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Research Article

Math Anxiety, Resiliency, and Math Performance of the Grade 7 Students During the Limited Face-to-face Class

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Abstract

The study used a descriptive correlational method to examine the relationship between student anxiety and resiliency in Grade 7 mathematics performance. It involved 336 Grade 7 students from three public high schools in Mandaue City, Cebu. The frequency count, percentage, weighted mean, and Pearson's r were used to treat the data. The study revealed that most of the respondents were 11 to 12 years old and were female. It also said that most parents were high school graduates with a combined monthly income of 10,000 or below. The academic performance of the respondents was reasonably satisfactory. It was found that there is a negligible positive correlation between math anxiety and the respondents' academic performance in Mathematics. Moreover, there is a negligible positive correlation between the resiliency at home and school and the respondents' academic performance in Mathematics. It was concluded that math anxiety and resiliency affect the respondents' academic performance in Mathematics. The researchers recommend that the proposed action plan can be used and monitored.

Keywords: *Philippines, Math Anxiety, Resiliency, Descriptive-correlational Method, Teaching Mathematics, Mathematics Academic Performance, Mandaue City, Cebu*

INTRODUCTION

Mathematics is an essential subject of the school curriculum. It provides an effective way of building mental discipline and encourages logical reasoning and critical thinking. Mathematics education plays a vital role in one's life. Problems with communication were eased by using binary combinations to create the language on computers. Trigonometric equations were utilized to transfer electromagnetic waves between electronic devices. Digital and electronic technologies are complex mathematical languages designed to improve means of communication, transportation, health, and overall well-being (Cariaga et al., 2023).

However, many students consider math to be complexities. To be more exciting and convenient, teachers have practiced several methods. Localized and contextualized problems were given to simplify complex tasks. Remedial classes were conducted to mitigate the gap in conceptual knowledge. Another approach is to allow students to discover and appreciate the logical sequence of math concepts, including recognizing patterns. Another design challenges collaboration, critical thinking, and logical reasoning in math problems.

Another method is engaging in discussions that foster students' new ideas, discoveries, and connections to daily life (Calinescu, 2023). Teachers also make math fun using games, puzzles, electronic devices, and available resources. Therefore, student engagement is widely recognized as an essential influence on achievement and learning in higher education and, as such, is being widely theorized and researched (E. Kahu, 2013).

Despite the efforts of teachers to make math easy, student performance in the subject is still a significant concern in education. The Trends in International Mathematics and Science Study (TIMMSS) assessment in 2019 showed that the Philippines ranked last among 58 countries that took the test. In math specifically, only 19% of the Filipino students were on the Low Benchmark, while 81% still needed to reach this lowest level on the scale (Magsambol, 2020). According to Capuno et al. (2019), Filipino students' performance in Math needs to be improved, as reflected in the 2016-2017 Global Competitiveness Report; in this, the Philippines ranked 79th out of the 138 participating countries in terms of quality Science and Math education. This report is consistent with the Department of Education's (DepEd) National Achievement Test (NAT) results, in which the Mean Percentage Score in Mathematics was 48.63%, below the 50 percent requirement of DepEd. Some factors could affect the student's performance—the need for mastery of basic math skills and problem-solving techniques. Students' attitudes, teachers' competence, and pedagogies also contribute to students' performance.

Anxiety towards math is another factor that might affect poor math scores. Moreover, the shift of the learning modality from modular distance to limited face-to-face classes and the transition stage from elementary to high school added to the challenges among Grade 7 students. Examining the factors influencing students' math performance is crucial to addressing these issues; failing to do so will worsen the

country's educational progress. Math anxiety is characterized by a feeling of tension and apprehension that interferes with math performance ability. It is an emotional reaction that inhibits students' progress, and it is a common issue where the students have negative attitudes such as feelings of stress, frustration, and fear towards math (Hart & Ganley, 2019; Kucian et al.,2018; Ramirez et al.,2018).

