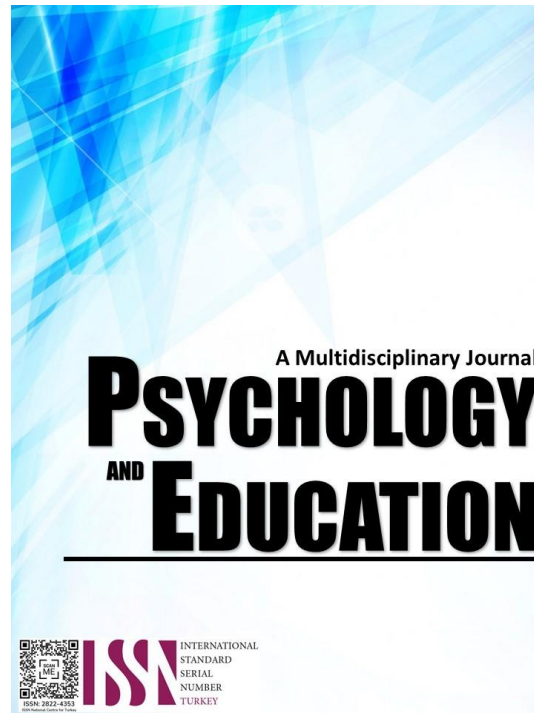


A CORRELATIONAL ANALYSIS ON MATH ANXIETY AND MATHEMATICAL PERFORMANCE OF GRADE 10 STUDENTS IN MORONG NATIONAL HIGH SCHOOL



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A Correlational Analysis on Math Anxiety and Mathematical Performance of Grade 10 Students in Morong National High School

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Abstract

This study aimed to determine the correlational analysis or whether math anxiety and mathematical performance of Grade 10 students in Morong National High School have a significant relationship with each other. It also focused on determining the level of math anxiety of Grade 10 students, describing their mathematical performance, and identifying the factors influencing their math anxiety. This study used a mixed method to answer the research questions as part of the descriptive, correlational design using a survey to determine the relationship between the two variables. The study was conducted in Morong National High School with 253 respondents out of 829 10th Grade students. The probability sampling was employed through simple random sampling on 10th Grade students regardless of their age, gender, section, or academic achievement in Mathematics. According to the statistical analysis of the results, the Pearson coefficient value suggests a weak negative correlation between math anxiety and mathematical performance, however, the magnitude of the correlation is quite small, indicating that there is only minimal relationship between the two variables. The result was produced from a Pearson coefficient of -0.058 and a p-value of 0.349 which exceeds a 0.05 level of significance, from a total of 253 respondents indicates that the observed correlation coefficient is not statistically significant at the chosen significant level of 0.05 ($\alpha=0.05$). There is a weak negative correlation between math anxiety and mathematical performance of Grade 10 students in Morong National High School. Furthermore, the results of the scaling of math anxiety level resulted in quite a bit of anxiety with an overall weighted mean of 3.45 and an average of 83.66 on the respondent's mathematical performance. Many factors are also identified that influence the students' math anxiety: the level of difficulty of math lessons, level of difficulty of math problems, oral recitation, low self-esteem, lack of knowledge in math, and surprise quizzes.

Keywords: *correlation, math anxiety, mathematical performance*

Introduction

Mathematics – one of the most difficult academic subjects, is an important field of study from which students may benefit from in their future careers or endeavors. However, many students experience math anxiety due to its complexity and difficulty. It requires students to take time-consuming study and as a result, learners with poor mathematical abilities face challenges in their performance. Moreover, math anxiety of students has continuously increased which highly affects their mathematical performance at school (Luttenberger, 2018).

This subject is also an important discipline in the lives of people, especially students; it can be applied everywhere. This major subject in school can be applied to different aspects of life, such as solving problems in engineering and various things that involve numbers, but a lack of math proficiency can get someone into difficulties. It requires a lot of effort for many children as mathematical skills do not come naturally and easily. The fact that math requires patience and tenacity, makes it challenging for many students and compels them to invest a ton of time and effort into the subject (Fleming, 2018).

