

TEST ANXIETY AND NUMERACY PROFICIENCY OF JUNIOR HIGH SCHOOL STUDENTS

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ABSTRACT

Math tests are not only about getting the right answers, but they also reflect the pressure and emotions students experience. This study explores how test anxiety and numeracy proficiency interact among Grade 10 students at Kitaotao National High School during the academic year 2024–2025, helping teachers better understand how to support students in both learning and managing their feelings. Data were gathered using an adopted and pilot-tested questionnaire, which measured three dimensions of test anxiety: social derogation, cognitive obstruction, and tenseness. The results showed that students experienced mild anxiety in terms of social derogation and moderate anxiety in both cognitive obstruction and tenseness, reflecting challenges with concentration and emotional regulation during math assessments. The students' numeracy proficiency was found to be at a dependent level, meaning they could perform basic mathematical tasks but required additional support. Correlational analysis revealed no statistically significant relationship between test anxiety and numeracy proficiency. These findings suggest that while students do experience test anxiety, it may not directly impact their mathematical performance. The study highlights the need for improved instruction, early intervention, and supportive learning environments to enhance students' numeracy skills regardless of anxiety levels.

Keyword: Test Anxiety, Cognitive Obstruction, Numeracy Proficiency, Mathematics Education

1. INTRODUCTION

Numeracy proficiency, or how well students understand and work with numbers, was recognized as a fundamental skill expected to be mastered by junior high school students. However, there had been a significant problem with numeracy proficiency, especially in the Philippines. According to the 2022 Programme for International Student Assessment (PISA), the Philippines ranked second to the last in Mathematics among the participating countries. This poor ranking reflected a serious issue with how well students in the Philippines were learning and performing in math. While the national results were already concerning, a noticeable gap also existed at the local school level. The overall National Achievement Test (NAT) Mean Percentage Score (MPS) was only 37.03, indicating that student performance remained at a low proficiency level. This was despite the presence of excess teachers, the conduct of Learning Action Cell (LAC) sessions, and participation in professional development seminars.

Interestingly, many students continued to score high on their periodical exams, even though these assessments were standardized and reviewed by experts. One possible explanation is that students may have focused on short-term review and memorization for the exams but lacked deep understanding and long-term retention of fundamental math concepts. This suggests that while students performed well on written tests, they were not truly mastering the essential mathematical competencies needed for real-life application and critical thinking. The gap between exam performance and actual understanding highlights the need to shift from rote learning to meaningful, concept-based instruction.

This issue was particularly alarming at the local level. As the Math Coordinator of the school, the researcher observed that a significant number of students were still struggling with basic math skills. Out of 1,934 students, 353 approximately 18% were identified as non-numerates, indicating a low level of math proficiency. This was concerning because by the time students reached junior high school, they were expected to have already mastered basic operations such as

addition, subtraction, multiplication, and division. These are foundational skills that should have been acquired during elementary years, yet many students in Grades 7 to 10 continued to struggle with them. The gap between expected and actual proficiency highlighted the urgent need to address the problem of numeracy.

One potential explanation for this gap lay in students' attitudes and approaches toward major exams. During a seminar at Central Mindanao University (CMU), one speaker suggested that including results from assessments like PISA and NAT in students' academic grades might encourage them to take these tests more seriously. It was noted that students often guessed answers or did not exert much effort during exams, possibly due to a lack of understanding of their significance. Grading these assessments could have increased students' motivation to study and focus, ultimately improving their performance.

Another key factor that may have affected numeracy proficiency was test anxiety. Test anxiety occurs when students feel nervous or stressed before or during an exam, often leading to poor performance. Although many studies had focused on math anxiety which refers to fear of the subject itself, less attention had been given to how general test anxiety impacted students' math outcomes. Anxiety could cause students to forget information, become distracted, or make careless errors. Nevertheless, some research suggested that a moderate level of anxiety might actually enhance performance by helping students concentrate and stay motivated. Von der Embse (2018) explained that test anxiety could impair cognitive functions such as attention and problem-solving, thereby affecting academic performance. Conversely, studies such as those by Ahmed et al. (2022) indicated that moderate anxiety might increase motivation and focus, leading to better test results.