Moreover, despite the anxiety that the students experienced, they still need to learn the subject with resilience. Based on the Quarterly School Monitoring Evaluation and Adjustment (SMEA), specifically the first quarter of the school year 2022-2023 of Don Gerardo, Maguikay, and Cabancalan National High School in Mandaue City, the Math performance level among Grade 7 students is much less compared to other grade levels. Anxiety and resiliency of the subject can be factors that might affect their performance. Students with anxiety display a passive attitude toward their studies, such as a lack of interest in learning and poor assessment performance. Empirical evidence has found that enjoyment is associated with higher boredom and anxiety with lower achievement in students at all stages of education (Putwain et al., 2020). A student with Math anxiety finds difficulty in understanding the subject due to a lack of focus and other emotional concerns. Resilience is the capacity to adapt well when facing adversity.

This study aimed to assess the Grade 7 students' level of mathematics anxiety and mathematical resilience and their relationship to the performance of students in Mathematics**.** The output of this research will serve as a basis for action plans.

STATEMENT OF THE PROBLEM

This research assessed the math anxiety, resiliency, and academic performance of Grade 7 students in Mathematics at the identified public high schools in Mandaue City Division for the school year 2022-2023 as the basis for proposed action plans.

Specifically, this study sought to answer the following sub-problems:

1. What is the respondents' profile regarding age and gender, parents' highest educational attainment, and combined family monthly income?
2. What is the level of anxiety of the respondents towards learning Mathematics?
3. What is the level of resiliency of the respondents in learning Mathematics?
4. What is the level of academic performance of the respondents in Mathematics?
5. Is there a significant relationship between the respondents' math anxiety and their academic performance in Mathematics, respondents' resiliency, and their academic performance in Mathematics?
6. Based on the findings, what action plans may be proposed?

Statement of the Null Hypotheses

Based on the objectives of the study, the following null hypotheses were tested at a 0.05 level of significance:

Ho_1: There is no significant relationship between the respondents' math anxiety and their academic performance in Mathematics.

Ho_2: There is no significant relationship between the respondents' resiliency and their academic performance in Mathematics.

LITERATURE REVIEW

The two theories used in this study are the control value theory and the meta-theory of resilience. The conduct of this study is based on the DepEd-DOH Joint Memorandum Circular 001, s: 2021, specifically DepEd Order No. 17. According to the control-value theory (CVT), the learner's achievement is influenced by their academic emotions, motivations, learning strategies, and self-regulated learning (Pekrun,2006). Emotions have a significant impact on the performance of the students. Positive emotions lead to high academic achievement of the students, while negative emotions such as anxiety can lower their self-esteem and lead to lower achievement. (Putwain et al., 2020). Therefore, the emotions of students can affect their academic performance. The meta-theory of resilience affirms the existence of three stages. The first stage is when the individual does not know how to cope with a particular situation. In the second stage, the individual can readjust to avoid losing balance. Finally, the individual acquires new skills and learns the process. Nevertheless, meta-theory has a series of limitations to consider. The main restriction is the linearity of the model; that is, in a single event, it is the one that opposes the individual.

In addition, it does not consider the protective role that emotions play in the behavior of individuals and as facilitators when dealing with the problem. Resilience studies in the educational field have been explored from multiple perspectives, focusing mainly on the external aspects of students and not on what

