Published Online: 18 February 2023

Vol 13, Issue 2, (2023) E-ISSN: 2222-6990

Level of Mathematical Anxiety of Form 4 and 5 Regarding The Mathematics Content of The Standard Secondary School Curriculum

Mohamad Riduan Masri@, Roslinda Rosli Faculty of Education National University of Malaysia Email: p111847@siswa.ukm.edu.my, roslinda@ukm.edu.my

Abstract

This research is carried out to identifying the level of Mathematical anxiety of students in learning the content of Mathematics Standard Secondary School Curriculum (KSSM). A total of 120 form 4 and 5 students in a secondary school in Perak Tengah district, Perak were selected as respondents. This study is quantitative in nature and uses a questionnaire instrument. This questionnaire contains a measured Mathematics anxiety construct which has been self -constructed and modified based on adaptation of the Abbreviated Mathematics Anxiety Scale (AMAS) and KSSM Mathematics Form 4 and 5 Content. Descriptive statistics such as mean, frequency and percentage were used to analyze the level of Mathematical anxiety of students in learning KSSM Mathematics. In addition, an independent t-test was also used to find out significant differences between Maths anxiety levels according to gender and form level. The results of the study found that a large number of students were still in the group of moderate levels of Math anxiety. In addition, the results of the study found that there is a significant difference between the level of Math anxiety by gender and form level. Based on the results of the study, several implications have been obtained, which is to act as a catalyst for students to focus on the constructs that they need to pay attention to and emphasize without the distraction of Mathematical anxiety, teachers also become more creative in finding innovative learning methods that can overcome Mathematical anxiety based on constructs that have been identified in addition to the role of parents and schools who are more sensitive to the development of students.

Keywords: Level, Mathematics Anxiety, Students, KSSM Content.

Introduction

In 2025, one of the main goals that every school in Malaysia should achieve is the quality of learning and teaching that is improved through maximizing the potential of teachers and students (Amin, 2018). Thus, attention to the quality of Mathematics teachers to improve their knowledge and skills including content, pedagogy and assessment especially related to 21st century learning should be discussed. In fact, the position of Mathematics in primary and secondary schools needs to take into account things that can help students at least not only stress on numbers and operations.

Teaching and learning Mathematics is seen as an activity of channeling, conveying and applying knowledge and skills in Mathematics to make appropriate judgments and decisions

in solving problems in various contexts (DSKP KSSM Form 1 Mathematics). In delivering this subject, many people believe that not everyone has the ability to master Mathematics (Yeping, & Alan, 2019). This situation needs to be changed especially as we continuously prepare students for the increasing demand for computer and quantitative literacy in the 21st century (Committee on STEM Education, 2018).

Mathematics is usually perceived as difficult (Yeping & Alan, 2019). Mathematics is also considered a 'gift' to certain people. However, the extent to which this notion has truth. This notion needs to be changed because it causes the effect of Mathematical anxiety. According to the Fourth Edition Hall Dictionary (2020), anxiety is a feeling of worry, apprehension, worry, apprehension and worry. Therefore, in learning and mastering Mathematics, this negative feeling needs to be eliminated by all students. In addition, anxiety in learning Mathematics can occur from personal factors which are negative attitudes towards Mathematics. Mathematical anxiety can also occur as a result of social factors including parental expectations, teacher influence and peer influence (Rameli, 2016).

Purpose of The Study

This study was conducted to examine the level of Mathematics anxiety of Form 4 and 5 students in learning KSSM Mathematics at a secondary school located in the Perak Tengah district, Perak and to identify differences in the level of Mathematics anxiety of students according to gender and level (age).

Objective

- 1.2.1 Identifying the level of Mathematics anxiety (low, medium low, medium high or high) to learn KSSM Mathematics among the secondary school students studied.
- 1.2.2 Identifying differences in KSSM Mathematics anxiety levels according to gender.
- 1.2.3 Identifying differences in the level of KSSM Mathematics anxiety according to form (age).

Hypothesis

- Ho 1 There is no significant difference between the level of Mathematics anxiety in learning KSSM Mathematics with gender for secondary school students.
- Ho 2 There is no significant difference between the level of Mathematics anxiety in learning KSSM Mathematics based on form (age) among students.

Literature Review

Self Efficacy Theory

Scientifically, in realizing a goal, a person chooses confidence in his own abilities which is the meaning of Self-Efficacy. According to Bandura (1982), Self-Efficacy refers to the assessment of the ability to organize and complete a sequence of behaviors that are necessary to achieve goals. Personality is the total learned behavior of which the main idea regarding personality is Self-Efficacy. This view is supported by the Social Cognitive Theory introduced by Albert Bandura.