Furthermore, students who know that Mathematics is one of their weaknesses, start to avoid it. The anxiety and tension with math-related activities is what people call the “math anxiety”. In a wide range of everyday life and academic contexts, math anxiety is characterized as a sensation of tension and dread that impairs the ability to do math operations, manipulate numbers, and solve mathematical issues (Williams, 2021).

Many students nowadays suffer from math anxiety as a result of stress and a lack of confidence in their ability to complete math-related activities (Khasawneh, 2021). Math anxiety can lead to a lack of motivation, poor performance, and even avoidance of math classes. This anxiety that people, particularly students, experience has far-reaching and personally oriented effects in their lives; disappointment in academic performance or own academic achievement, loss of interest in math.

Students have different learning capabilities and one factor that affects their mathematical performance is anxiety in difficult subject areas, especially in Mathematics (Musa, 2021). Because of their differences in learning capabilities, they develop fear,

self-doubt and anxiety on specific subject areas with higher levels of difficulties.

According to a survey, approximately 37% of teenagers aged 13 to 17 found Mathematics harder than any subject (Tutor Doctor, 2019). Because of the numbers and processes involved in finding the solution, many found Mathematics to be more difficult which influences the students' mathematical performance.

In the Southeast Asia Primary Learning Metrics (SEA-PLM 2019) Assessment Framework, Mathematical Literacy refers to a learner's capacity to apply mathematical knowledge and abilities in finding solutions and dealing with different kinds of difficulties. The mean score of Filipinos in the Mathematics assessment was 288 points, indicating that a typical Filipino can apply number properties and units of measurement in English. However, 41% of the students failed to meet the Mathematics proficiency level expected at the end of the lower primary as described by SDG 4.1.1a. The World Bank released a report confirming that 80% of Filipino students do not meet grade standards. Among junior high school students, only 1% of Filipino students are proficient in Mathematics, which overall result shows that Filipino students ranked second lowest among all nationalities.

The Programme for International Student Assessment (PISA) is an Organization for Economic Cooperation and Development that conducts a global study, including the Philippines, to evaluate students' reading, math, and science knowledge. DepEd is aware of the urgency to address problems in order to improve the basic education in the Philippines, as the PISA result also shows students' performance on the National Achievement Test. Moreover, the Philippines scored the second-worst in Mathematics, which was announced on December 3, 2019. Mathematical literacy scores among Filipino pupils were on average 353 points, far below the OECD average of 489 points. Just 1 out of 5 Filipino pupils (19.7%) achieved the required mathematical literacy competency level (Level 2) or higher.

In a recent study in 2020 Trends in International Mathematics and Science Study (TIMSS), the Philippines joined to assess Grade 4 students and the result showed that the country scored the lowest out of 58 participating countries. The study showed a result in the country's math score of only 297, which is regarded as significantly lower than the other countries. The country's score is even below the Low International Benchmark with a 400 score set by the TIMSS as a scale to determine the students'

competency. Furthermore, the 6% Filipino students who passed the intermediate standards are said to be using basic mathematical knowledge in simple scenarios, compared to the 19% who passed the low benchmark and are considered to have basic mathematical knowledge. Therefore, establishing and evaluating a math performance enhancement plan is highly advised (Etcuban, 2019).

The Numeracy Level of Grade 10 students from Morong National High School (MNHS) shows the percentage of non-numerate students of 23%, while 30% of the students are at a beginner level, intermediate level of 42% and Outstanding of only 4% of the total of 824 Grade 10 students. Based on the results of the NUMAT under the Project NUMERO program in Division of Rizal with Division Memorandum No. 425 s. 2021, and Division Memorandum No. 122 s. 2023, the researchers opted on using math anxiety as a factor affecting the low result and to identify whether math anxiety has a significant effect on their mathematical performance.