happens during classes or the influence it exerts on adaptive behavior patterns. Despite this, resilience is positively linked to motivation, performance, and positive emotions (Cariaga et al., 2023). However, despite the existing studies in the educational field, research is still scarce, focused mainly on the external aspects of students and not on what happens during classes and the influence it exerts in an academic environment concerning other negative psychological variables present in students (Trigueros et al., 2020). The DepEd released a DepEd Order No. 17 on the expansion of limited face-to-face classes. Schools that passed the standards of the School Safety Assessment Tool (SSAT) are only allowed to conduct limited face-to-face classes. The mode of instruction is blended and modular because not all students can participate in the limited face-to-face. The school shall secure parents' consent for those participating in the limited face-to-face. Teachers handling the class should be vaccinated, and vaccinated learners are preferred. During the class, teachers and students should follow the health protocols for safety. Math anxiety is a common issue where students have negative attitudes such as stress, frustration, and fear towards math (Hart & Ganley, 2019; Kucian et al.,2018; Ramirez et al., 2018). Resilience is one of the main psychological characteristics associated with psychological and emotional well-being and academic success (Kristjánsson, 2016). Students exposed to stressful and adverse situations become more assertive without psychological disorders (Robertson et al., 2017). Resilience is positively related to students' intelligence, internal motivation, and academic performance (Magnano et al., 2016; Jowkar et al., 2014; Trigueros et al., 2019). Zarina and Sheela (2015) investigated the relationship between academic performance, resilience, depression, anxiety, and stress of 446 college women at city colleges. It was found that their academic performance, resilience, depression, anxiety, and stress were positively correlated to women college students. Trigueros et al. (2020) analyzed the process of overcoming mathematical anxiety to improve the academic performance of 1742 high school students. The results show a negative impact on resilience and anxiety. It also shows that resilience was positively related to students' motivation, and anxiety was negatively related to students' motivation. Therefore, motivation affects the academic performance of the students. Donolato et al. (2020) investigated the specific influence of math anxiety, test and general anxiety, and ego-resilience on mathematics performance. The results showed that math anxiety had the main adverse effect on mathematics performance, while ego resiliency positively affected mathematics performance. The recommended intervention programs are to reduce anxiety and sustain ego anxiety. Zuill (2016) investigated the relationship between resilience and academic success using multiple regression to analyze the relationships. The results revealed a positive relationship between resilience and reading achievement but no relationship between resiliency and GPA and math achievement. The findings regarding the positive relationship between resiliency and reading could influence policymakers to reexamine the current education policies and ensure the importance of acquiring adequate reading skills. Sandoval-Hernandez and Bialowolski's (2016) objectives are to identify the factors and conditions associated with academic success, regardless of socioeconomic status, and to identify factors and conditions associated with academic resilience exclusively for low socioeconomic status. It was found that students' attitudes, teacher factor, and language spoken in their home have a higher chance of academic success. Etherton et al. (2020) examined the effects of students' resilience on outcomes of undergraduate students from a Midwestern university in the U.S. using a path model addressing self-efficacy, self-set goals, and state anxiety as mechanisms through which resilience influences performance and subjective well-being. It was found that students' resiliency has no direct effect on their performance through self-efficacy and self-goals, has no direct effect on anxiety through self-efficacy, and accounts for unique variance in subjective well-being after controlling state anxiety. Carbonell (2017) determined the predictors of mathematics achievement of first-year college students at the College of Teacher Education using correlational design. The results indicated that students' mathematics performance is affected by their sex, ethnicity, socioeconomic status, teachers' specialization, and average grades. Those with lower household incomes have higher anxiety levels than those with higher incomes. Teachers who were math majors had students doing better in math than those students taught by non-math majors. The students' mathematics anxiety, resiliency, and attitudes were significantly related to their mathematics performance. Likewise, their profile variables were significantly related to their mathematics performance. Cropp (2017) investigated if peer mentoring can help students who have difficulty in mathematics of five female students. Out of five students, three participants reported that their mathematical anxiety was reduced, and all four had a positive attitude toward the intervention. However, the findings regarding improved mathematical resilience and its effect on reducing mathematical anxiety were inconsistent. Hodas (2015) examined the relationship between aspects of mental health and students'