Ramey-Gessert and Enoch (1990); Embong (2020) defined it as an individual's confidence in his abilities. Individuals will behave accurately and better when they believe in their abilities. According to Ismail (2020), self-efficacy refers to the view that humans have about the ability to carry out something successfully and efficiently. In addition, efficiency is decisive in the choice of our activities, tenacity and earnest efforts to face obstacles and bitter

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

experiences. Anxiety can be reduced, which is anxiety that becomes a distraction when engaging in activities. Actions in new situations with a more convincing style, high goals are set and continuous efforts due to believing that success will be achieved. This is the characteristic of individuals who have high self-efficacy.

Past Studies Related to Gender and Age Demographics

Math anxiety varies by gender and age. Yahya and Amir (2018) in a study that examined the level of Mathematics anxiety of 69 students. The age of the respondents studied was 16 years, but the researcher did not study the level of Mathematical anxiety according to age. For gender differences, the results of the study for males have a higher Mathematical anxiety with a score value of 2.7392 in mean and 0.59411 in standard deviation while the score of female students is as much as 2.4514 mean and standard deviation of 0.57624. This study is not supported by the study of Husain (2018) who studied 19-year-old respondents, but the researcher did not analyze the level of Mathematics anxiety between ages. Findings for the level of Mathematics anxiety of boys and girls have differences. Females are higher with a mean score of 96.98 and a standard deviation of 19.61. For male students, the mean score is 92.86 while the standard deviation is 19.36.

Next, there is a study of the level of anxiety that is unique and not parallel to the studies above. This is because the study by Syed Ismail and Maat (2017) was carried out to survey 130 Year 6 students. The age of the respondents studied was 13 years. In this study, the researcher did not analyze the difference in the level of Mathematics anxiety between ages but studied between genders. Findings for the level of Mathematical anxiety of boys and girls have no difference. The mean score of male students is 42.16 while the standard deviation is 10.14. For female students, the mean score value is 45.07 while the standard deviation is 10.87.

Although there are many studies related to Math anxiety, there are studies that do not examine gender and age demographics. The study by Chan et al (2021) surveyed 13-year-old respondents, but the study did not analyze the difference in the level of Mathematics anxiety between the gender and age of the respondents. The study of Er et al (2021) is also the same because the study studied a total of 311 Additional Mathematics students in Form 4. The study respondents were 16 years old. However, the researcher did not analyze the difference in the level of Math anxiety between gender and age of the respondents. Norwaheeda Hasrin and Siti Mistima Maat's study (2022) studied Form 4 respondents who were 16 years old. However, the researcher did not analyze the difference in anxiety level according to gender and age. In addition, the study by Hamdan et al (2021) involves concerns among teachers. Therefore, no analysis made by the researcher involves gender and age.

Methodology

Researh Design

In this study, the researcher chose a quantitative study in the form of a survey.

Population and Study Sample

This study was conducted in a secondary school in Perak Tengah district, Perak. The study sample is a stratified random sampling involving Form 4 and 5 students consisting of 120 students in the studied secondary school. Each Form has 60 mixed students, 30 boys and 30

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

girls. The sample was selected because they were about to sit for the Malaysian Certificate of Education (SPM) exam for Mathematics.

Research Instrumens

In order to answer the research questions that were studied, a questionnaire was used as a research instrument. There are two parts of information which are Information Part A and Part B. Part A information in the questionnaire is related to the Demographic Information of the respondent. This Demographic Information includes five items namely gender, age, level, Math achievement and interest in learning. Next, the information in Part B has a questionnaire related to the level of anxiety Abbreviated Mathematics Anxiety Scale (AMAS) developed by (Hopko et. al., 2003). The items selected by the researcher were also modified and constructed to focus specifically on the topic of KSSM Mathematics Form 4 and 5. The questionnaire contained 48 question items that were tested using a Likert Scale.

Data Collection Procedure

Before conducting this study, the researcher obtained permission from the Perak State Department of Education and the Perak Tengah District Education Office. Next, the researcher informed the principal of the school about this study and obtained the permission of the grade teachers of the ten classes involved, which are grades 4 and 5.

The students were explained about the procedure of obtaining data in this study. This is very important in ensuring that all study procedures run smoothly.

Data Analysis Procedure

The Data Analysis Procedure includes the following three aspects which are questionnaire instruments, time aspects and data collection methods.

Data analysis involves the analysis obtained through all the questions contained in the questionnaire. This instrument is very important to be returned by every respondent to get enough data.

In addition, the aspect of time is very important in the data analysis procedure. The students are given enough time and the selection of the appropriate time to answer the questions in the instrument. This is because, students need to focus and be honest in answering the questionnaire.

