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THE MEDIATING EFFECT OF ACADEMIC STRESS ON THE RELATIONSHIP BETWEEN STUDENTS' MATHEMATICAL RESILIENCE AND PROBLEM-SOLVING SKILLS AMONG MATHEMATICS MAJOR STUDENTS

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ABSTRACT

The purpose of the study was to determine the mediating effect of academic stress on the relationship between students' mathematical resilience and problem-solving skills among mathematics major students. The study was quantitative non-experimental research that utilized descriptive-correlational, and mediation analyses. Using stratified random sampling specifically proportional allocation for the sampling techniques and Slovin's formula with 0.05 margin of error for the sample size, a sample of 150 randomly selected mathematics education students answered the surveys on the three variables. Findings revealed high levels of mathematical resilience and academic stress, while problem-solving skills were moderately rated. Significant positive relationships were observed between mathematical resilience, problem-solving skills and academic stress, as well as between academic stress and problem-solving skills. Moreover, academic stress was identified as a partial mediator in the relationship between mathematical resilience and problem-solving skills. This stressed the need for educators to consider factors beyond mathematical resilience when addressing students' problem-solving skills, emphasizing the importance of understanding and mitigating academic stressors such as performance pressure, workload perception, academic self-perception, and time constraints to foster a more comprehensive approach to skill development in mathematics majors.

KEYWORDS: *Academic Stress, Problem-Solving Skills, Students' Mathematical Resilience, Mathematics Major Students, Philippines*

INTRODUCTION

Problem-solving is an essential skill that students must master, as it was identified as the top soft skill sought by employers in 2022 (Kaplan, 2023). According to Kaplan, 86% of employers looked for evidence of problem-solving skills on students' resumes, based on data from the National Association of Colleges and Employers. Furthermore, Ling and Mahmud (2023) emphasized the importance of proficiency in sentence-based mathematics problem-solving, highlighting its role in addressing a variety of mathematical problems encountered in daily life. Such skills also enhance imagination, foster creativity, and improve individuals' comprehension abilities. Despite its importance, students often struggle with problem-solving, particularly in mathematics. Common challenges include difficulties in understanding word problems, planning effective solution strategies, and avoiding calculation errors, all of which hinder mastery of this critical skill. Kaitera and Harmoinen (2022) noted that the significance of developing mathematical reasoning and problem-solving skills is reflected in international assessments such as PISA and TIMSS. Moreover, Ali (2019) identified several factors contributing to students' difficulties with mathematics problem-solving, particularly for those aged 13–17. These factors include unclear foundational concepts, insufficient practice, lack of focus, and ineffective teaching methods.

The problem-solving skills of students continued to become a major issue in countries around the world. In Indonesia, many students struggle in solving mathematics, highlighting a prevalent issue of low proficiency in problem-solving skills among them. Consequently, the triennial 2018 OECD Program for International Student Assessment (PISA) reported that 85% of 15-year-old students in Indonesia ranked 73rd in mathematics out of 79 assessed countries and economies with a score of 379, a 7-point decrease from 2015, which was significantly below the OECD average of 489. The nation's education system faced a serious challenge, highlighting the urgent need to reform teaching methods, curriculum, and the learning environment to raise academic achievement, especially in math and other key subjects (Tehusijarana, 2019).

The Philippines faces a critical challenge in mathematics education, reflected in the poor performance of both students and

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prospective teachers. According to De Vera (2021), international assessments such as PISA and TIMSS reveal that Filipino students significantly lag behind their global peers in math proficiency, with many struggling to master fundamental concepts expected of younger grade levels. This systemic issue is further exacerbated by the inadequate problem-solving skills of prospective elementary teachers (PETs), particularly those who do not prefer teaching mathematics. Studies in the Northern Philippines, as noted by Pentang et al. (2021), show that these PETs perform poorly in essential mathematical domains such as number sense, geometry, and algebra, exposing gaps in both their foundational knowledge and instructional readiness. The unsatisfactory outcomes among PETs emphasize the urgent need for targeted interventions, including curriculum improvements, specialized training, and the integration of problem-solving courses in teacher education programs. These measures are crucial to breaking the cycle of low mathematical achievement and equipping future educators to enhance student performance effectively.