academic performance and their beliefs about their academics. It was found that mental was significantly related to students' attitudes toward mathematics. Further, results were more pronounced at the more diverse public school than at the small private one. Thus, more comprehensive screening procedures that examine students' psychological and academic functioning may be necessary to understand students' needs better and provide appropriate school-based interventions. Ozkal (2019) investigated secondary school graders' self-efficacy beliefs, engagement, and disaffection in Math lessons and academic achievement in learning Mathematics and Math performance. It was found that students' self-efficacy beliefs in learning and performance in Math significantly and positively predicted their math achievement. Furthermore, behavioral and affective disaffection in Math lessons were found to predict Math achievement negatively. Therefore, students' self-efficacy beliefs positively affect math achievement, while behavioral and affective disaffection negatively affect students' math achievement. Trigueros et al. (2020) analyzed the influence of teacher leadership on academic resilience and motivation, burnout, and academic performance. It was found that teacher leadership positively predicted academic resilience and motivation; academic resilience negatively predicted burnout and positively predicted academic performance; likewise, academic motivation negatively predicted burnout and positively predicted academic performance; finally, burnout negatively predicted academic resilience.Philemon et al. (2019) studied the influence of emotional self-concept on academic achievement. It was found that emotional self-concept is necessary to improve the emotional skills of students to engender emotional self-concept, eliminate anxiety, increase the emotional resilience of students in the school, and motivate students to perform better. These should be the core counseling activity of the school counselors. Therefore, math anxiety is the number one reason most students fail, hate, and do not want to learn mathematics.

Resiliency is the ability of the student to cope if they encounter difficult situations quickly. If the student has high resiliency towards themselves, there is a possibility that their math anxiety would be low because they can easily cope. If the student's resiliency is low, there is a tendency for their math anxiety to be high because they do not know how to handle a specific situation. Students must have someone who will help them and be there for them. Therefore, math anxiety and resiliency have a significant impact on the academic performance of the students.

RESEARCH METHODOLOGY

Participants

The respondents of this study were the Grade 7 students from Don Gerardo Llamera Ouano Memorial National High School, Maguikay National High School, and Cabancalan National High School. The transitions of their experiences in learning mathematics from elementary level to Grade 7 were a great help for the researchers in conducting the study. Thus, they were suitable for participating in the study since its variables focused on students' math anxiety and resiliency in learning mathematics. The previous record from the LIS coordinators of the three schools showed that there were approximately 658 students enrolled in 7th grade this school year from Don Gerardo Llamera Ouano Memorial National High School, approximately 795 from Maguikay National High School, and approximately 565 from Cabancalan National High School. These data served as the basis for the selection of the respondents. The researchers utilized Slovin's formula to determine the sample size. Slovin's formula determines the sample size when one does not know the population's behavior (Glen, 2021). Simple random sampling was the method used to identify 336 respondents.

Instruments of the Study

The researchers used three sets of questionnaires, namely the Math Anxiety Questionnaire, adapted from the Abbreviated Mathematics Anxiety Rating Scale (A-MARS) by Alexander and Martray (1989), which has 25 items that describe student's anxiety in learning mathematics. Each item on the scale is a scenario that, when scored on a 5-point scale, may cause anxiety in the respondent. Factor analyses were necessary to construct the condensed form to determine the aspects of math anxiety. Three variables—Math Test Anxiety (15 items), Numerical Task Anxiety (5 items), and Math Course Anxiety (5 items)—were identified via a main factors analysis with varimax rotation. Results were given for internal consistency, criterion validity, and test-retest reliability. Self-Resiliency Questionnaire was also modified and adapted from the study of Lereya et al. (2016) on the student resilience survey: psychometric validation and associations with mental health. The Student Resilience Survey is recommended by the Child Outcomes Research Consortium, an organization in the United Kingdom dedicated to assessing well-being, and this is a component of a collection of tools that can be used to learn more about a child rather than just their academic success (Well-