In addition, the data analysis in this study was done using the Statistical Package for Social Science or SPSS version 27 software. The data received will be entered and analyzed until completion. Data analysis involves descriptive statistical analysis and inferential statistics.

Descriptive statistical analysis was conducted to obtain numbers and percentages for demographics. While the frequency and percentage are obtained from part B. Based on the descriptive statistics, the researcher can explain the frequency, mean and percentage for all the data found in the instrument.

Next, the researcher also conducted a t-test to obtain a p-value in identifying differences in the level of Mathematics anxiety in learning KSSM Mathematics according to gender and level among the secondary school students studied.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

The Results

Respondent Background

The distribution of respondents will be seen in terms of gender, form, Mathematics achievement and interest in Mathematics subjects as follows;

Gender Demography

Table 4.1

Distribution of Respondents in terms of Gender

	Frequency	Percent	Cumulative Percentage
Boys	60	50.0	50.0
Girls	60	50.0	100.0
Total	120	100.0	

Based on Table 4.1, the selected respondents are 60 male students and 60 female students. The total number of respondents is 120.

Form Demography

Table 4.2 Distribution of Respondents in terms of Form

	Frequency	Percent	Cumulative Percentage
Form 4	60	50.0	50.0
Form 5	60	50.0	100.0
Total	120	100.0	

Table 4.2 shows that the number of students for each form is the same, which is 60 people. All respondents are students from 4 and 5 of secondary school. Respondents for these two forms were selected because they are candidates who will sit for the Malaysian Certificate of Education (SPM) examination for the subject of Mathematics.

Distribution of Respondents in	Terms Of Mathematics Achievement
Table 4 3	

Distribution of Respondents in Te	rms of Mathematics Achi	evement	
Mathematics Achievement	Frequency	Percent	
Poor	47	39.2	
Average	52	43.3	
Good	19	15.8	

 Average
 52
 43.3

 Good
 19
 15.8

 Very Good
 1
 .8

 Excellent
 1
 .8

 Total
 120
 100.0

Based on Table 4.3, the level of Mathematics achievement is divided into 5 levels which are poor, medium, good, very good and excellent. Marks are taken based on the 2022 Mid-Year Examination for Mathematics subjects. Indicators of academic achievement are students who obtain grade A (Excellent), grade B (Very Good), grade C (Good), grade D (Moderate) and grade E (Poor). The results show that many respondents state that their level of Math achievement is at a moderate level. A total of 39.2% of respondents stated that their level of Math achievement was at a poor level, 43.3% was average, 15.8% was good and only 0.8% of respondents stated that their Math achievement was at a very good and excellent level.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Table 4.4

Distribution of Respondents in Terms Of Interest

Distribution of Respondents in Terms of Interest										
	Interest	Freq	uency	Percent						
	Yes	93	77.5							
	No	27	22.5							
	Total	120	100).0						

Table 4.4 above shows the distribution of respondents in terms of respondents' interest in studying Mathematics subjects. The results found that 77.5% of respondents stated that they are interested in learning Mathematics. Despite this, 22.5% of respondents stated that they were not interested in the subject.

Analysis of Differences in Levels of Mathematical Anxiety **Differences in KSSM Mathematics Anxiety According to Gender**

This section is to answer the null hypothesis question number 1 which is that there is no significant difference between the level of anxiety in learning KSSM Mathematics with gender among the secondary school students studied.

Table 4.5 shows the mean difference in the level of anxiety in learning KSSM Mathematics (Numbers and Operations constructs, Relationship and Algebra constructs, Statistics and Probability constructs and Measurement and Geometry constructs) with the gender of the secondary school students studied. Differences were analyzed using an independent t-test. This test determines if the mean (anxiety level score in learning KSSM Mathematics (Number and Operations construct, Relation and Algebra construct, Statistics and Probability construct and Measurement and Geometry construct) for both gender groups (boys and girls) is the same or different. Table 4.5 is the result of the analysis carried out.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Table 4.5

t-Test of Differences in Levels of Mathematics Anxiety According to Gene	der
*significant on $p < .05$	

Level	of	Math	Gen	Min	S.P.	Dk	Т	sig
Anxiety								
Constru	ct	of	В	3.2361	.66969	118	-2.3999	.567
Number	~	and						
Operatio	ons							
			G	3.5389	.71199			
Constru	ct	of	В	2.9981	.64853	118	745	<.001
Relation	nship	and						
Algebra			G	3.0972	.80062			
Constru	ct	of	В	2.7130	.88495	118	1.512	.524
Statistic	S	and						
Probabi	lity		G	2.4167	1.23383			
Constru	ct	of	В	2.8511	.81098	118	-1.761	.039
Measure	eme	nt and						
Geomet	ry		G	3.1056	.77146			