The primary objective of this research was to identify the mediating effect of academic stress on the relationship between students' mathematical resilience and problem-solving skills. This study is essential for addressing key challenges in the Philippines' education system, particularly in improving mathematical performance among students. By exploring how academic stress impacts mathematical resilience and problem-solving abilities, the findings can inform the development of targeted interventions to enhance student outcomes. These insights could contribute to more effective mathematics curricula and teacher preparation programs, fostering critical thinking, adaptability, and problem-solving skills. Ultimately, this research has the potential to support the development of a highly skilled, competitive workforce, strengthening the country's position in regional and global markets. The urgency of conducting this research is clear, as addressing these issues is crucial for improving mathematics instruction and ensuring that Filipino students can succeed both nationally and internationally. Strengthening teaching methods and resources would equip students with the skills necessary to compete on a global scale.

In connection, numerous research studies had addressed students' problem-solving skills in Mathematics, but some key aspects remain unexplored. Markedly, there was a gap in existing studies, particularly in the Philippines and the local context, as none have comprehensively covered all these variables. There had been studies conducted, such as those of Öztürk et al. (2020), entitled "*Reading Comprehension, Mathematics Self-Efficacy Perception, and Mathematics Attitude as Correlates of Students' Non-Routine Mathematics Problem-Solving Skills in Turkey*"; Jimenez (2020), entitled "*Problem Solving Ability of First Year High School Students in Mathematics as Affected by Cognitive Development Levels and Teaching Strategies*"; Attami et al. (2020), entitled "*The Mathematical Problem-Solving Ability of Junior High School Students Based on their Mathematical Resilience*"; and Harsela and Asih (2020), entitled "*The Level of Mathematical Resilience and Mathematical Problem-Solving Abilities of 11th Grade Sciences Students in a Senior High School*" which focused on problem-solving skills and mathematical resilience, but not on the relationship of students' mathematical resilience and problem-solving skills having the mediating role of academic stress, especially within mathematics major teacher education programs. This unique research contributed valuable insights and helped fill gaps in the existing body of knowledge in this field.

This research study aimed to share its findings on the relationship between students' mathematical resilience, problem-solving skills, and academic stress as a mediating factor among mathematics education majors. The dissemination of these findings involved strategically distributing hardbound copies of the research throughout the academic community. A formal presentation, coordinated with the research office, was held for faculty and staff, where hardbound copies were provided to attendees. Additionally, prominent placement of these copies in the library ensured easy access for students and researchers. To maximize the impact of the study, it was also submitted to reputable academic journals, ensuring its findings reached a broader audience and contributed meaningfully to ongoing scholarly discussions in the field.

STATEMENT OF THE PROBLEM

The purpose of this study was to examine the mediating effect of academic stress on the relationship between mathematical resilience and problem-solving skills among mathematics major students in a local college in the Province of Davao del Norte. To be specific, this study sought to answer the following objectives:

1. To determine the level of students' mathematical resilience in terms of:
   1.1 understanding of math grades;
   1.2 mindset of growth;
   1.3 understanding of how to work in math; and
   1.4 awareness of available support from friends, teachers, ICT, the internet, etc.
2. To determine the level of problem-solving skills.
3. To determine the level of academic stress in terms of:
   3.1 pressure to perform;
   3.2 perception of workload;
   3.3 academic self-perception; and
   3.4. time restraints.
4. To determine the significant relationship between:
   4.1 students' mathematical resilience and problem-solving skills
   4.2 students' mathematical resilience and academic stress; and
   4.3 academic stress and problem-solving skills.
5. To determine the mediating effect of academic stress on the relationship between students' mathematical resilience and problem-solving skills.

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RESEARCH HYPOTHESIS

The null hypotheses were tested at the 0.05 significance level, which stated that there were no significant relationships between students' mathematical resilience and problem-solving skills, mathematical resilience and academic stress, or academic stress and problem-solving skills. Additionally, it was hypothesized that academic stress did not mediate the relationship between students' mathematical resilience and problem-solving skills.