According to the current international large-scale assessment, which is stated in DepEd Memorandum No. 100, s 2022, the majority of Filipino students perform poorly in mathematical achievement for their respective grades. From this result in the students' poor mathematical performance, the DepEd memorandum was made in order to guarantee that every child and an important percentage of adults—men and women—achieve literacy and numeracy and to encourage greater mathematical and numeracy proficiency in the educational environment.

Various studies found negative correlation between the two variables. In accordance with the Deficit Theory, poor performance in math tests would result in increasing anxiety and uncomfortable future experiences (Carey et al., 2017). From such theory, this correlational analysis proved whether the Deficit Theory – the level of math anxiety has a significant relationship with the mathematical performance of Grade 10 students in Morong NHS. However, a study by Moneva (2021) shows that no matter what the math anxiety level of students, it cannot significantly change or affect their mathematical performance.

Furthermore, this study aims to identify and analyze the correlational analysis on math anxiety and mathematical performance of Grade 10 students in Morong National High School for School Year 2022 - 2023. As Mathematics is one of the major subjects in secondary school, this study analyzes the level of math anxiety among Grade 10 students and its correlation

to students' mathematical performance and helps to aid and give focus to those students who struggle and experience the effects of math anxiety.

Research Questions

This study is set to determine the correlational analysis between math anxiety and mathematical performance of Grade 10 students at Morong National High School. Particularly, it seeks to answer the following:

- 1.What is the level of math anxiety of the respondents?
- 2.How can the mathematical performance of the respondents be described?
- 3.What are the factors influencing the respondents' math anxiety?
- 4.Is there a significant relationship between the respondents' math anxiety and their mathematical performance?

Methodology

Research Design

This study used the mixed method to answer the research questions as part of the descriptive, correlational design using a survey to determine the relationship between math anxiety and mathematical performance of 10th Grade students in MNHS, while in qualitative research method, thematic analysis was used to identify the other factors affecting the math anxiety Level of the students.

Population and Sampling

This study was conducted in Morong National High School with 253 respondents out of 829 total number of students. Furthermore, simple random sampling was used, which included all of the 10th grade classes. The probability sampling was employed through the use of Slovin's formula wherein the population, n , is equal to 829 grade 10 students, the number were divided into 19 (number of sections). In order to include a diverse variety of students in the correlational analysis, respondents were chosen at random regardless of their age, gender, section, or academic achievement in Mathematics.

Instrument

A survey questionnaire by Hopko (2003), validated by

Carrey et al (2017), was used to scale the math anxiety level of the respondents in the study. The structured survey used in the study was divided into two parts: the first part was intended to assess the math anxiety level of students and the second focused on factors that influence their math anxiety. Part I questions were divided into two sections: evaluation and learning. The evaluation section assesses how respondents feel when taking or thinking about math activities, tests, and homeworks, while the learning section evaluates how respondents feel during math lessons and completion of specific math activities. In addition, Part II of the survey includes a constructed questionnaire that was used to analyze the factors that influence students' math anxiety. These two (2) questions sought answers to the study's research question number three (3).

Data Collection

Before any data was collected, an informed consent was obtained to ensure the respondents' data privacy. This includes information about the study's goals and objectives, potential risks and benefits, and the rights of participants. Security measures were also implemented to protect the privacy and confidentiality of their data. From the derived sample size from the target population, the grade 10 respondents of Morong National High School answered a survey which was divided into two parts. For Part I that has a 5-point Likert scale, the researchers identified the level of math anxiety among the respondents and determined how anxious they would feel during certain situations involving math. While Part II of the survey includes a constructed questionnaire that is used to analyze the factors that influence students' math anxiety. Furthermore, the respondents' mathematical performance was determined by their Mathematics grade, with the researchers obtaining a letter of approval from their grade 10 Mathematics teachers for a printed copy of their average for the first and second quarters. Due to certain circumstances and conflict in deadline compliance, three (3) sections - Achiever, Brilliant, and Confident - did not comply with data needed in the study. Moreover, analysis of respondents' mathematical performance was based on the legend as specified in DepEd Order No. 8, s. 2015 (Outstanding, Very Satisfactory, Satisfactory, Fairly Satisfactory, Did Not Meet the Expectation).