Based on the table above, the mean level of anxiety in learning KSSM Mathematics for male students is 3.2361 and female students is 3.5389 for the construct of Numbers and Operations showing no significant difference. Referring to the table above, the value of p = .567 is below the value of p = .05. This shows that the level of anxiety in learning KSSM Mathematics for male and female students (Numbers and Operations constructs) is significant. Therefore, the results of the study found that there was no significant mean difference for the level of anxiety in learning KSSM Mathematics for male and female students (Numbers and SSM Mathematics for male and female students for male and female students and SSM Mathematics for male and female students (Numbers and Operations constructs) is significant. Therefore, the results of the study found that there was no significant mean difference for the level of anxiety in learning KSSM Mathematics for male and female students (Numbers and Operations constructs) at a value of p < .05

Next, for the mean level of anxiety in learning KSSM Mathematics for the Relation and Algebra construct for male students is 2.9981 and the mean for female students is 3.0972. Referring to the table above, the value of p = .<001 which is below the value of p = .05. This shows that, in terms of the Relation and Algebra construct, the difference between men and women is significant. Therefore, the results of the study found that there was a significant mean difference for the Relation and Algebra construct between male and female students at a value of p < .05

Analysis of the mean level of anxiety in learning KSSM Mathematics for the Statistics and Probability construct for male students is 2.7130 and the mean for female students is 2.4167. Referring to the table above, the value of p = .524 which is above the value of p = .05. This shows that, in terms of Statistics and Probability constructs, men and women have a nonsignificant mean difference.

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS AND SOCIAL SCIENCES Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Furthermore, for the mean level of anxiety in learning KSSM Mathematics for the Measure and Geometry construct for male students is 2.8511 and the mean for female students is 3.1056. Referring to the table above, the value of p = .039 which is below the value of p = .05. This shows that, in terms of measurement and geometry constructs, the difference between men and women is significant. Therefore, the results of the study show that there is no significant mean difference for the Relation and Algebra constructs between male and female students at a value of p < .05

From the analysis that has been mentioned above, there are two variables for the level of Mathematics anxiety that do not show significant differences between male students and female students, namely for the Number and Operations construct and the Statistics and Probability construct. However, for the constructs of Relation and Algebra as well as the constructs of Measurement and Geometry show significant differences between male and female students. The results of this study further reject the null hypothesis number 1 which is that there is no significant difference between the level of anxiety in learning KSSM Mathematics with gender among the secondary school students studied.

Differences in KSSM Mathematics Anxiety According to Form

This section is to prove the null hypothesis number 2 which is that there is no significant difference between the level of anxiety in learning KSSM Mathematics based on the form (age) among the secondary school students studied. Table 4.6 shows the mean difference between levels of anxiety in learning KSSM Mathematics (Numbers and Operations constructs, Relationship and Algebra constructs, Statistics and Probability constructs and Measurement and Geometry constructs) based on the level of secondary school students studied. Only students from two levels were studied, namely students from form 4 and 5. Therefore, differences were analyzed using the t-test. This test determines if the mean [anxiety level score in learning KSSM Mathematics (Numbers and Operations construct, Relation and Algebra construct, Statistics and Probability construct and Measurement and Geometry construct)] for both levels (form 4 and 5) is the same or different. Table 4.6 is the result of the analysis carried out.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Table 4.6

Level of Math	Form	Min	S.P.	Dk	Т	sig			
Anxiety									
Construct of	4	3.3306	.74440	118	884	.183			
Number and									
Operations									
	5	3.4444	.66431						
Construct of	4	2.7500	.69121	118	-4.899	.038			
Relationship									
and Algebra	5	3.3454	.63919						
Construct of	4	2.0148	1.03293	118	-6.469	.002			
Statistics and									
Probability	5	3.1148	.81726						
				_					
Construct of	4	2.6567	.76287	118	-4.806	.005			
Measurement									
and Geometry	5	3.3000	.70238						
significant on $p < .05$									

Based on the table above, the mean level of anxiety in learning KSSM Mathematics for form 4 students is 3.3306 and form 5 students is 3.4444 for the Number and Operation constructs showing no significant difference. Referring to the table above, the value of p = .183 is above the value of p = .05. This shows in terms of the level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Numbers and Operations constructs) is not significant. Therefore, the results of the study show that there is no significant mean difference for the level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Numbers and Operations constructs) and form 5 students (Numbers and Operations constructs) are significant.