METHODOLOGY

RESEARCH DESIGN

This study employed a quantitative, non-experimental research design utilizing descriptive correlational techniques and mediation analysis. Mediating variables are behavioral, biological, psychological, or social constructs that explain the process through which one variable influences another. Mediation analysis allows researchers to explore the mechanism or pathway by which an independent variable affects a dependent variable. Non-experimental research refers to a type of research, either quantitative or qualitative, that does not involve experimental manipulation. It is a predominant approach in the social sciences, focusing on observing and analyzing phenomena as they naturally occur.

STATISTICAL TREATMENT OF DATA

The following statistical tools were utilized to calculate the data in this study in lieu of testing the researcher's objectives at a 0.05 level of significance.

Mean. This was used to determine the level of students' mathematical resilience, problem-solving skills, and academic stress.

Pearson-r. This was employed to assess the correlation between students' mathematical resilience and their problem-solving abilities, the relationship between students' mathematical resilience and academic stress, and the connection between academic stress and problem-solving skills.

Structural Equation Modeling using Mediation Analysis. This was used to investigate whether the mediating variable had any influence on the relationship between the independent variable and the dependent variable, utilizing the concept of indirect effect. In this study, this approach was applied to explore whether academic stress played a mediating role on the relationship between students' mathematical resilience and their problem-solving skills, as addressed in the research question.

RESEARCH RESPONDENTS

The respondents for this study were mathematics education students enrolled in the Bachelor of Secondary Education major in Mathematics (BSEd - Mathematics) program at KCAST during the first semester of the academic year 2023–2024. The inclusion criteria ensured that only bona fide, officially enrolled students, whether regular or irregular, were included, while students from other programs or those not registered during this period were excluded. The sample size was determined using Slovin's Formula with a margin of error of 0.05, and respondents were proportionally distributed across all year levels: 73 out of 119 first-year students, 31 out of 50 second-year students, 26 out of 43 third-year students, and 20 out of 33 fourth-year students.

Stratified random sampling with proportional allocation was employed to enhance the reliability and validity of the findings by ensuring that each subgroup within the population was proportionally represented. This method involved dividing the population into homogeneous subgroups (strata) based on shared characteristics and randomly selecting samples proportional to the size of each stratum (Hayes, 2023).

RESULTS AND DISCUSSION

The following are the results of the study.

Table 1
Summary on the Level of Students' Mathematical Resilience

Students' Mathematical Resilience	Mean	Description
Understanding of Math Grades	4.03	High
Mindset of Growth	3.93	High
Understanding of How to Work in Math	4.03	High
Awareness of Available Support from Friends, Teachers, ICT, the Internet, etc.	4.04	High
OVERALL	**4**	**High**

Table 1 is the overall level of students' mathematical resilience in terms of understanding of math grades, mindset of growth, understanding of how to work in math, and awareness of available support from friends, teachers, ICT, the internet, etc. The data revealed that the level of students' mathematical resilience as perceived by mathematics major students has a total mean of 4 with the descriptive equivalent of high. This indicates that the level of students' mathematical resilience as perceived by students is oftentimes observed. Further, the highest mean is 4.04 with the descriptive equivalent as high. This indicates that the level of students' mathematical resilience as perceived by students in terms of awareness of available support from friends, teachers, ICT, the internet, etc. is oftentimes observed. In contrast, the lowest indicator is mindset of growth which obtained a mean of 3.93 with a descriptive equivalent as high. This indicates that the level of students' mathematical resilience in terms of mindset of growth is oftentimes observed by the students. Moreover, understanding of math grades obtained a

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mean of 4.03 with a descriptive equivalent as high. This indicates that the level of students' mathematical resilience in terms of understanding of math grades is oftentimes observed by the students. Lastly, understanding of how to work in math also obtained a mean of 4.03 with a descriptive equivalent as high. This indicates that the level of students' mathematical resilience in terms of understanding of how to work in math is oftentimes observed by the students.