being et al.). Its 47 self-report questions, which can be answered on a 5-point Likert scale, are suitable for kids aged seven and up, and the verified Teacher-Created Questionnaire for the Unit Test. Verified Teacher-Created Questionnaire for the Unit Test: The researchers used a 40-item multiple-choice question tool that includes questions on the Union and Intersection of Sets, the complement of a Set, and Word Problems Involving Sets. Three (3) qualified Mathematics instructors validated the questionnaire, and then the researchers performed a pilot testing and analyzed the data. The Math Anxiety Questionnaire uses a 4-point scale with the following descriptors: 4- strongly agree, 3- agree, 2- disagree, and 4- strongly disagree. It is a 15-item test wherein respondents put a checkmark appropriate on the level of agreement towards each statement found in the questionnaire. Researchers followed a scoring procedure after they gathered the score/data for interpretation. The Student's Resiliency Questionnaire uses a 4-point scale with the following descriptors: 4 strongly agree, 3- agree, 2- disagree, and 4- strongly disagree. It is also a 13-item test divided into three parts wherein respondents put a checkmark appropriate on the level of agreement towards each statement found in the questionnaire. After the researcher gathered the score/data for interpretation, a scoring procedure was followed.

Procedure

There were stages for the data-gathering procedures that the researchers needed to follow: research permissions to school heads and Consent for students' participation, unit test administration, concluding, and giving feedback. The study started by asking permission from the school head of the target school. A letter addressed the school principal requesting that the research study be conducted for the students. The school's research coordinator checked the class plans, activities, questionnaires, and forms for respondent involvement.

The Research Ethics Checklist for Researchers Conducting Action Research, the Application for Ethics Review, Research Ethics Involving Human Participants, and the Research Ethics Checklist for Investigators Conducting Action Research were examined. The researcher adheres to the school's norms, good behavior, and ethics in conducting the study. After all the necessary consents had been granted, the researcher handed the respondents the consent form and adequately explained it to them. The study provided no immediate benefit to the participants. The study will only include students who have received permission from their parents or guardians to participate. Before completing the consent form, researchers informed the students and parents about the study procedures. Researchers cautiously treated the gathered data and deleted it after completing the research.

Furthermore, the study's participants were not exposed to physical or mental hazards. Participants can withdraw from the study, which does not affect their grades or results. When the researcher received all the signed consent forms, the validated unit test was given to the responders. The research focused on the Union and Intersection of Sets, the Complement of a Set, and Word Problems involving Sets. The experiment was then carried out, wherein the respondents answered the unit test concerning the time frame given; then, the researchers collected the answer sheets, checked the responder's answers, and recorded their scores. Researchers used the information gathered to address the study's issues and informed students, parents, and the school of the study's findings. The respondents' personal information was strictly retained, and only gathered their scores.

Ethical Considerations

The study started by asking permission from the school head of the target school. A letter addressed the school principal requesting that the research study be conducted for the students. The school's research coordinator checked the class plans, activities, questionnaires, and forms for respondent involvement. The Research Ethics Checklist for Researchers Conducting Action Research, the Application for Ethics Review, Research Ethics Involving Human Participants, and the Research Ethics Checklist for Investigators Conducting Action Research were examined. The researcher adheres to the school's norms, good behavior, and ethics in conducting the study. After all the necessary consents had been granted, the researcher handed the respondents the consent form and adequately explained it to them. The study provided no immediate benefit to the participants.

The study included students who have received permission from their parents or guardians to participate. Before completing the consent form, researchers informed the students and parents about the study procedures. Researchers cautiously treated the gathered data and deleted it after completing the research. Furthermore, the study's participants were not exposed to physical or mental hazards. Participants can withdraw from the study, which did not affect their grades or results.

RESULTS AND DISCUSSION

Profile of the Respondents

This section presents Math Anxiety; Table 1 reflects the respondents' math anxiety level in learning mathematics. Questions from 1 to 25 describe how the students feel in preparing and performing different activities and show their behavior on how they react when facing situations that are related to math. The result shows that most of the respondents' level of anxiety learning mathematics is high, which ranges from 2.50-3.24.