Given these observations, this research was conducted to explore the relationship between test anxiety and students' numeracy proficiency. The study aimed to determine whether managing anxiety could improve math performance. It emphasized the need not only to revisit mathematical instruction but also to prepare students mentally and emotionally for assessments. The findings were expected to contribute to the development of better test-taking strategies and emotional support

mechanisms that could lead to improved math outcomes.

The study was conducted at Kitaotao National High School in Kitaotao, Bukidnon, from March to April 2025. This school was selected due to the evident challenges faced by its student population in terms of numeracy and test anxiety. By gathering data specific to this local context, the researcher aimed to generate insights that could support more targeted and effective interventions, ultimately enhancing students' academic experiences and performance in mathematics.

2. STATEMENT OF THE PROBLEM

This study aimed to examine the relationship between students' test anxiety and numeracy proficiency. Specifically, it answered the following questions:

1. What is the level of test anxiety in terms of social derogation, cognitive obstruction, and tenseness among Grade 10 students?
2. What is the numeracy proficiency level of Grade 10 students?
3. Is there a significant relationship between students' test anxiety and numeracy proficiency?

3. METHODOLOGY

3.1 Research Design

This study used a descriptive-correlational design to examine the relationship between test anxiety and numeracy proficiency among junior high school students. Data were gathered using two main tools: a questionnaire and a numeracy test. The questionnaire measured students' levels of test anxiety, focusing on three components: social derogation (fear of being judged), cognitive obstruction (difficulty in thinking clearly), and tenseness (feelings of physical stress or nervousness). The numeracy test consisted of 44 items involving multiplication and division, designed to assess the students' basic math skills.

Descriptive statistics were used to determine the overall levels of test anxiety and numeracy proficiency among the students. Following this, correlational analysis was conducted to find out whether there was a significant relationship between the two variables. This research design allowed the researchers to describe the current situation and identify whether levels of test

anxiety were meaningfully linked to levels of numeracy proficiency.

3.2 Locale of the Study

The study was conducted at Kitaotao National High School, a public secondary school located in the municipality of Kitaotao, Bukidnon, Philippines. The school serves both junior and senior high school students, with a total population of 1,934 learners. This study focused specifically on Grade 10 students, who made up around 300 of the total population. There were seven regular sections and one open high school class at the Grade 10 level.

3.3 Participants of the Study

The respondents of the study were Grade 10 students of Kitaotao National High School during the school year 2024–2025. There were about 300 students enrolled in seven sections, including one open high school class. Most of the students were between 15 to 17 years old. Academically, this group had a low Mean Percentage Score (MPS) in the National Achievement Test (NAT), especially in mathematics, which showed the need to better understand their learning challenges.

These students also experienced modular learning during the COVID-19 pandemic, particularly in their Grade 6 and Grade 7 years. Because of this, many of them missed face-to-face learning and teacher support during important stages of their education. At present, their classrooms were

overcrowded, with 40 to 50 students in small rooms, and they had limited access to learning materials and resources.

3.4 Data Gathering Procedure

Survey questionnaires were distributed only to students who willingly agreed to take part in the study. Each student was given 3 minutes to answer the 44-item numeracy test. After completing the test, the students were asked to answer another questionnaire to identify their level of test anxiety during the activity.

3.5 Statistical Techniques

The study was quantitative in approach. To find out the students' levels of test anxiety and numeracy proficiency, the researcher used descriptive statistics, specifically the mean. To see if there was a statistically significant relationship between the two variables, a correlational analysis was done. These inferential methods helped the researcher check if the research hypotheses were valid based on the results.

4. RESULTS AND DISCUSSION

This chapter discussed the presentation, analysis, and interpretation of the data acquired from the survey questionnaire answered by 171 respondents at Kitaotao National High School.