Treatment of Data

A quantitative method survey was used in data collection for the scaling of math anxiety of the Grade 10 students. The survey contains modified abbreviated math-anxiety related questions, which used a Likert

scale. This indicates the level of anxiousness the respondents would feel during certain situations involving math (1 = low anxiety, 2 = some anxiety, 3 = moderate anxiety, 4 = quite a bit of anxiety, and 5 = high anxiety). A weighted mean formula was employed by the researchers in order to scale the results of respondents' math anxiety level and the Mean formula was used to identify the mean of the mathematical performance of the respondents. Furthermore, Part II of the survey also utilized thematic analysis to analyze the qualitative aspects influencing students' math anxiety. To identify the correlation between math anxiety and mathematical performance of the students, the Pearson correlation coefficient (r) was used. The characteristics of a dataset are summed up by a descriptive statistic, such as the Pearson correlation coefficient (r). The degree and direction of the linear relationship between two quantitative variables are specifically described.

Ethical Considerations

This study contains personal and academic information of students; age, gender, section, educational performance in Mathematics, math anxiety level that will be used in the correlational analysis between math anxiety and their academic performance. Confidentiality of personal information that is not needed in the study will only be disclosed between the researchers and students. Validation of conducting the study and the survey is approved by the researchers' school, Morong National High School. Securing the informed consent of students will ensure that the researchers respect the respondents' right to make their own decisions.

Results and Discussion

Table 1 presents the math anxiety factors of selected Grade 10 Learners. The factor, listening to another child in your class explain a math problem, generated some anxiety with a weighted mean of 2.42. In addition, these factors - watching the teacher work out a math problem on the board, listening to the teacher talk for a long time in math - generated Moderate Anxiety with weighted means of 3.08 and 3.17, respectively. These factors - having to complete a worksheet by yourself, thinking about a math test the day before you take it, taking a math test, being given math homework with lots of difficult questions that you have to hand in the next day, finding out you are going to have a surprise math quiz when you start your math lesson, starting a new topic in math - generated

Quite a bit of Anxiety with a weighted mean of 3.48, 3.73, 3.91, 3.83, 3.86, and 3.55, respectively. These findings in math anxiety levels of the respondents resulted in an overall weighted mean of 3.45 which indicates quite a bit of anxiety. This result on the math anxiety level of Grade 10 students in Morong National High School is similar to the result of the study of Tan et. al. (2018) which perceived a math anxiety weighted mean of 3.55. To measure the anxiety level of students caused by the subject, the Modified Abbreviated Math Anxiety Scale (mAMAS) was used. This survey questionnaire is suggested to be suitable for primary and secondary school students.

Table 1. *Math Anxiety Factors of Selected Grade 10 Learners*

<i>Math Anxiety Factors</i>	<i>Weighted Mean</i>	<i>Verbal Interpretation</i>
1. Having to complete a worksheet by yourself.	3.48	Quite a bit of anxiety
2. Thinking about a maths test the day before you take it.	3.73	Quite a bit of anxiety
3. Watching the teacher work out a maths problem on the board.	3.08	Moderate Anxiety
4. Taking a maths test.	3.91	Quite a bit of anxiety
5. Being given maths homework with lots of difficult questions that you have to hand in the next day.	3.83	Quite a bit of anxiety
6. Listening to the teacher talk for a long time in maths.	3.17	Moderate Anxiety
7. Listening to another child in your class explains a maths problem.	2.42	Some Anxiety
8. Finding out you are going to have a surprise maths quiz when you start your maths lesson.	3.86	Quite a bit of anxiety
9. Starting a new topic in maths.	3.55	Quite a bit of anxiety
Overall Weighted Mean	3.45	Quite a bit of anxiety