Table 1, therefore, clearly presented the aggregate weighted mean of 2.93; this means that students feel anxious during specific situations involving mathematics. When someone is presented with a mathematical difficulty, they experience mathematics anxiety, a combination of despair and terror. The most significant student anxiety occurs when facing math tests and completing math tasks. Students feel insecure when solving math problems because they only memorize mathematical formulas and do not understand their meaning (Yuliani & Dahlan, 2019). Data clearly shows that students from these schools experience math anxiety. Thus, it is a must for teachers to reduce the students' math anxiety somehow.

According to the National Education Assessment research, it is an acquired behavior that often exists early in one's educational experience. Once established, its adverse effects will last throughout the school years. This means that math anxiety long-term impacts the learners' educational performance as it grows deeper and deeper once instilled or developed. Because of this, it restricts students from academic success. Resiliency and Academic Performance of the Students in Mathematics from Don Gerardo Ll. Ouano Memorial National High School, Maguikay National High School, and Cabancalan National High School.

Level of Math Anxiety of The Respondents

Math anxiety is a feeling of tension and apprehension that interferes with math performance ability, the manipulation of numbers, and the solving of mathematical problems in a wide variety of ordinary life and academic situations (Gosling et al., 2021). Thus,

Table 1 presents the math anxiety level of the respondents.

S/N	Indicators	WM	Verbal Description
1	Studying for a math test.	3.02	High
2	Taking the math section of the college entrance exam.	2.76	High
3	Taking an exam (quiz) in a math subject.	2.99	High
4	Taking an exam (final) in a math subject.	2.95	High
5	Picking up a math textbook to begin working on a homework assignment.	2.99	High
6	Being given homework assignments for many complex problems due at the next class meeting.	2.74	High
7	Thinking about an upcoming math test 1 week before.	2.95	High
8	Thinking about an upcoming math test 1 day before.	2.75	High
9	Thinking about an upcoming math test 1 hour before.	2.66	High
10	Realize you must take a certain number of math classes to fulfill requirements.	2.90	High
11	Picking up a math textbook to begin a problematic reading assignment.	2.95	High
12	Receiving your final math grade.	3.18	High
13	Opening a math or stat book and seeing a page full of problems.	2.76	High
14	Getting ready to study for a math test.	3.10	High
15	Being given a "pop" quiz in a math class.	2.89	High
16	Reading a cash register receipt after your purchase.	3.12	High
17	Being given a set of numerical problems involving addition to solve on paper.	2.99	High
18	Being given a set of subtraction problems to solve.	3.00	High
19	Being given a set of multiplication problems to solve.	2.98	High
20	Being given a set of division problems to solve.	2.96	High
21	Buying a math textbook.	2.88	High
22	Watching a teacher work on an algebraic equation on the blackboard.	3.10	High
23	Enrolling in a math class.	2.84	High
24	Listening to another student explain a math formula.	2.99	High
25	Walking into a math class.	2.82	High
Aggregate Weighted Mean		**2.93**	**High**

Level of Self-Resiliency of the Respondents

Resilience in this study focuses on the process and outcome of successfully adapting to complex or challenging experiences of the students in learning mathematics. The data presented below displays students' resiliency in learning mathematics at home, school, and away from school.

Table 2. Level of resiliency of the respondents in learning Mathematics

S/NIndicators	WM	Verbal Description
1. **At home, there is an adult who …**		
1... helps in my schoolwork	3.15	Resilient
2... believes that I will be a success	3.28	Very Resilient
3... wants me to do my best	3.36	Very Resilient
4... listens to me when I have something to say	3.11	Resilient
Aggregate Mean	**3.23**	**Resilient**
1. **At school, there is an adult who …**		
1 ... cares about me	3.23	Resilient
2... tells me when I do a good job	3.20	Resilient
3... listens to me when I have something to say	3.17	Resilient
4... believes that I will be a success	3.28	Very Resilient
Aggregate Mean	**3.22**	**Resilient**
1. **Away from school, there is an adult who …**		
1 ... cares about me	3.26	Very Resilient
2... tells me when I do a good job	3.20	Resilient
3... believes that I will be a success	3.24	Resilient
4 ... I trust	3.37	Very Resilient
5... listens to me when I have something to say	3.18	Resilient
Aggregate Mean	**3.25**	**Very Resilient**
Grand Mean	**3.23**	**Resilient**