Social Derogation

Table 1: Result of Test Anxiety Level in Terms of Social Derogation

Indicator	Mean	Qualitative Interpretation
If I fail the test I am afraid people will consider me worthless.	2.68	Moderate Anxiety
I am very worried about what my teacher would think or do if I fail his or her test.	2.68	Moderate Anxiety
I am worried that if I fail a test my parents will not like me.	2.68	Moderate Anxiety
I am worried that all my friends will get high scores in the test and only I will get low scores.	2.59	Moderate Anxiety
If I fail the test I am afraid my teacher will believe I am hopelessly dumb.	2.37	Mild Anxiety
I am worried that failure in the tests will embarrass me socially.	2.37	Mild Anxiety
If I fail the test I am afraid I shall be rated as stupid by my friends.	2.35	Mild Anxiety
If I fail the test I am afraid my teacher will derogate me.	2.23	Mild Anxiety
OVERALL MEAN	2.49	Mild Anxiety

Legend

Scale	Limits	Descriptive Interpretation (DI)	Qualitative Interpretation (QI)
5	4.50-5.0	Describes me perfectly.	Severe Anxiety (Very High)
4	3.50-4.49	Mostly describes me.	High Anxiety
3	2.50-3.49	Somewhat describes me	Moderate Anxiety (Average)
2	1.50-2.49	Slightly describes me	Mild Anxiety (Low)
1	1.0-1.49	Does not describe me at all	No Anxiety (Very Low)

The results of the study showed that students experienced a moderate level of anxiety when they thought others might judge or dislike them for failing a test. The top three highest-rated items were: fear of being seen as worthless ($M = 2.68$), worry about the teacher’s reaction ($M = 2.68$), and fear that parents may not like them if they fail ($M = 2.68$). These results showed that students were especially affected by what other people—like teachers, parents, and friends—might think of them.

The overall mean for this group of questions was 2.49, which falls under Mild Anxiety, according to the scoring guide. This means that although some students felt a moderate amount of pressure, the average level of anxiety across all students was still mild.

The three lowest mean scores were: “If I fail the test, I am afraid my teacher will derogate me” ($M = 2.23$), “If I fail the test, I am afraid I shall be rated as stupid by my friends” ($M = 2.35$), and “I am worried that failure in the tests will embarrass me socially” ($M = 2.37$). All three items fell under the Mild Anxiety level. This shows that although students had some concerns about being embarrassed or judged by their teachers or peers,

these fears were not as strong as their worries about disappointing more important people in their lives—such as parents and teachers. It suggests that while social image mattered, the emotional pressure from adult expectations had a stronger impact on their anxiety.

Based on these findings, it is clear that students feel anxiety because they are afraid of losing the approval of important people in their lives, especially their parents and teachers. With a mean score of 2.68, the fear of disapproval ranked among the highest concerns, indicating that students place strong emotional value on these relationships. This reveals the need for schools to actively train parents and teachers in providing constructive feedback and emotional support. When students receive encouragement rather than criticism, they are more likely to build confidence and perform better academically. Gonzales (2024) supports this, noting that negative feedback and lack of support especially in difficult subjects like math can heighten self-doubt and hinder performance. In connection with this, students also fear that academic failure reflects their personal worth, not just their abilities. As such, programs that promote self-worth independent of academic success should be implemented to help students separate their identity from their performance. Gonzales (2024) emphasizes that when students tie their self-image to achievement, anxiety increases, especially when they face the possibility of failure. Moreover, teacher behavior plays a crucial role in shaping this dynamic. Students report high anxiety about their teacher’s reactions ($M = 2.68$), suggesting that even subtle expressions of disappointment can deeply affect their emotional well-being. Thus, it is essential for teachers to be mindful of how their responses are perceived. When students view teachers as critical rather than supportive, they are more likely to experience heightened anxiety and diminished academic performance (Gonzales, 2024). Together, these findings point to the importance of nurturing relationships and communication strategies that support rather than pressure students, fostering a more emotionally safe learning environment.

