the learning process. The process of learning mathematics is said to be successful when student learning outcomes have exceeded the Minimum Completeness Criteria (MCC). This success requires positive collaboration between students, teachers, government, family, and the community environment. Support from all parties will foster motivation and enthusiasm in student learning so that the ultimate goal of satisfying learning outcomes will be easily achieved. However, in reality, some things hinder learning mathematics, so that the achievement of student learning outcomes is not optimal. Internal factors include intelligence, talents, interests, self-confidence, motivation.

In contrast, external factors include student environment, parents' attention, curriculum, school, teacher, or teacher teaching methods. Students are objects of learning in schools with different characteristics or characteristics. The results of mathematics learning achieved by each student are also different.

In SMKN 3 Yogyakarta, especially in class X of the TP Department, it shows that student learning outcomes in mathematics are low. Dra. M Indrastuti, as a grade X mathematics teacher, stated that the Middle Semester Repeat Score of Mathematics for Class X TP (Machining Engineering) Odd Semester of the 2016/2017 Academic Year was relatively low. The average score was 42.5, with the highest score of 100 and the lowest value of 4. The Number of students who can achieve the school's MCC is 76, only 7 Students. According to Dra. M Indrastuti, students' mistakes in working on math problems include a lack of understanding of the material being taught. These errors indicate something wrong in the learning process, namely the malfunctioning of internal and external factors in the learning process.

The mathematics teaching and learning process's success is inseparable from students' preparation and educators' preparation. A teacher must foster enthusiasm and confidence in their students so that they are motivated to develop their potential. Students who have confidence will be enthusiastic, have determination, proactive diligent, diligent, and never give up. If there is confidence in students, students feel happy, unencumbered, and attentively attend maths. A teacher must also change students 'misperceptions about mathematics by changing students' interest in learning mathematics. Based on the results of interviews with Dra. M. Indrastuti, said that the level of student enthusiasm in mathematics was not high, it was shown from the lack of activity and lack of attention of some students in learning in class so that the level of student understanding of mathematical materials was lacking. Students can observe that many students make operational errors or mistakes in calculating and algebraic work and the class of principles or mistakes in associating some facts or concepts from the UTS answer sheet.

One of the internal factors that influence student learning outcomes, including student confidence. Based on observations at SKMN 3 Yogyakarta, some problems arise due to students' lack of self-confidence. For example, students do pre-tests or daily tests that should be done individually, but. However, thereome students lack confidence, so they are still cheating friends around the place of their seat. This is one example that students lack confidence in their abilities but depend on others. However, according to Dra. M. Indrastuti students cheat or collaborate with friends around them only during lessons or daily tests. During midterm examinations, grade X students major in machining techniques do not cheat or cooperate with friends around them. Another factor that influences student learning outcomes is students' perceptions of mathematics. Students who have negative perceptions of mathematics will view mathematics as boring and scary. This is because a person's perceptions can influence his behavior to face and accept school lessons.

Based on interviews with several class X students and grade X mathematics teachers at SMKN 3 Yogyakarta, information was obtained that students, especially in class X majoring in machining engineering, had different mathematics perceptions. Many students have negative perceptions and assume that mathematics is a complicated subject, always with formulas and calculations. It is felt to be less exciting and even considered scary and boring to learn. Hence, students tend to be lazy to learn mathematics. This requires attention from various parties, especially teachers and parents of students. Although perception is only one of the factors that influence mathematics learning outcomes, perception is an initial belief that motivates students to learn to achieve educational goals, namely improving quality students.

To be able to achieve the goals of education requires cooperation from various parties. In the new paradigm of Indonesian education, the education trilogy is known, namely family, school, and community education. All three have the same responsibility in implementing education. The family is the oldest educational institution. It is informal and is first experienced by children as a form of parental responsibility in maintaining, protecting, caring for, and educating children to grow well.

Based on interviews with teachers at SMKN 3 Yogyakarta, parents' attention can still be said to be lacking. It can be seen in terms of the family environment of students who live in urban environments and have parents who are busy working. Problems that affect student learning outcomes in a family environment are parents' lack of attention to their children's study hours. Parents do not have much time to accompany or supervise directly when their children study at home due to being too busy working.