Table 2
Summary on the Level of Academic Stress

Academic Stress	Mean	Description
Pressure to Perform	4.14	High
Perception of Workload	3.96	High
Academic Self-Perception	4.05	High
Time Restraints	4.02	High
OVERALL	**4.04**	**High**

Table 2 is the overall level of academic stress in terms of pressure to perform, perception of workload, academic self-perception, and time restraints. The data revealed that the level of academic stress as perceived by mathematics major students has a total mean of 4.04 with the descriptive equivalent of high. This indicates that the level of academic stress as perceived by students is oftentimes observed. Further, the highest mean is 4.14 with the descriptive equivalent as high. This indicates that the level of academic stress as perceived by students in terms of pressure to perform is oftentimes observed. In contrast, the lowest indicator is perception of workload which obtained a mean of 3.96 with a descriptive equivalent as high. This indicates that the level of academic stress in terms of perception of workload is oftentimes observed by the students. Moreover, academic self-perception obtained a mean of 4.05 with a descriptive equivalent as high. This indicates that the level of academic stress in terms of academic self-perception is oftentimes observed by the students.

Table 3
Summary on the Level of Problem-Solving Skills

Scores	Frequency	Percent	Overall Mean
8	4	2.67	
9	5	3.33	
10	15	10	
11	16	10.67	
12	16	10.67	
13	19	12.67	
14	26	17.33	**13.33**
15	19	12.67	
16	14	9.33	
17	7	4.67	
18	6	4	
19	2	1.33	
20	1	0.67	

Table 3 is the level of problem-solving skills among mathematics major students had an overall mean of 13.33 with a descriptive equivalent of moderate. This indicated that the level of problem-solving skills among mathematics major students is satisfactory. In the "High" level score range of 16 to 20, 30 students, representing approximately 20% of the total population, demonstrated exceptional performance in problem-solving. This result highlights above-average problem-solving skills, as only a select group of students achieved such scores, indicating a high level of proficiency and competence in addressing mathematical challenges. In the "Moderate" level score range of 11 to 15, 96 students, comprising about 64% of the total population, exhibited satisfactory performance in problem-solving. This outcome reflects moderate problem-solving abilities, with a larger group of students achieving these scores, indicating a solid and dependable level of proficiency, though not as advanced as those in the "High" range. In the "Low" level score range of 6 to 10, 24 students, making up approximately 16% of the total population, demonstrated fairly satisfactory performance in problem-solving. This result suggests that these students possess modest problem-solving skills, showing that some are able to engage with and solve problems, though their proficiency is more limited compared to others. Lastly, in the "Very Low" level score range of 1 to 4, none of the students demonstrated particularly low performance in problem-solving. This outcome suggests that all students are proficient to some degree, with none falling into the category of severely lacking problem-solving abilities, highlighting that student, as a whole, have a fundamental level of competence in this area.

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Table 4
Significant Relationship Between Students' Mathematical Resilience and Problem-Solving Skills

Variable	Mean	R-Value	P-Value	Decision @=0.05
Students' Mathematical Resilience	4	.268	<.001	**H_o Rejected**
Problem-Solving Skills	13.33			

Table 4 was the result of the significant relationship between students' mathematical resilience with a mean of 4 and problem-solving skills with a mean of 13.33, along with the r (148) which from 150 respondents, now become 148, since the researcher measured two parameters in the study, the degree of freedom corresponds to the sample size (150) minus 2 since the researcher estimates two relationships. Moreover, it also shown that the r-value is .268, it means that there is 26.8% of the variation of students' mathematical resilience which affects their problem-solving skills. Nonetheless, the remaining 73.2% was based on the variables not covered on the study. Furthermore, the probability value ($p<.001$) was found less than the level of significance ($\alpha=0.05$), meaning that the null hypothesis, which stated that no significant relationship existed between students' mathematical resilience and problem-solving skills, is not accepted. This indicated that there is a significant relationship between students' mathematical resilience and problem-solving skills.