Next, for the mean level of anxiety in learning KSSM Mathematics for form 4 students is 2.7500 and form 5 students is 3.3454 for the Relation and Algebra construct showing a significant difference. Referring to the table above, the value of p = .038 is below the value of p = .05. This shows in terms of the level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Relationship and Algebra constructs) is significant. Therefore, the results of the study show that there is a significant mean difference for the level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Relationship and Algebra constructs) at a value of p < .05

The analysis of the mean level of anxiety in learning KSSM Mathematics for form 4 students is 2.0148 and form 5 students is 3.1148 for the Statistics and Probability construct showing a significant difference. Referring to the table above, the value of p = .002 is below the value of p = .05. This shows in terms of the level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Statistics and Probability construct) is significant. Therefore, the results of the study show that there is a significant mean difference for the

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS AND SOCIAL SCIENCES Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

level of anxiety in learning KSSM Mathematics for form 4 students and form 5 students (Statistics and Probability construct) at a value of p < .05

Next, the mean level of anxiety in learning KSSM Mathematics for form 4 students is 2.6567 and form 5 students is 3.3000 for the Measure and Geometry construct showing a significant difference. Referring to the table above, the value of p = .005 is below the value of p = .05. This shows in terms of the level of anxiety in learning KSSM Mathematics for students in form 4 and students in form 5 (Measurement and Geometry constructs) is significant. Therefore, the results of the study show that there is a significant mean difference for the level of anxiety in learning KSSM Mathematics in form 5 (Measurement and Students in form 4 and students in form 5 (Measurement and Geometry constructs) is significant.

From the analysis that has been mentioned above, three of the four variable constructs for the level of anxiety in learning KSSM Mathematics show significant differences between form 4 and 5 students. The variables in question are the Number and Operation construct, the Relation and Algebra construct and the Measure and Geometry. Therefore, the null hypothesis number 2 for these three variables is rejected, in example there is no significant difference between the level of anxiety in learning KSSM Mathematics based on form (age) among the secondary school students studied.

The results of this study further reject the null hypothesis number 2 which is that there is no significant difference between the level of anxiety in learning KSSM Mathematics based on the form (age) among the secondary school students studied.

Discussion and Conclusion

Summary of Study Results

In particular, the study was conducted with the aim of identifying the level of Mathematics anxiety of students in form 4 and 5 and the differences according to gender and level. The results of the study found that there is a significant difference between the level of Mathematics anxiety in learning KSSM Mathematics with gender for secondary school students. In addition, there is a significant difference between the level of Mathematics anxiety in learning KSSM Mathematics based on form (age). All the research results that have been obtained, are discussed in more detail in the next section to see if the research carried out is related or similar to previous studies.

Discussion Results

(a) Level of Mathematics Anxiety in Learning KSSM Mathematics Content among Students

This results illustrates that there is a positive relationship (correlation) between the level of Mathematics anxiety in learning KSSM Mathematics and students' academic achievement. The study conducted by Peng and Rosli (2021) takes into account the background of respondents who have the same problem, which is often faced with Math assessment problems. The average of the respondents who experienced problems with Mathematics assessment made the acceptance of the respondents related to the correlation factor with a moderate level of Mathematics anxiety.

In relation to that, this can be seen from the Theory of Self-Efficacy by Bandura (1982) which states that the assessment of abilities in organizing and completing a sequence of

behavioral performances is a requirement in obtaining goals. The study found that many respondents experienced a moderate level of Mathematics anxiety in learning KSSM Mathematics. Thus, this concludes that the students in the studied school can still master each construct.

(b) KSSM Mathematics Anxiety Level With Student Background

In the previous section, the findings explain the level of Mathematics anxiety in learning KSSM Mathematics and the difference in the level of Mathematics anxiety between genders and forms.

The null hypothesis for gender states that there is no significant difference between the level of Mathematics anxiety in learning KSSM Mathematics based on gender. The null hypothesis number 1 is rejected for two variables (Number and Operation construct and Statistics and Probability construct) because the findings of the study show that there is a significant difference between men and women. This means that there is a difference between men and women in terms of the level of Mathematical concern of respondents. In this study, most male and female students have a moderate level of Math anxiety. The results of this study are in line with the study of Husain (2018) which shows the difference in the level of Mathematics anxiety between boys and girls. Female students have a higher mean score than male students. These students show interest in the learning being taught. After all, the level of Mathematics is also still under control.