Based on the description of the background of the problem, research problems can be formulated as follows: 1) Is there a positive and significant relationship between students' confidence with the learning outcomes of students of class X majoring in TP at SMKN 3 Yogyakarta? 2) Is there a positive and significant relationship between students' perceptions of mathematics subjects with mathematics learning outcomes of class X students majoring in TP at SMKN 3 Yogyakarta? 3) Is there a positive and significant relationship between parents' attention and mathematics learning outcomes of class X students majoring in TP at SMKN 3 Yogyakarta? 4) Is there a positive and significant relationship between self-confidence and students' perceptions of mathematics subject and mathematics learning outcomes of class X students majoring in TP at SMKN 3 Yogyakarta? 5) Is there a positive and significant relationship between self-confidence and parental attention with students' learning outcomes in grade X in the TP Department of SMKN 3 Yogyakarta? 6) Is there a positive and significant relationship between students 'perceptions of mathematics and parents' attention with mathematics learning outcomes of class X students majoring in TP at SMKN 3 Yogyakarta? 7) Is there a positive and significant relationship between students' self-confidence, students' perceptions about mathematics, and parents' attention together with the learning outcomes of class X students majoring in TP at SMKN 3 Yogyakarta?

METHODS

This research is quantitative. The research was conducted at SMKN 3 Yogyakarta. In contrast, the research time was carried out in the even semester of the 2016/2017 school year. This study's population were all students of class X Machining Department (TP) even semester 2016/2017 academic year three classes containing students arranged randomly, namely classes TP 1, TP 2, and TP 3. In this study, samples were taken randomly using a random sampling of the class taking two classes randomly, taking class samples obtained by lottery class. So that obtained TP 2 class as a research class and TP 1 class as a trial class.

In this study, there are two kinds of research variables: the independent and dependent variables. The independent variables in this study consisted of self-confidence (X_1), perceptions about mathematics (X_2), and parents' attention (X_3). In contrast, the dependent variable in this study was mathematics learning outcomes (Y). Data collection techniques used the test method and questionnaires. This study's test method was used to determine students' learning outcomes of class X majoring in machining techniques even semester of SMKN 3 Yogyakarta in the 2016/2017 school year as the research sample. Simultaneously, the questionnaire method was used to obtain data regarding parents' attention and the use of learning resources for class X students majoring in machining techniques even semester of SMKN 3 Yogyakarta, which became the research sample.

Analysis of the questionnaire instrument trials and tests using content validity tests by reviewers and product-moment correlation techniques (Arikunto, Suharsimi, 2013: 213). To test the questionnaire instruments' reliability using the Alpha formula (Arikunto, Suharsimi, 2013: 239) and tests using the KR-20 formula (Arikunto, Suharsimi, 2013: 231). Whereas the differentiation test uses the discrimination index formula (Arikunto, Suharsini, 1981: 157-158). After the data has been collected, descriptive data analysis, analysis prerequisite, and hypothesis testing are performed. Analysis prerequisite tests that must be met include normality tests using the chi-square formula (Suparman, 2013: 50), independent tests, and linearity tests. To test the hypothesis used t-test and F-test. For t-test (Khasanah, Uswatun, 2014: 60) using the formula:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

with:
$r =$ Correlation coefficient
$n =$ Number of samples
For the F-test (Khasanah, Uswatun, 2014: 106), use the formula:

$$F = \frac{R^2(n-k-1)}{(1-R^2)k}$$

with:
$F =$ F price regression
$R^2 =$ Coefficient of double determination
$n =$ Sample size
$k =$ Number of free variables

RESULTS AND DISCUSSION

The study results stated that the instrument is feasible to be presented or distributed to be filled by respondents. For the instrument trial analysis, based on the validity test of the mathematics learning achievement test, it was found that from 22 items, 20 items were declared valid, as shown in Table 1.

Table 1. Summary of Calculation Results for Test Validity in Mathematics Learning Outcomes Tests

Instrument	Number of Items	Number of Autumn Drops	Drop Item Number	Number of Valid Items
Mathematical Learning Outcomes	22	2	13,21	20

Based on the test results of distinguishing mathematical learning outcomes, tests obtained from the 22 items included nine items with reasonable criteria, 11 items with sufficient criteria, and two items with flawed criteria, as shown in Table 2.