Classrooms should foster a culture of psychological safety where mistakes are embraced as part of the learning process rather than seen as personal failures. This is especially important

given that students report a high level of anxiety about being perceived as worthless when they fail ($M = 2.68$), suggesting that academic setbacks are often internalized as reflections of their self-worth. Such emotional responses are shaped not only by individual beliefs but also by the social environment in which students learn. According to the U.S. Department of Education (2024), classroom environments marked by negative peer attitudes and judgment significantly increase performance anxiety and discourage academic effort particularly in high-stakes subjects. This emphasizes the importance of reshaping peer dynamics within the classroom. One effective strategy is to implement peer mentorship or collaborative learning structures, which can reduce competitive pressure and promote mutual support among students. Although the reported anxiety levels about direct insults—such as being

called “stupid” ($M = 2.35$) or being insulted by peers ($M = 2.23$)—were relatively low, the overall fear of judgment remains influential. This shows that while students may not be as affected by overt name-calling, they are still highly sensitive to how they are perceived by their peers. Reinforcing this, the U.S. Department of Education (2024) found that even subtle negative peer attitudes can discourage student effort and motivation. Therefore, promoting a classroom culture grounded in empathy, collaboration, and non-judgment not only supports psychological safety but also encourages sustained academic engagement.

Cognitive Obstruction

Table 2: Result of Test Anxiety Level in Terms of Cognitive Obstruction

Indicator	Mean	Qualitative Interpretation
I feel my chances are good to think and perform well in tests.	2.77	Moderate Anxiety
In a test I feel like my head is empty, as if I have forgotten all I have learned.	2.72	Moderate Anxiety
During a test I feel I’m in good shape and that I’m organized.	2.68	Moderate Anxiety
During a test it’s hard for me to organize what’s in my head in an orderly fashion.	2.68	Moderate Anxiety
During a test my thoughts are clear and I neatly answer all questions.	2.65	Moderate Anxiety
I usually function well in tests.	2.63	Moderate Anxiety
I feel I just can’t make it in tests.	2.50	Moderate Anxiety
Before a test it is clear to me that I’ll fail no matter how well prepared I am.	2.35	Mild Anxiety
I feel it is useless for me to sit for an examination, I shall fail no matter what.	2.24	Mild Anxiety
OVERALL MEAN	2.58	Moderate Anxiety

Legend

Scale	Limits	Descriptive Interpretation (DI)	Qualitative Interpretation (QI)
5	4.50-5.0	Describes me perfectly.	Severe Anxiety (Very High)
4	3.50-4.49	Mostly describes me.	High Anxiety
3	2.50-3.49	Somewhat describes me	Moderate Anxiety (Average)
2	1.50-2.49	Slightly describes me	Mild Anxiety (Low)
1	1.0-1.49	Does not describe me at all	No Anxiety (Very Low)

The overall mean for cognitive obstruction was 2.58, which falls under the category of Moderate Anxiety. This suggests that, on average, students experience moderate difficulty during tests in areas such as staying focused, remembering what they've learned, and keeping their thoughts organized. Many students face challenges with cognitive tasks during high-pressure situations like exams, but they still have some hope of improving with the right support.

The highest score was "I feel my chances are good to think and perform well in tests" (M = 2.77), showing that some students have moderate confidence in their ability to do well, even though they still feel anxious. However, "In a test I feel like my head is empty, as if I have forgotten all I have learned" (M = 2.72) reflects that many students experience their minds going blank during tests, which lowers their confidence even when they know the material. Additionally, "During a test I feel I'm in good shape and that I'm organized" (M = 2.68) shows that some students feel organized, but still struggle to stay focused and manage their time effectively, indicating that while they can feel somewhat in control, anxiety still affects their performances.