Next, the null hypothesis number 2 for the level shows that there is a significant difference between the level of Mathematics anxiety in learning KSSM Mathematics based on the form for the Number and Operations construct and the Statistics and Probability construct. The results of the study for the Relation and Algebra construct as well as the Measurement and Geometry construct show that there is no significant difference between the level of Mathematics anxiety in learning KSSM Mathematics among students based on form. The results of the study of differences based on level can accept the null hypothesis number 2 which is expected considering that students in form 4 are still learning the KSSM Mathematics measure compared to students in form 5. Respondents in form 5 have been studying the taught subjects for a year including high-level topics. This causes the form 4 students to have a level of Maths anxiety that is still under control in learning this KSSM Mathematics and because of that their level of Maths anxiety is at a moderately low level. Although there are not many previous studies that analyze the difference in anxiety level based on form, but this finding is supported by the study of Er et al (2021), who studied 16year-old respondents also have the same view where they explained that 311 students involved as respondents were found to have a moderate level of self-efficacy. This illustrates that the level of mathematics anxiety of form 4 students is still less evident because they are still entering upper secondary school.

Implications

The study aimed to identify the level of Mathematics anxiety in learning KSSM Mathematics content and provide a clear picture of the relationship between the level of Mathematics anxiety and external factors such as gender, form (age), Mathematics achievement and students' interest in Mathematics subjects. The findings of the research that has been conducted have several implications for the parties involved.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Several implications can be highlighted which include the implications of the study for students, teachers, parents and the school. This study gives a clear indication that students need to be given tools on how to deal with anxiety. The findings of the study show that the level of Mathematical anxiety in learning KSSM Mathematics is at a moderate level for the construct of Number and Operation, the construct of Relation and Algebra, the construct of Statistics and Probability and the construct of Measurement and Geometry in the schools studied.

In general, the form 4 and form 5 students who study KSSM Mathematics have diverse characters, coupled with other challenges greatly affecting their Mathematical concerns and learning independence. This study is expected to be a catalyst for students to focus on the constructs that they need to pay attention to and emphasize without the distraction of Mathematical anxiety. The students can also make themselves more sensitive and enjoy learning KSSM Mathematics (Zaid & Abd Wahid, 2017).

The Mathematics teachers will also find solutions in various ways to help improve students' KSSM Mathematics achievement. The teacher acts as a facilitator for students. In providing guidance and imparting KSSM Mathematics knowledge to students, teachers need to be attentive and sensitive to how to capture the hearts of their students so that they can master a subject efficiently and brilliantly. The implication is that the teachers will be required to make more efforts as creatively as possible in the teaching and learning sessions of Mathematics. Teachers should also identify ways to overcome Mathematical anxiety based on the constructs that have been identified. Job satisfaction among teachers can also be increased.

The implications of this study for students' parents are no less. Children who have strong self-efficacy come from strong self-efficacy parents. Likewise, children with a high level of Mathematical anxiety need to be monitored and guided by their parents. Self-efficacy is decisive in our choice of activities, persistence and earnest efforts to face obstacles and bitter experiences. Anxiety can be reduced, which is anxiety that becomes a distraction when engaging in activities. Actions in new situations with a more convincing style, high goals are set and continuous efforts due to believing that success will be achieved. This is the characteristic of individuals who have high self-efficacy.

Next, the school is also significant in the implications of this study. The space and opportunity should be given by the school to teachers and students to be more creative in solving Mathematical learning problems at school. Mathematics achievement and interest in this subject has a relationship with the school's attitude of always being responsible and cooperating in helping each other. As a result, excellence in Mathematics will be successfully produced from the results of the exams not only at the internal level, but public exams as well. If the achievement increases every year, the good name of the school administered by the school will always be proud and respected (Rameli, 2016).

Closing

The respondents involved consisted of almost all form 4 and form 5 students, so the results of this study can provide an overview of the level of Mathematics anxiety in learning KSSM

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

Mathematics as a whole. However, the things stated only describe the level of concern in Mathematics in learning KSSM Mathematics in the schools that were studied only.

An interesting finding in this study is that almost all students have a level of Math anxiety in learning the simple KSSM Math content. Next, the objective of the study which aims to see the difference in Mathematics anxiety in learning KSSM Mathematics in terms of gender and level was successfully rejected because these two demographic factors showed significant differences.