Table 2. Summary of Difference Power Test Results in Mathematics Learning Outcomes

Variable	Criteria	Item Number Question	Number of Items
Mathematical Learning Outcomes	Very Good	-	-
	Good	2,3,4,7,11,14,17,18,22	9
	Enough	1,5,6,8,9,10,12,15,16,19,20	11
	Poor	13,21	2
	Negative	-	-

Furthermore, based on the reliability test, the instruments of confidence, perceptions about mathematics, parents' attention, and reliable mathematics learning outcomes. With high criteria for instruments of confidence, perceptions about mathematics and mathematics learning outcomes, and sufficient criteria for instruments of parents' attention, as shown in Table 3.

Table 3. Summary of Instrument Reliability Test Calculation Results

Instrument	$\mathbf{r_{count}}$	$\mathbf{r_{table}}$	Criteria
Confident ($\mathbf{X_1}$)	0,80183	0,367	High
Perception About Mathematics ($\mathbf{X_2}$)	0,81040	0,367	High
Parents attention ($\mathbf{X_3}$)	0,68564	0,367	Enough
Mathematical Learning Outcomes (Y)	0,81829	0,367	High

For the prerequisite test analysis on the normality test, it was found that the four variables, namely self-confidence, perceptions about mathematics, parents' attention, and learning outcomes of mathematics, were normally distributed as shown in Table 4.

Table 4. Summary of Normality Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Info.
Confident (X_1)	3,219	5,991	2	Normal
Perception About Mathematics (X_2)	1,340	7,815	3	Normal
Parents attention (X_3)	1,691	5,991	2	Normal
Mathematical Learning Outcomes (Y)	4.361	5,991	2	Normal

Next, based on the independent test obtained that between the variable confidence (X_1) with the perception of mathematics (X_2), the variable confidence (X_1) with the attention of parents (X_3), the variable perception of mathematics (X_2) with the attention of parents (X_3) are independently related as seen in Table 5.

Table 5. Summary of Independent Test Results

Variable	χ^2_{count}	χ^2_{table}	df	Info.
X_1 with X_2	35,127	37,652	25	Independent
X_1 with X_3	16,250	37,652	25	Independent
X_2 with X_3	25,459	37,652	25	Independent

Furthermore, based on the linearity test, it was found that between the variables of self-confidence and mathematics learning outcomes, students 'perceptions of mathematics with mathematics learning outcomes and parents' attention to mathematics learning outcomes have a linear relationship as shown in Table 6.

Table 6. Summary of Linearity Test Results

Variable	F_{count}	F_{table}	Info.
X_1 with **Y**	0.686	2,51	Linear
X_2 with **Y**	0.259	2,58	Linear
X_3 with **Y**	1.200	2,31	Linear

To test the hypothesis, from the results of the first hypothesis test, it was found that there was a positive and significant relationship between parents' attention and mathematics learning outcomes. This study's results were obtained $t_{count} = 3.347$ and $t_{table} = 1.699$ at a significant level of 5% with a simple correlation coefficient (r) of 0.538. This can be explained through the linear relationship $\hat{Y} = -63.427 + 1.623\,X_1$. This means that every increase of one unit X_1 increases Y. In other words, if self-confidence is high, then the results of learning mathematics will increase. This study also obtained a coefficient of determination (r^2) of 0.289, which means that 28.9% of mathematics learning outcomes are related to self-confidence. At the same time, the rest are related to other factors. This calculation indicates that the higher the confidence, the higher the learning results, and vice versa.

From the second hypothesis test results, there is a positive and significant relationship between students' perceptions of mathematics with mathematics learning outcomes. This study's results were obtained $t_{count} = 3.605$, and $t_{table} = 1.699$ at a significant level of 5% with this study's results efficient (r) of 0.556. This can be explained through the linear relationship $\hat{Y} = -74.466 + 1.830\,X_2$. This means that every increase of one unit of X_2 results in an increase in Y. In other words, if the perception of mathematics is high, then the results of learning mathematics will. Increase. This study also obtained a coefficient of determination (r^2) of 0.309, which means that 30.9% of mathematics learning outcomes are related to mathematics perceptions. At the same time, the rest are related to other factors. This calculation indicates that the more positive students' perceptions of mathematics, the higher the mathematics learning outcomes, and vice versa.