Legend: 3.25-4.00- Very Resilient; 2.50– 3.24-Resilient;1.75 – 2.49-Less Resilient; 1.00 – 1.74–Not Resilient

Table 2 displays the respondents' resiliency level in learning mathematics. Respondents from the three schools got an average mean of 3.23 and were labeled resilient in learning mathematics at home. They also got an average of 3.22, were labeled resilient when in school, and 3.25, were labeled as very resilient when they were away from school. Overall, they got an average of 3.23 and were labeled as resilient. This means that most students were resilient in learning mathematics despite adversity. Mathematical resilience is an attitude necessary for the student to respond positively in the face of difficulties in studying mathematics (Solekhah et al., 2019). The result shows that students are resilient at home because there are individuals who guide and motivate them to do better in their academics. Thus, self-resiliency is fostered at home. It also displays that students are resilient in school because individuals nurture and remind them to strive more, especially in learning mathematics. Lastly, it shows they were very resilient even when they were away from school.

Level of Academic Performance of the Respondents

Table 3. Level of Academic Performance of the Respondents

Level	Numerical Range	f	%
Outstanding	33-40	0	0.00
Very Satisfactory	25-32	26	7.74
Satisfactory	17-24	65	19.35
Fairly Satisfactory	9-16	214	63.69
Poor	0-8	31	9.23
Total		**336**	**100.00**
Mean		14.47	
St. Dev.		5.24	

Table 3 displays the level of academic performance of the respondents of the three schools. Students' level of academic performance in mathematics was measured through unit tests; 7.74% of the respondents were delighted with a numerical range of scores from 25-32 points, 19.35% were satisfied with a numerical range of scores from 17-24 points, 63.69% were reasonably satisfied with a numerical range of scores from 9-16 points, and 9.23% had a poor performance with a numerical range of scores from 0-8 points. The overall performance of the respondents got an average of 14.47 and a standard deviation of 5.24; this means that most respondents were reasonably satisfied with taking the unit test in mathematics. An educator needs to note that a human being's existence is commonly based on how much knowledge an individual acquires. Thus, educational or academic success is measured based on student performance (Koranteng et al., 2021).

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Research Article

Relationship Between Math Anxiety and Academic Performance of the Respondents

Table 4. Test of significant relationship between the respondents' math anxiety and their academic performance in Mathematics

Variables	r-value	Strength of Correlation	p-value	Decision	Result
Math Anxiety and Academic Performance in Mathematics	0.111*	Negligible Positive	0.042	Reject Ho	Significant

*Significant at p<0.05 (two-tailed)

Table 4 displays the significant relationship test between the respondents' math anxiety and their academic performance in Mathematics in the three selected schools. The researchers utilized Pearson's Correlation to test the significant relationship between the respondents' math anxiety and their academic performance in mathematics. Table 4 shows a negligible positive correlation between the two variables, with an R-value of 0.111 and a p-value of 0.042. This was significant, so we failed to accept the null hypothesis (H_0). As the relationship between the two variables was deemed significant, the student's academic performance in all three schools was somehow affected by their level of mathematics anxiety. The outcome demonstrates that the more anxious the students are, the more clearly it affects their performance on the unit test and their academic performance since it makes it difficult for them to learn and comprehend mathematical concepts, turning it into an intellectual issue. Therefore, math anxiety is associated with poor performance in mathematics (Zhang, 2019).