References

- Saifi, A. S. N., and Matore, M. M. E. (2020). Sorotan Literatur Bersistematik bagi Efikasi Kendiri Pelajar terhadap Matematik. *Malaysian Journal of Social Sciences and Humanities* (*MJSSH*) 5(12): 76-89
- Bahagian Pembangunan Kurikulum. Kementerian Pendidikan Malaysia. (2018). *Dokumen Standard Kurikulum dan Prestasi Matematik Tingkatan 4 dan 5 KSSM*. Kuala Lumpur.
- Bahagian Pembangunan Kurikulum. Kementerian Pendidikan Malaysia. (2016). Buku Penerangan Kurikulum Standard Sekolah Menengah (KSSM). Kuala Lumpur.
- Edgar, F. (2016). "Anxiety and Personality Factors Influencing the Completion Rates of Developmental Mathematics Students." *First conference of International Network for Didactic Research in University Mathematics*.
- Embong, E. N. (2020). Gaya Asuhan Ibu bapa dan Tingkah laku Devian serta Pengaruhnya ke atas Efikasi Kendiri Membuat Keputusan Kerjaya. Tesis Penyelidikan Universiti Pendidikan Sultan Idris (UPSI).
- Entoh, H., & Abdullah, M. K. (2019). Pengaruh efikasi terhadap Kesedaran Metakognisi dalam kalangan Guru-guru Sekolah Rendah di Zon Pulau. *International Journal of Education, Psychology and Counselling* 4(31): 187-203
- Hamdan, Radzi., Mustafa, M. F., & Taha, H. (2021). Hubungan di antara Kebimbangan, Keyakianan dan Sikap Guru dengan Pencapaian Matematik Murid Sekolah Rendah. *Journal of Science and Mathematics Letters* 9(2): 49-61
- Hasmuddin, N. K., & Maat, S. M. (2020). Impak dan Cabaran Pelaksanaan E-Pembelajaran Matematik : Sorotan Literatur Bersistematik. *Jurnal Dunia Pendidikan* 2(3): 188-201.
- Hasrin, N. (2022). Kebimbangan dan Kepercayaan Matematik Serta Hubungan dengan Pembelajaran Matematik. *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 7(4): 1-15
- Hellum-Alexander, A. (2010). Effective Teaching Strategies for Alleviating Math Anxiety and Increasing SelfEfficacy in Secondary Students (*Doctoral Dissertation, The Evergreen State College*). 176
- Hopko, R. D., Mahadevan, R., Bare, R. L., & Hunt, M. K. (2003). The Abbreviated Math Anxiety Scale (AMAS): Construction, Validity and Reliability. *SAGE Journals* 10(2): 178-182
- Horwitz, M. B., Horwitz, E. K., & Cope, J. A. (1986). Foreign Language Classroom Anxiety. *The Modern Language Journal* 70(2): 125-132.
- Hui, E. R., & Rosl, R. (2021). Kebimbangan dan Efikasi Kendiri terhadap Matematik dalam kalangan Pelajar Tingkatan Empat. *Malaysian Journal of Social Sciences and Humanities* (*MJSSH*) 6(3): 41-53
- Husain, K. (2018). Kebimbangan Matematik dengan Pencapaian Matematik dan Faktor Demografi dalam kalangan Pelajar Matrikukasi. *Jurnal Penyelidikan Dedikasi* 14(1): 81-111