In the statistical result of the math anxiety, an overall weighted mean of 3.45 was generated as quite a bit of anxiety, according to the verbal interpretation indicated in the 5-point Likert scale. These results proved that Secondary school students are really anxious about Mathematics, which is claimed and suggested by previous study of Tan et al. (2018). Previous research states that students' math anxiety could lead in being a hindrance and a way for them to face different aspects included in learning. In the negative impact of math anxiety, greater limitations on students' career may be encountered when not addressed (Khasawneh, 2021). While, some studies showed that students tend to cope up with their anxieties and lead to a result of positive correlation with their performance in the subject (Luu-Thi, 2021). Students also make use of self-protective coping strategies in addressing high levels of math anxiety (Skaalvik, 2018).

The measurement instrument, Modified Abbreviated Math Anxiety Scale (mAMAS), used in the study was developed by Hopko in 2003 and validated by Carrey et al. in 2017. As said in the validation of the instrument, it is suitable for Secondary and Elementary school students. Moreover, the measurement tool is focused on the mathematics anxiety-scale, which implies that the data can only define the variables within the constraints of the measurement tool. Hence from such results, it can be inferred that there is a need for math anxiety alleviation through intervention as most studies show relatively underpins the assumption that math anxiety is acquired by children and adolescents (Balt, 2022). Research on students' coping strategies for math anxiety in the classroom may be studied in the future. In addition, researchers may seek answers by putting research-based teaching and learning strategies to the test with the aim of reducing math anxiety.

Descriptive of Mathematical Performance of the Respondents

Table 2. *Mathematical Performance of the Respondents for First & Second Quarter School Year 2022-2023*

Grade	Verbal Interpretation	F	%
90 and above	Outstanding	36	14.2
85-89	Very Satisfactory	84	33.2
80-84	Satisfactory	85	33.6
75-79	Fairly Satisfactory	45	17.8
below 75	Did not meet expectations	3	1.2
Total		253	100
Highest Grade		96	
Lowest Grade		70	
Mean		83.66 - Satisfactory	
Standard Deviation		5.02	

Table 2 presents the average of the First and Second quarter of the respondent's mathematical performance for the school year 2022-2023. The result indicates that the overall mean of the respondents from all sections - Diligent, Excellent, Fantastic, Generous, Honest, Intelligent, Joyfull, Knowledgeable, Loyal, Majestic, Noble, Obedient, Polite, Respectful, Sincere and Trustworthy - generated a satisfactory result with a mean of 83.66 and a computed standard deviation of 5.02 which infer that the grades exhibit some variability and are not tightly clustered around the mean.

This result of Satisfactory with a mean of 83.66 is contradicting the claim of the study which is said that

higher math anxiety would lower mathematical performance. As the results of math anxiety level of students showed quite a bit of anxiety with an overall weighted mean of 3.45, it is expected that students performed poorly in Mathematics. This result is similar to the study of Naungayan (2022), which shows the secondary school Filipino learners in Banayoyo - Lidlidda District the final average grade of the student-respondents is 83.76 with a descriptive rating of Satisfactory.

According to the value, the students' math proficiency is still at a sufficient level. Additionally, the mean average suggests that in order for students to perform at a higher level, their mathematical achievement needs to be improved (Naungayan, 2022). From the simple random sampling used in the data gathering, respondents were chosen at random regardless of their mathematical performance. There might be instances that other students were not included in the 253 respondents had different levels of anxiety and could have higher/lower performance in Mathematics. From this, the limitation cross-sectional was identified due to the limited time to conduct the study. Furthermore, future research may include an examination of students' tactics and improvement in mathematical performance through analyzing government approaches in teaching, learning, and performing Mathematics; in-line with this is the DepEd Order no. 100, s. 2022.

Factors Influencing the Respondents' Math Anxiety

The results of the open-ended questions in Part II of the survey showed that these factors - level of difficulty of math lesson, level of difficulty of math problems, oral recitation, low self-esteem, lack of knowledge in math, and surprise quizzes - are the identified common factors by the respondents that influence their math anxiety. With these factors, students would feel either overwhelmed or not. The results indicate that of all the factors affecting math anxiety of students, the level of difficulty of math lessons and math problems emerged as the most prevalent and significant factors. Previous studies found that secondary students find Mathematics ineffective and irrelevant and need revisions as suggested by the study of Chand et al. (2021).