The three lowest scores showed that some students experienced feelings of hopelessness and defeat before the test. "Before a test, it is clear to me that I'll fail no matter how well prepared I am" (M = 2.35) and "I feel it is useless for me to sit for an examination, I shall fail no matter what" (M = 2.24) reflect a sense of resignation, where a few students believed they would fail no matter how much effort they put in. Although "I feel I just can't make it in tests" (M = 2.50) indicated moderate anxiety, it also showed that many students felt uncertain about their abilities, but not entirely hopeless. These responses suggest that while some students struggle with self-doubt, others feel completely defeated before the test even begins.

First, the data shows that students need help with cognitive and test-taking strategies. Although some students felt confident (M = 2.77), many said they felt mentally disorganized or had memory problems during tests (M = 2.72). This means that even students who are prepared can still struggle with too much mental stress during exams. Schools could offer programs that teach memory tricks, time management, and ways to stay focused to help students handle this stress better. Foley et al. (2017) support this by explaining that stress can make it hard for students to remember and organize information, especially when they are under time pressure.

Second, the results suggest that students need help in building their academic self-confidence. The mixed responses where students feel confident but also experience confusion during tests show that their belief in their abilities can fluctuate. This is concerning because students who have negative thoughts about themselves are more likely to get stuck in self-doubt, which can hurt their performance. To help, schools can use strategies like positive self-talk, confidence-building workshops, and activities that help students reflect on their strengths. Gonzales (2024) found that when students don't get enough emotional support, they are more likely to doubt themselves, which increases anxiety and makes it harder to do well.

Third, the findings show that having an emotionally supportive environment is very important for reducing mental blocks during tests. Emotional stress and fear of being judged were major reasons why students had trouble staying focused. Being able to focus is not just about how well a student prepares, but also about how safe

they feel emotionally during tests. Teachers and parents should create environments where making mistakes is okay and where growth is more important than being perfect. Gonzales (2024) found that when students feel criticized or unsupported especially in subjects like math that can be stressful—their anxiety goes up, which can lead to worse academic results.

Another important point is the need to reduce stereotype threat and pressure to perform well, as these things can make it harder for students to think clearly. When students believe that their grades reflect their value as a person, the stress can cause mental blocks, even for students who are well-prepared. Schools should create classroom environments that focus on effort and improvement instead of comparing students to each other. As Foley et al. (2017) found, when students feel pressured by stereotypes or high expectations, it uses up their mental energy and makes it harder for them to focus during tests.

Finally, while the lowest-scoring items about hopelessness (like "I shall fail no matter what," $M = 2.24$) are not very high, they still show the need to notice and help students early on. Even small feelings of hopelessness can grow into bigger problems like anxiety or loss of interest if not dealt with. Teachers should look for students who seem overwhelmed or have negative thoughts and offer help, like academic counseling or peer mentoring. Gonzales (2024) and Foley et al. (2017) both say that getting support early not only helps reduce anxiety right away but also helps students become stronger and more motivated in the long run.

Tenseness

Table 3: Result of Test Anxiety Level in Terms of Tenseness

Indicator	Mean	Qualitative Interpretation
While I am sitting in an important test, I feel that my heart pounds strongly.	2.94	Moderate Anxiety
I am very tense before a test, even if I am well-prepared.	2.69	Moderate Anxiety

During a test my whole body is very tense.	2.66	Moderate Anxiety
I arrive at a test with no serious tension or nervousness.	2.44	Mild Anxiety
During a test I keep moving uneasily in my chair.	2.43	Mild Anxiety
I am terribly scared of tests.	2.32	Mild Anxiety
OVERALL MEAN	2.58	Moderate Anxiety

Legend

Scale	Limits	Descriptive Interpretation (DI)	Qualitative Interpretation (QI)
5	4.50-5.0	Describes me perfectly.	Severe Anxiety (Very High)
4	3.50-4.49	Mostly describes me.	High Anxiety
3	2.50-3.49	Somewhat describes me	Moderate Anxiety (Average)
2	1.50-2.49	Slightly describes me	Mild Anxiety (Low)
1	1.0-1.49	Does not describe me at all	No Anxiety (Very Low)