There is a positive and significant relationship between parents' attention and mathematics learning outcomes from the third hypothesis test results. This study's results were obtained $t_{count} = 1.992$ and $t_{table} = 1.699$ at a significant level of 5% with a simple correlation coefficient (r) of 0.347.

This can be explained through a linear relationship $\hat{Y} = -110.587 + 2.221\,X_3$. This means that every increase of one unit of X_3 results in an increase in Y. In other words, if parents' attention is high, the results of learning mathematics will increase. This study also obtained a coefficient of determination (r^2) of 0.120, which means that 12.0% of mathematics learning outcomes are related to parents' attention. At the same time, the rest are related to other factors. This calculation indicates that the greater the parents' attention, the results of learning mathematics will increase, and vice versa.

The fourth hypothesis test results show a positive and significant relationship between self-confidence and perceptions about mathematics with mathematics learning outcomes. This study's results were obtained $F_{count} = 11.272$ and $F_{table} = 3.34$ at a significant level of 5% with a multiple correlation coefficient (R) of 0.668. This can be explained through a linear relationship $\hat{Y} = -124.482 + 1.131\,X_1 + 1.320\,X_2$. This means that every increase of one unit X_1results in a 0.131 increase in Y, and every increase in one unit X_2results in a 1,320 increase in Y. In other words, if self-confidence is high and perceptions about mathematics are positive, then mathematics learning outcomes will increase. This study also obtained a coefficient of determination (R^2) of 0.446, which means that 44.6% of mathematics learning outcomes are related to self-confidence and perceptions about mathematics.

In contrast, the rest are related to other factors. The relative contribution was 47.459% of X_1 and 52.541% of X_2, while the effective contribution was 21.168% of X_1 and 23.435% of X_2. This calculation indicates that the higher the confidence and the more positive perceptions about mathematics, the results of learning mathematics will increase, and vice versa.

The fifth hypothesis test results show a positive and significant relationship between self-confidence and parental attention with mathematics learning outcomes. This study's results were obtained $F_{count} = 6{,}559$ and $F_{table} = 3{,}34$ at a significant level of 5% with a double correlation coefficient (R) of 0.565. This can be explained through the linear relationship $\hat{Y} = -131{,}293 + 1{,}364\,X_1 + 1{,}118\,X_3$. This means that every increase in one unit X_1results in a 1,364 increase in Y, and every increase in one unit of X_3 results in a 1,118 increase in Y. In other words, if the confidence and attention of parents are high, the results of learning mathematics will increase. This study also obtained a coefficient of determination (R^2) of 0.319, which means 31.9% of mathematics learning outcomes are related to parents' self-confidence and attention.

In contrast, the rest are related to other factors. The relative contribution of 80.060% of X_1 and 19.940% of X_3, while the effective contribution of 25.541% of X_1 and 6.361% of X_3. This calculation indicates that the higher the parents' confidence and attention, the results of learning mathematics will increase, and vice versa.

From the sixth hypothesis test results, there is a positive and significant relationship between the perception of mathematics and parents' attention to learning mathematics. This study's results were obtained $F_{count} = 9.622$ and $F_{table} = 3.34$ at a significant level of 5% with a double correlation coefficient (R) of 0.638. This can be explained through the linear relationship $\hat{Y} = -210{,}814 + 1{,}682\,X_2 + 1{,}912\,X_3$. This means that every increase of one unit X_2 results in 1,682 increases in Y, and every increase in one unit of X_3 results in 1,912 increases in Y. In other words, if the perception of mathematics is good, and parents' attention is high, the results of learning mathematics will increase. This study also obtained a coefficient of determination (R^2) of 0.407, which means 40.7% of mathematics learning outcomes are related to perceptions about mathematics and parents' attention. At the same time, the rest are related to other factors. The relative contribution of 73.291% of X_2 and 26.709% of X_3, while the effective contribution of 29.854% of X_2 and 10.880% of X_3. This calculation indicates that the better the perception of mathematics and the greater the parents' attention, the results of learning mathematics will increase, and vice versa.