RELATIONSHIP BETWEEN RESILIENCY AND ACADEMIC PERFORMANCE OF THE RESPONDENTS

Table 5. Test of significant relationship between the respondents' resiliency and their academic performance in Mathematics

Variables	r-value	Strength of Correlation	p-value	Decision	Result
Resiliency at Home and Academic Performance in Mathematics	0.190*	Negligible Positive	0.000	Reject Ho	Significant
Resiliency at School and Academic Performance in Mathematics	0.129*	Negligible Positive	0.018	Reject Ho	Significant
Resiliency Away from School and Academic Performance in Mathematics	0.085	Negligible Positive	0.121	Do not reject Ho	Not Significant

*Significant at p<0.05 (two-tailed)

Table 5 displays the significant relationship test between the respondents' resiliency and their academic performance in mathematics at the three schools. Researchers utilized Pearson's Correlation to test the significant relationship between the respondents' resiliency and their academic performance in mathematics. Table 5 shows a negligible positive correlation between the resiliency at home and school toward academic performance with the following R-values of 0.190 and 0.129 and p-values of 0.000 and 0.018, respectively. These were significant, so we failed to reject H_0. However, resiliency away from school also shows a negligible positive correlation towards academic performance, with an R-value of 0.085 and a p-value of 0.121. This was not significant, so we failed to reject H_0. As the relationship between resiliency at home and school towards academic performance was deemed significant, students' resiliency at home and school affected their academic performance in mathematics. On the contrary, the relationship between resiliency away from school and academic performance was insignificant. This means that students' resiliency away from school does not affect their academic performance in learning mathematics. Resiliency is overcoming challenges and adversity, which may be particularly relevant when adjusting to post-secondary education (Wilson et al., 2019). In other words, self-resiliency depends on how an individual reacts to a particular situation, whether in positive or adverse events.

SUMMARY OF DISCUSSION

This study aimed to determine the relationship between student anxiety and resiliency on the mathematics performance of Grade 7 students in Don Gerardo Llamera Ouano Memorial National High School, Maguikay National High School, and Cabancalan National High School as bases for a proposed intervention plan. The profile of the respondents was used to help interpret the study results. Respondents were asked to answer the resiliency survey questionnaire describing their attitudes in math. To describe their performance, students answered the unit test. Data gathered were treated statistically using frequency count, percentage, and weighted mean to see if there is a statistically significant relationship between anxiety, resiliency, and performance in mathematics. A test on the significance of the respondent's anxiety, resiliency, and performance was conducted using Pearson r correlation to arrive at an inference based on the evidence presented by the data. Most of the respondents are male, aged 11 to 12 years old, in Grade 7. Forty-four percent of the respondents' mothers are high school graduates, while 40.18 percent of the respondents' fathers are high school graduates. Lastly,

55.65 percent of their families have a combined income of 10,000 below monthly. Most of the respondents have fair, satisfactory performance, which compromised 63.69 percent of the respondents.

Moreover, 9.23 percent of them failed in math during the unit test. The respondents' attitudes towards learning mathematics were measured using the three variables: resiliency, anxiety, and performance using unit tests. The respondents were found to have negative attitudes towards the importance and their engagement in mathematics. The test on the relationship between math anxiety and academic performance in mathematics showed a negligible positive correlation between confidence and respondents' resiliency in mathematics. Furthermore, the three variables, such as anxiety and resiliency, were significantly related to the respondents' academic performance in mathematics.

CONCLUSION

Based on the study's findings, it can be concluded that the respondents' anxiety affects their academic performance based on scores obtained in the unit test. On the other hand, resiliency at home and school towards academic performance in mathematics was significant and showed negligible positive correlation, while resiliency away from school was not significant. This means that students significantly overcome mathematical challenges with the aid of people around them. Thus, the teachers must know how to make the mathematics lesson easy and fun for the students to lessen their anxiety and build resiliency with the students. It will help the students to improve their performance in mathematics.

Given that the respondents are in Grade 7, they may have difficulty adjusting to the high school math curriculum. The fact that the respondents have not taken any face-to-face classes in the past two years or had any mentorship or instruction, particularly in mathematics, has a significant impact. A student's characteristics also impact how well respondents do mathematically.

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