The results of the study show that students experience a moderate level of tenseness related to test-taking, with an overall mean score of 2.58. This means that many students feel nervous or physically stressed before and during exams. The highest-rated indicators — “While I am sitting in an important test, I feel that my heart pounds strongly” ($M = 2.94$) and “I am very tense before a test, even if I am well-prepared” ($M = 2.69$) — suggest that students often experience strong physical symptoms of anxiety, such as a racing heart and muscle tightness, regardless of how well they prepared. These symptoms can interfere with concentration and confidence, showing that test anxiety affects students emotionally and physically.

In contrast, the two lowest indicators — “During a test I keep moving uneasily in my chair” ($M = 2.43$) and “I am terribly scared of tests” ($M = 2.32$) — show that while students feel tense, their

anxiety may not reach extreme levels such as fear or panic. Even though these students felt anxious and discouraged, the results show they were still able to sit through the test without breaking down or giving up.

The study showed that many students felt nervous during tests. Some even felt their hearts beating fast (M = 2.94), which means they were physically stressed. This shows that students feel strong anxiety when taking exams. A study by Ahmadpanah and others (2016) said that students with higher emotional understanding feel less test anxiety. Helping students by giving them emotional support can lower their stress.

Even if students were ready for the test, they still felt nervous. This means that teaching good study habits and time management is important. A study by Sharif and Armitage (2004) said that giving students lessons on how to prepare and stay calm can lower their anxiety.

The study also showed that how students think about the test affects how they feel. Teachers can help by giving clear directions, being kind, and

helping students feel safe. A study by Valizadeh and others (2019) said that when students have good relationships with teachers, they feel less worried and do better in school.

Some students felt nervous because they didn't want to disappoint their parents. This shows that parents also need to help in a good way. Talking with parents about what to expect and how to support their kids can help. A study by Feige and Watermann (2024) found that parents who support their children the right way can help reduce their test stress.

Not all students feel the same way about tests. Some feel very nervous, while others don't. That's why schools should give different kinds of help to each student. A study by von der Embse and others (2018) showed that special programs like calm thinking exercises and relaxation can help students feel better and do well in school.

Numeracy Proficiency

Table 4. Numeracy Proficiency Level of the Students

Grade & Section	Mean Score	Descriptive Interpretation	Qualitative Interpretation
G10-Emerald	28	Nearly Numerate	Dependent Level
G10-Garnet	36	Numerate	Independent Level
G10-Diamond	37	Numerate	Independent Level
G10-Sapphire	30	Nearly Numerate	Dependent Level
G10-Amethyst	29	Nearly Numerate	Dependent Level
G10-Pearl	31	Nearly Numerate	Dependent Level
Over-all Mean	32	Nearly Numerate	Dependent Level

Legend

Score	Percentage	Descriptive Interpretation (DI)	Qualitative Interpretation (QI)
35-44	80%-100%	Numerate	Independent level
22-34	50%-79%	Nearly Numerate	<u>Dependent Level</u>
0-21	0-49%	Non-numerate	Frustration Level; Needs Intervention

The study looked at the numeracy skills of Grade 10 students using a 44-question Numeracy Screening Test. The results showed that two

sections of students, Grade 10-Diamond and Grade 10-Garnet, were able to work with math problems on their own and were classified as Numerate (Independent Level). The other four sections, Grade 10-Emerald, Grade 10-Sapphire, Grade 10-Amethyst, and Grade 10-Pearl, scored between 28 and 31, which means they are Nearly Numerate (Dependent Level). The overall score of the group was 32, which shows that, in general, most students need some assistance when it comes to math.