The seventh hypothesis test results show a positive and significant relationship between self-confidence, perceptions about mathematics, and parents' attention to mathematics learning outcomes. This study obtained $F_{count} = 8.476$ and $F_{table} = 2.9$ at a significant level of 5% with a double

correlation coefficient (R) of 0.696. This can be explained through the linear relationship $\hat{Y} = -208{,}056 + 0{,}909\,X_1 + 1{,}362X2 + 1{,}286\,X_3$. This means that every increase of one unit X_1 results in 0.909 increase in Y, every increase in one unit X_2 results in 1,362 increase in Y, and every increase in one unit X_3 results in a 1,286 increase in Y, in other words, if self-confidence, perception about mathematics and parental attention are high, then mathematics learning outcomes will increase. This study also obtained a coefficient of determination (R^2) of 0.485, which means that 48.5% of mathematics learning outcomes are related to self-confidence, perceptions about mathematics, and parents' attention. In contrast, the rest are related to other factors. This calculation indicates that the higher the confidence, perceptions about mathematics, and parents' attention, the results of learning mathematics will increase, and vice versa.

Furthermore, the magnitude of the relative contribution (RC) and the magnitude of the effective contribution (EC) for each of the variables of confidence (X_1), perception of mathematics (X_2), and parents' attention (X_3) with mathematics learning outcomes (Y) can be seen in Table 7.

Table 7. Summary of Relative Contributions and Effective Contributions $X_1$and $X_2$to Y

Variable	Relative Contributions (RC %)	Effective Contributions (EC %)
X_1	35,069%	17,011 %
X_2	49,845%	24,178 %
X_3	15,086%	7,318 %
Total	100 %	48,507 %

In a study conducted by Weni Wendari entitled The Relationship Between Parents 'Attention, Intellectual Intelligence and Learning Interest With Mathematics Learning Outcomes of Class VII Even Semester Students at SMP Muhammadiyah 1 Minggir Sleman Academic Year 2013/2014 obtained results for the relative contribution of parents' attention variables of 59.51%, the variable of intellectual intelligence by 20.63% and the variable of interest in learning by 9.16%. This shows that parents' attention gives a more significant relationship to mathematics learning outcomes than intellectual intelligence and interest in learning. In a study conducted by Fara Jauharotul Ilmi entitled Relationship of Students' Perceptions in Mathematics Subjects, Mathematics Study Habits, and Utilization of Learning Resources with Mathematics Learning Outcomes Class VIII Semester MTSN Pecangan in Bawu Jepara Academic Year 2013/2014 obtained results for donations relative to the perception variable about mathematics subjects by 32.30%, the mathematics learning habits variable by 18.56% and the learning resource utilization variable by 49.14%. This shows that learning provides a more significant relationship to mathematics learning outcomes than perceptions about mathematics and mathematics learning habits.

This study shows that mathematics perceptions provide a more significant relationship to learning outcomes in mathematics than parents' confidence and attention.

CONCLUSION

Based on the results of the research and discussion, several research conclusions can be drawn as follows:

1. There is a positive and significant relationship between self-confidence and mathematics learning outcomes of Grade X students in the TP Department of SMKN 3 Yogyakarta Even Semester for the 2016/2017 Academic Year. This is indicated by the t-test, which is $t_{count} = 3.347$ and $t_{table} = 1.699$, so $t_{count} > t_{table}$. Simple correlation coefficient (r) between self-confidence (X_1) with mathematics learning outcomes (Y) of 0.538 with a regression equation $\hat{Y} = -63{,}427 + 1{,}623\ X_1$.
2. There is a positive and significant relationship between perceptions about mathematics with mathematics learning outcomes of class X students of the TP Department of SMKN 3 Yogyakarta Even Semester of the 2016/2017 Academic Year. This is indicated by the t-test, which is $t_{count} = 3.605$ and $t_{table} = 1.69$, so $t_{count} > t_{table}$. Simple correlation coefficient (r) between perceptions

about mathematics (X_2) with mathematics learning outcomes (Y) of 0.556 with a regression equation $\hat{Y} = -74.466 + 1.830\,X_2$