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

- Idris, N. (2005). *Pedagogi dalam Pendidikan Matematik*. Utusan Publications & Distributors Sdn. Bhd., Cheras, Kuala Lumpur.
- Idris, N. (2013) : *Penyelidikan dalam Pendidikan*. Penerbitan McGraw-Hill Education (Malaysia) Sdn. Bhd., Shah Alam.
- Ismail, H. (2020). Pengaruh Faktor Dalaman terhadap Resilien dengan Fokus Regulasi sebagai Mediator dalam kalangan Remaja Juvana. Tesis Penyelidikan Universiti Sains Malaysia (USM).
- Jamian, R., and Taha, H. (2020). Analisis Keperluan Kebolehgunaan Aplikasi Mudah Alih Terhadap Sikap, Minat dan Pengetahuan Asas Matematik Tahun 4. Jurnal Pendidikan Sains & Matematik Malaysia 10(1): 9-15.
- Jamian, R., Abidin, Z. N. F., and Arsad, R. (2020). Analisis Deskriptif bagi Penggunaan Aplikasi Quizizz dalam Penilaian Prestasi Murid bagi Subjek Matematik. *Mathematical Sciences and Informatics Journal* 1(2): 87-97
- Kamiri, A., & Venkatesan, S. (2009). Mathematics Anxiety, Mathematics Performance and Academic Hardiness in High School Students. *International Journal of Educational Sciences* 1(1), 33-37.
- Dewan, K. (2020). 4th Edition. Kuala Lumpur. Dewan Bahasa dan Pustaka.
- Kirkham, N., Gilmore, G., & Pepe, A. (2017). The Modified Abbreviated Mathematics Anxiety Scale: A Valid and Reliable Instrument for Use with Children. *Frontiers in Psychology*.
- Li, Y., & Alan, H. S. (2019). Problematizing Teaching and Learning Mathematics as "Given" in STEM Education. *International Journal of STEM Education* 6(44): 1-13.
- Zaid, M. N. Z., & Abd Wahid, N. (2017). Cabaran dalam Pengajaran Matematik Kurikulum Standard Sekolah Menengah (KSSM). *Proceeding International Conference of Empowering Islamic Civilization*
- Mat, N., & Maat, S. M. (2020). Faktor dan Implikasi Daya Tahan dalam Pembelajaran Matematik: Sorotan Literatur Bersistematik. Malaysian *Journal of Social Sciences and Humanities (MJSSH)* 5(12): 90-105
- Idrus, M. N., & Maat, S. M. (2021). Sorotan Literatur Bersistematik: Komponen Efikasi Kendiri dalam Pendidikan Matematik. *Malaysian Journal of Social Sciences and Humanities* (*MJSSH*) 6(1): 96-105
- Mohammad, S. H., and Roslan, M. N. S. (2017). Tahap Kebimbangan Matematik dan Hubungannya dengan Pencapaian Pelajar di Politeknik Muadzam Shah, Pahang. iCompEx17 ~ *Pembentangan Kertas Ilmiah*.
- Ishak, M. A., & Abdul Rahman, M. H. (2021). Pembangunan Permainan Mudah Alih Matematik
 ' Sifir Run' untuk Pembelajaran Topik Darab bagi Murid Sekolah Rendah. Journal of Engineering, Technology & Applied Sciences 3(3): 114-127
- Rameli, M. R. M. (2016). Matematik dan Perasaan Resah : Faktor Peribadi dan Faktor Sosial. In Seminar Kebangsaan Pendidikan Negara (Issue Julai)
- Rameli, M. R. M., Kosnin, A., Said, H. M., Tajuddin, N., Abdul Karim, N., and Nguyen, T. V. (2014). Correlational Analysis between Mathematics Anxiety and Mathematics Achievement among Vocational College Students. *Jurnal Teknologi. Universiti Teknologi Malaysia*.
- Muda, M. (2017). Jurnal Penyelidikan Pendidikan Jilid 18
- Pa, N. A. (2016). *Penghasilan Disertasi Berkualiti dalam Pendidikan Matematik*. Penerbit Universiti Malaya, Kuala Lumpur.

Vol. 13, No. 2, 2023, E-ISSN: 2222-6990 © 2023

- Pen, C. C., & Rosli, R. (2021). Kebimbangan Matematik dan Hubungannya dengan Pencapaian Pelajar Tingkatan 1. *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 6(3): 30-40
- Puteh, M. (2002). Qualitative Research Approach Towards Factors Associated with Mathematics Anxiety. Proceeding of 3rd International Mathematics Education and Society Conference, (MESC' 02), Centre of Research in Learning Mathematics, Copenhagen: 1-5
- Qgenanalysts.org. (2022). Generating Impactful Research.
- Abdul Halim, R. R. M. I., Yasin, M. R., and Yusoff, N. N. M. R. (2020). Pembangunan Kerangka Modul Pengajaran Matematik Menggunakan Pendekatan Pembelajaran Sosial dan Emosional (PSE). *Malaysian Journal of Education* 45(2): 24-35
- Sang, M. S. (2011) : *Nota Intisari Ilmu Pendidikan Psikologi Pendidikan*. Penerbitan Multimedia Sdn. Bhd., Puchong.
- Sang, M. S. (2013) : *Psikologi Pendidikan untuk Pengajaran dan Pembelajaran*. Penerbitan Multimedia Sdn. Bhd., Puchong.
- Senin, A. (2018). *Melangkah ke Hadapan : Fokus & Gerak Kerja Profesional KPPM*. Kementerian Pendidikan Malaysia. Kuala Lumpur.
- Subeli, A., & Rosli, R. (2021). Sikap dan Kesediaan Pelajar Tingkatan Empat terhadap Pelaksanaan Kemahiran Berfikir Aras Tinggi dalam Pembelajaran Matematik. *Malaysian Journal of Social Sciences and Humanities (MJSSH)* 6(3) : 54-68.
- Ismail, S. S. A., and Maat, S. M. (2017). Hubungan antara Kebimbangan terhadap Matematik dengan Pencapaian dalam kalangan Pelajar Sekolah Rendah. *Seminar Serantau 2017*, hlm. 170-176
- Tasripin, N., & Abu Bakar, K. (2018). Permainan Interaktif dalam Pembelajaran PraNombor dan Pendidikan Matematik PraSekolah. *Seminar Antarabangsa Isu-isu Pendidikan* (ISPEND2018)
- Yahya, S. Z., and Amir, R. (2018). Kebimbangan Matematik dan Pencapaian Matematik Tambahan. *Journal of Nusantara Studies* 3(2): 124-133