Many students are slow at solving even basic problems. Some were able to solve but time allotted was not enough as they were seen using their fingers or drawing lines to help them solve

math questions. They haven't memorized or mastered basic operations like multiplication and division. These actions show weak number sense and poor fluency (Aranca, 2019). Moreover, these students struggle with more advanced problems. They can do easier math, but they can't always solve harder problems like quadratic equations. Their math learning is not deep enough. Salde (2023) found that many students still have trouble with higher math like quadratic functions, even if they can do simple ones.

Learning loss during Grades 6 and 7 affected their math skills. These students learned from modules at home during the COVID-19 pandemic. They didn't get real-time lessons or feedback from teachers. Their learning was not guided, so they missed building strong math foundations. Layar et al. (2024) found that Grade 10 students in Mindanao had trouble with math modules because of language and lack of teacher guidance. This problem happened in many places, not just here. Students in other countries also lost math skills during the pandemic. Weak math skills are part of a bigger, global problem. In India, 82% of students forgot at least one basic math skill, like number recognition or simple addition (The News Minute, 2021). Coskun and Kara (2022) also said that remote learners had weaker reasoning in math.

Students need extra help and better ways to learn math. They must move from Nearly Numerate to Numerate by getting more support and practice. Teachers should give early help and use tools that make math clearer. Gray and Thomas (2016) said that students do better in math when they get help early. Technology can also help improve numeracy. Using math apps and online tools can help students learn at their own pace. They can practice more and get fast feedback. Panglima (2019) added that digital tools support better learning and help raise math scores.

Teamwork and hands-on learning help students learn math better. Activities like working in groups or using real objects in lessons make math easier to understand. Changing the way we teach can help students become more confident and independent. Caro (2018) found that students learn better with hands-on tasks. Miranda et al. (2019) said teacher teamwork also helps students understand better.

Teaching for understanding is better than memorizing. When students understand math ideas, they can solve different kinds of problems, not just repeat steps. Teachers should focus more on thinking and less on just memorizing steps. Boaler (2015) emphasizes the importance of teaching for understanding, where the focus is on helping students develop a deep conceptual understanding of mathematics, rather than just memorizing procedures. In addition, Sullivan & Lilburn (2017) emphasize that focusing on the "why" of mathematics rather than just the "how" leads to better learning outcomes.

Relationship of Test Anxiety and Numeracy Proficiency

Table 5. Significant Relationship of Test Anxiety and Numeracy Proficiency

VARIABLES	CORRELATION COEFFICIENT (r)	PROBABILITY (p)
Test Anxiety	0.045	0.557
Numeracy Proficiency		

*. Correlation is significant at the 0.05 level (2-tailed)

The results of the study showed that there is no strong connection between test anxiety and how well Grade 10 students perform in numeracy. The Pearson correlation was very low ($r = 0.045$), and the p-value (.557) was higher than the usual significance level of 0.05. This means the relationship between the two variables is not statistically significant, and the null hypothesis was accepted. Simply put, feeling anxious during a test does not seem to directly affect students' math performance in this case. Instead, other factors may have a bigger impact such as how confident students are, the way math is taught, or how well they have mastered basic skills.

This highlights the need for broader structural reforms in how numeracy is supported throughout the education system. Programs that emphasize early literacy and numeracy development should be extended and reinforced throughout all grade levels to ensure continuity in skill-building. Research by Gray and Thomas

(2016) supports the idea that consistent and long-term numeracy support is essential for students' sustained success in mathematics.

The results also suggest that enhancing basic math competencies and numeracy skills should take priority over anxiety-reduction strategies in curriculum planning. Educational institutions should design curricula that prioritize mastery of foundational mathematical concepts and promote deep, conceptual understanding over rote or surface-level learning. Salde (2023) noted that many students still struggle with complex math problems like quadratic equations, pointing to the need for stronger foundational instruction.

Funding and resources in education should be directed more toward remedial instruction and targeted interventions that address academic skill gaps, rather than broad mental health programs that may not directly influence academic outcomes. Programs designed to support learning recovery should focus on addressing students' specific mathematical challenges. Gray and Thomas (2016) stressed that early and ongoing remediation is a critical factor in improving long-term outcomes in mathematics.