3. There is a positive and significant relationship between parents' attention and mathematics learning outcomes of class X students of the TP Department of SMKN 3 Yogyakarta Even Semester 2016/2017 Academic Year. This is indicated by the t-test, which is $t_{count} = 1.992$ and $t_{table} = 1.699$, so $t_{count} > t_{table}$. Simple correlation coefficient (r) between parents attention (X3) with mathematics learning outcomes (Y) of 0.347 with a regression equation $\hat{Y} = -110.587 + 2.221\,X_3$
4. There is a positive and significant relationship between self-confidence and perceptions about mathematics with mathematics learning outcomes of class X students of the TP Department of SMKN 3 Yogyakarta Even Semester 2016/2017 Academic Year. This is indicated by the F test, namely $F_{count} = 11.272$ and $F_{table} = 3.34$, so $F_{count} > F_{table}$. The multiple correlation coefficient (R) between self-confidence (X_1) and perception of mathematics (X_2) with mathematics learning outcomes (Y) is 0.668 with a regression equation $\hat{Y} = -124.482 + 1.131\,X_1 + 1.320\,X_2$. The relative contribution amounted to 47.459% of confidence (X_1) and 52.541% of perception about mathematics (X_2), while the effective contribution of 21.168% of confidence (X_1) and 23.435% of perception about mathematics (X_2)
5. There is a positive and significant relationship between self-confidence and parents' attention with the mathematics learning outcomes of Grade X students of the TP Department of SMKN 3 Yogyakarta Even Semester of the 2016/2017 Academic Year. This is indicated by the F test, namely $F_{count} = 6{,}559$ and $F_{table} = 3{,}34$, so $F_{count} > F_{table}$. The multiple correlation coefficient (R) between self-confidence (X_1) and parental attention (X_3) with mathematics learning outcomes (Y) is 0.565 with a regression equation $\hat{Y} = -131{,}293 + 1{,}364\,X_1 + 1{,}118\,X_3$. The relative contribution is 80,060% of self-confidence (X_1) and 19,940% of parents 'attention (X_3), while the effective contribution is 25,541% of self-confidence (X_1) and 6,361% of parents' attention (X_3).
6. There is a positive and significant relationship between perceptions about mathematics and parents' attention with mathematics learning outcomes of class X students of the TP Department of SMKN 3 Yogyakarta Even Semester of the 2016/2017 Academic Year. This is indicated by the F test, namely $F_{count} = 9.622$ and $F_{table} = 3.34$ at a significant level of 5% with a double correlation coefficient (R) of 0.638. This can be explained through the linear relationship $\hat{Y} = -210{,}814 + 1{,}682\,X_2 + 1{,}912\,X_3$. The relative contribution is 73.291% from the perception of mathematics (X_2) and 26.709% of parents' attention (X_3). In comparison, the effective contribution is 29.854% of the perception of mathematics (X_2) and 10.880% of parents' attention (X_3).
7. There is a positive and significant relationship between self-confidence, perceptions about mathematics, and parents' attention with Grade X students' mathematics learning outcomes in the TP Department of SMKN 3 Yogyakarta Even Semester for the 2016/2017 Academic Year. This is indicated by the F test, which is $F_{count} = 8.476$ and $F_{table} = 2.9$, so $F_{count} > F_{table}$. multiple correlation coefficient (R) between self-confidence (X_1), perception of mathematics (X_2), and parents' attention (X_3) with mathematics learning outcomes (Y) of 0.696 and the coefficient of determination (R^2) of 0.485 and the regression equation the linear double is$\hat{Y} = -208{,}056 + 0{,}909\,X_1 + 1{,}362X2 + 1{,}286\,X_3$. The variable confidence (X_1) obtained a relative contribution of 35.069% and an effective contribution of 17.011%. From Theeption variable about mathematics (X_2) obtained a relative contribution of 49.845% and an effective contribution of 24.178%. From the variable parents' attention (X_3) obtained a relative contribution of 15.086% and an effective contribution of 7.318%.

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