The most common factor determined from the respondents is the level of difficulty of math lessons. It showed that students get anxiety due to the difficulty of math lessons; they reasoned that the difficulty of the lesson is beyond their understanding and that they also lack participation during class hours, "I find it

extremely challenging to comprehend the concepts taught in math class, making it difficult for me to grasp the lesson.” Additionally, it has been found that one of the most common factors influencing students' math anxiety is the difficulty of the math problems. It was found that students have the most trouble in solving math problems with long computations which causes them anxiety in Mathematics, “It's because of the hard solving problems and other mathematical problems” and “Constantly plagued by overthinking, doubting the accuracy of my answers.” — this is related to the study of Siniguian (2017).

Furthermore, the reason identified by students on why having surprise quizzes influence their math anxiety is that they lack competency in Mathematics due to failure to comprehend the lesson, a student also states “I often forget how to do the procedure, so I get stressed. I need a little review before a quiz or test.” It was also found that students identify themselves as slow learners in Mathematics because of these factors. Furthermore, they lack confidence during oral recitation because of their inadequate mastery of the lesson in Mathematics, “I feel fearful and hesitant about being incorrect while responding during an oral recitation, concerned about the potential consequences and judgment.” a student answered.

The pressure of comprehending the lesson and getting high scores causes students low self-esteem which in turn, influences their math anxiety. In-line with this is the reason stated by a student in the survey, “I am filled with fear and anxiety at the prospect of failing, as it brings feelings of disappointment, self-doubt, and the potential for negative consequences.” A student's ability to focus may be weakened as a result of the low self-esteem factor which aggravates their math anxiety, and they may be hesitant to participate in or partake in school activities. Previous studies also determined that low self-esteem plays a significant role in Mathematics (Altakhayneh, 2020).

Moreover, lack of knowledge is another factor identified in the study that influences students' math anxiety. Students' ability to see and interpret particular things is greatly impacted by their prior knowledge, motivation, skills, ideas, and conceptions; this component affects how students will view acquiring new material prior to Mathematics (Cerbin, 2019). Students reasoned, “There isn't enough time given to completely comprehend and understand the details of the lesson being taught because of the short time frame offered.” and “I'm afraid to learn new lessons that are hard.” Therefore, these results necessitates further implementation of studies and revisions in

Mathematics secondary curriculum as students find it ineffective and irrelevant (Chand, 2021).

Significant Relationship between the Respondent's Math Anxiety and Mathematical Performance

Table 3. Scale to Determine the Correlation between Math Anxiety and Mathematical Performance

	Pearson Coefficient	p-value	Decision	Remarks
Math Anxiety factors	-0.058	0.349	Failed to Reject	Not Significant

Table 3 shows the scale to determine the correlation between math anxiety and mathematical performance. According to the statistical analysis of the results, the pearson coefficient value suggests a weak negative correlation between math anxiety and mathematical performance, however, the magnitude of the correlation is quite small, indicating that there is only minimal relationship between the two variables. The result was produced from a pearson coefficient of -0.058 and a p-value of 0.349 which exceeds a 0.05 level of significance, from a total of 253 respondents indicates that the observed correlation coefficient is not statistically significant at the chosen significant level of 0.05 ($\alpha=0.05$). This means that the evidence in the sample data does not provide sufficient support to reject the null hypothesis. Although the correlation is not significantly significant, it is essential to consider the practical significance or the real-world implications of the relationship. Several limitations have been identified in this study. The first limitation of the study is cross-sectional because of the limited time given to conduct the study. Furthermore, the data for this research were gathered using a measurement tool focused on Mathematics anxiety-scale validated by Carrey and others (2017). This implies that the collected data can only define the variables within the constraints of the measurement instruments. Lastly, the possible biased response by the participants which may be consciously or unconsciously, where it can be influenced by factors like social desirability or misinterpretations of the questions.