Incorporating real-world and contextualized learning into math education may be more effective in enhancing student understanding and engagement. Education systems should promote the use of localized and relatable materials in teaching to help students make meaningful connections with abstract mathematical concepts. Caro (2018) emphasized the benefits of experiential learning and authentic tasks in supporting conceptual growth.

Confidence in one's abilities and a strong sense of self-efficacy appear to have a more substantial impact on math performance than emotional anxiety. Education systems should consider integrating strategies that build students' confidence and foster a growth mindset as part of the regular instructional and values education. Studies by Zakariya et al. (2020) and Bellová et al. (2023) found that students who believe in their mathematical capabilities tend to perform better, reinforcing the importance of confidence-building in academic achievement.

These findings suggest that the main problem is not test anxiety, but a lack of mastery in math basics, which causes slow performance and weak understanding. Therefore, schools should focus

more on helping students strengthen their math foundation, regain lost skills, and improve confidence. This can be done through engaging lessons, more practice, and providing extra support like tutoring or remedial programs. When students are better prepared and more confident in their skills, they are more likely to succeed—even if some anxiety is still present.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study examined the level of test anxiety and numeracy proficiency among Grade 10 students, as well as the relationship between the two variables. Findings revealed that students experienced mild anxiety related to social derogation and moderate anxiety in terms of cognitive obstruction and tenseness, indicating difficulties with focus and feelings of nervousness during math tests. Their numeracy proficiency was generally at a dependent level, indicating they could manage basic tasks but still needed support. Furthermore, there is no significant relationship between test anxiety and numeracy proficiency indicating that test anxiety did not have a statistically significant impact on students' performance in numeracy.

5.2 Recommendations.

The following recommendations were made regarding the test anxiety and numeracy proficiency of Grade 10 students based on the findings and conclusion of the study.

To address the mild to moderate levels of test anxiety experienced by Grade 10 students, it is recommended that school counselors, teachers, and school administrators work together to implement programs that promote mental well-being and stress management. These could include mindfulness sessions, peer support groups, and workshops on managing test anxiety. Teachers may also be trained to recognize signs of anxiety and incorporate supportive strategies in their classrooms. Additionally, schools may offer accessible counseling services to students and encourage open communication about emotional health to create a nurturing environment that minimizes anxiety during exams.

To enhance basic numeracy proficiency of the students, math teachers, curriculum planners, and school administrators may enhance instruction

through differentiated teaching strategies. Remedial support may be provided to students who are struggling with foundational skills, while the curriculum may be evaluated to ensure that it supports the gradual development of numeracy skills. Schools may also incorporate interactive learning tools and real-life math applications to keep students engaged and strengthen their problem-solving abilities. Ongoing assessment and feedback will help ensure that students can independently tackle more complex math tasks over time.

Moreover, it is highly recommended that education systems focus on enhancing foundational mathematical skills and deep conceptual understanding rather than prioritizing anxiety-reduction strategies. Programs emphasizing early literacy and numeracy may be extended throughout all grade levels to ensure continuity in skill development. Curricula may be designed to foster mastery of core mathematical concepts, with a focus on solving complex problems rather than relying on surface-level learning. Investment may be directed toward remedial instruction and targeted interventions to address specific academic gaps, while confidence-building and fostering a growth mindset may be incorporated into regular instruction to improve students' self-efficacy and overall performance. Finally, creating a supportive learning environment that connects math to real-world contexts and offers engaging, experiential learning will enhance student engagement, reduce anxiety, and ultimately improve numeracy outcomes. To further discuss issues concerning numeracy skills and test anxiety, future researchers are encouraged to explore additional variables that may influence numeracy proficiency, such as self-efficacy, learning styles, or teaching methods. Use mixed-methods or qualitative approaches to gain deeper insight into students' personal experiences with math anxiety and learning challenges.

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