Previous study also found no correlation between the two variables which contradicts the result on what is known in studies which resulted in negative correlation on math anxiety and mathematical performance. These negative correlation findings

might be linked to a student's lack of effort, and motivation through the learning process. In-line with this, a study states that emotional intelligence contributes directly and indirectly to increased academic performance. The motivation the students build aids in achieving their academic goals; those who are motivated tend to be more resilient and persistent in times of difficulties (Iqbal, 2022). Moreover, a study indicates that the higher the math anxiety, the higher the mathematical performance (Luu-Thi, 2021). In the statistical result of the study of Al Majali (2020), 49% of high-performing students are found to have a medium level of anxiety and 41% are highly anxious. This study also disproved the Deficit Theory, which claimed that Grade 10 students in Morong NHS's math anxiety has a significant relationship with their mathematical performance. Based on the theory, math anxiety is the consequence of poor Mathematics performance, but this study's findings reveal that the two variables are independent of one another. In addition, the modern approach to the issue of anxiety should not regard the initial negative personality trait from anxieties (Al Majali, 2020).

Conclusion

Math anxiety is still a significant problem in mathematics as it is still found to be emerging. Based on the findings of the study, the results of the Modified Abbreviated Math Anxiety Scale, grade 10 pupils of Morong National High School (MNHS) struggle with math anxiety. The result of the Modified Abbreviated Math Anxiety Scale generated quite a bit of anxiety with a weighted mean of 3.45. Future research may include an examination of students' tactics and solutions for dealing with mathematics anxiety in class. In addition, researchers may look for solutions through applying/testing research-based approaches in teaching and learning mathematics with the end goal of lowering math anxiety. In addition, the overall average of the mathematical performance of the respondents resulted in satisfactory results with an average of 83.66. The satisfactory result of an average of 83.66 mathematical performance of 10th grade learners in Morong NHS, may be improved through intervention programs and implementation of instructional strategies that cater to diverse learning to boost the results of their mathematical performance.

Students' math anxiety is influenced by a variety of factors - level of difficulty of math lesson, level of difficulty of math problems, oral recitation, low self-esteem, lack of knowledge in math, and surprise

quizzes. Among all factors, the findings present that the level of difficulty of math lessons and math problems are the top factors identified by the students. With these results, it is inferred that math anxiety is emerging and there is a need for further implementation of studies and intervention in mathematics particularly on math anxiety of students. Based on the findings indicated in the factors that influence math anxiety of students, it can be inferred that there is a need for further studies on the revision in mathematics as secondary students find it ineffective and irrelevant. These results may also be addressed by looking for further research on solutions for personally inclined factors that influence math anxiety.

Furthermore, there is a statistical result of -0.058 Pearson coefficient that indicates that there is a weak negative correlation between Math Anxiety and Mathematical Performance of Grade 10 students in MNHS. Specifically, the result was produced from a p-value of 0.349 and a pearson coefficient of -0.058 which exceeds a 0.05 level of significance, from a total of 253 respondents indicates that the observed correlation coefficient is not statistically significant at the chosen significant level of 0.05 ($\alpha=0.05$). This means that the evidence in the sample data does not provide sufficient support to reject the null hypothesis. Although the correlation is not significantly significant, it is essential to consider the practical significance or the real-world implications of the relationship. This study disproved the Deficit Theory, which claimed that Grade 10 students in Morong NHS's math anxiety has a significant relationship with their mathematical performance; this study's findings reveal that the two variables are independent of one another. Contradicting the results of previous studies which showed negative correlation between the two variables where these findings might be linked to a student's lack of effort, and motivation through the learning process. Through the study's findings, it is highly suggested for future researchers to explore other variables that are related to math anxiety and/or mathematical performance. In addition, the researchers may consider using different measurement instruments in further studies such as interviews, findings, peer review and intervention or study designs to gain further insights.

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