Table 5
Significant Relationship Between Students' Mathematical Resilience and Academic Stress

Variable	Mean	R-Value	P-Value	Decision @=0.05
Students' Mathematical Resilience	4	.397	<.001	**H_o Rejected**
Academic Stress	4.04			

Table 5 was the result of the significant relationship between students' mathematical resilience with a mean of 4 and academic stress with a mean of 4.04, along with the r (148) which from 150 respondents, now become 148, since the researcher measured two parameters in the study, the degree of freedom corresponds to the sample size (150) minus 2 since the researcher estimates two relationships. Moreover, it also shown that the r-value is .397, it means that there is 39.7% of the variation of students' mathematical resilience which affects academic stress. Nonetheless, the remaining 60.3% was based on the variables not covered on the study. Furthermore, the probability value ($p<.001$) was less than the level of significance ($\alpha=0.05$), meaning that the null hypothesis, which stated that no significant relationship existed between students' mathematical resilience and academic stress, is not accepted. This indicated that there is a significant relationship between students' mathematical resilience and academic stress.

Table 6
Significant Relationship Between Academic Stress and Problem-Solving Skills

Variable	Mean	R-Value	P-Value	Decision @=0.05
Academic Stress	4.04	.276	<.001	**H_o Rejected**
Problem-Solving Skills	13.33			

Table 6 was the result of the significant relationship between academic stress with a mean of 4.04 and problem-solving skills with a mean of 13.33, along with the r (148) which from 150 respondents, now become 148, since the researcher measured two parameters in the study, the degree of freedom corresponds to the sample size (150) minus 2 since the researcher estimates two relationships. Moreover, it also shown that the r-value is .276, it means that there is 27.6% of the variation of academic stress which affects problem-solving skills. Nonetheless, the remaining 72.4% was based on the variables not covered on the study. Furthermore, the probability value ($p<.001$) was less than the level of significance ($\alpha=0.05$), meaning that the null hypothesis, which stated that no significant relationship existed between academic stress and problem-solving skills, is not accepted. This indicated that there is a significant relationship between academic stress and problem-solving skills.

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MEDIATION ANALYSIS

Table 7
Direct Effect

							95% Confidence Interval	
			Estimate	Std. Error	z-value	p	Lower	Upper
IV	→	DV	0.416	0.186	2.241	< .025	0.052	0.781

Table 7 showed the direct effect of students' mathematical resilience (IV) on problem-solving skills (DV) is significant [β=0.416, SE=0.186, 95% CI (0.052,0.781)]. Since the p-value is less than the significance level 0.05 and the confidence interval does not include zero, it indicated that the direct effect of students' mathematical resilience is significant. Moreover, it can be observed that each unit increase of the independent variable which is the students' mathematical resilience results in a 0.416 increase in the independent variable which is the problem-solving skills with a p-value of <. 025.Therefore, it revealed that students' mathematical resilience is significantly influenced problem-solving skills, (β=0.416, p< .001). As well, based on the result, students' mathematical resilience significantly influences problem-solving skills even without the presence of the academic stress.

Table 8
Indirect Effect

								95% Confidence Interval	
				Estimate	Std. Error	z-value	p	Lower	Upper
IV	→	MV	→	DV	0.176	0.081	2.182	< .029	0.018	0.335

Table 8 showed the indirect effect of students' mathematical resilience (IV) on academic stress (MV) and on problem-solving skills (DV) showed [β=0.176, SE=0.081, 95% CI (0.018, 0.335)]. Academic stress has a statistically partial mediating effect that represented by the coefficient β with the value 0.176. This means that each unit increase in the independent variable which is the students' mathematical resilience results in a 0.176 rise in the mediating variable which is the academic stress through dependent variable which is the problem-solving skills. With a p-value of < .029, which is less than the significance level of 0.05, it indicated that the mediation effect is statistically significant. With that evidence, the null hypothesis, which stated that academic stress did not mediate the relationship between students' mathematical resilience and problem-solving skills, is not accepted. This announces that the mediating variable, which is the academic stress, mediates the relationship between the independent variable, students' mathematical resilience, and the dependent variable, which is problem-solving skills.

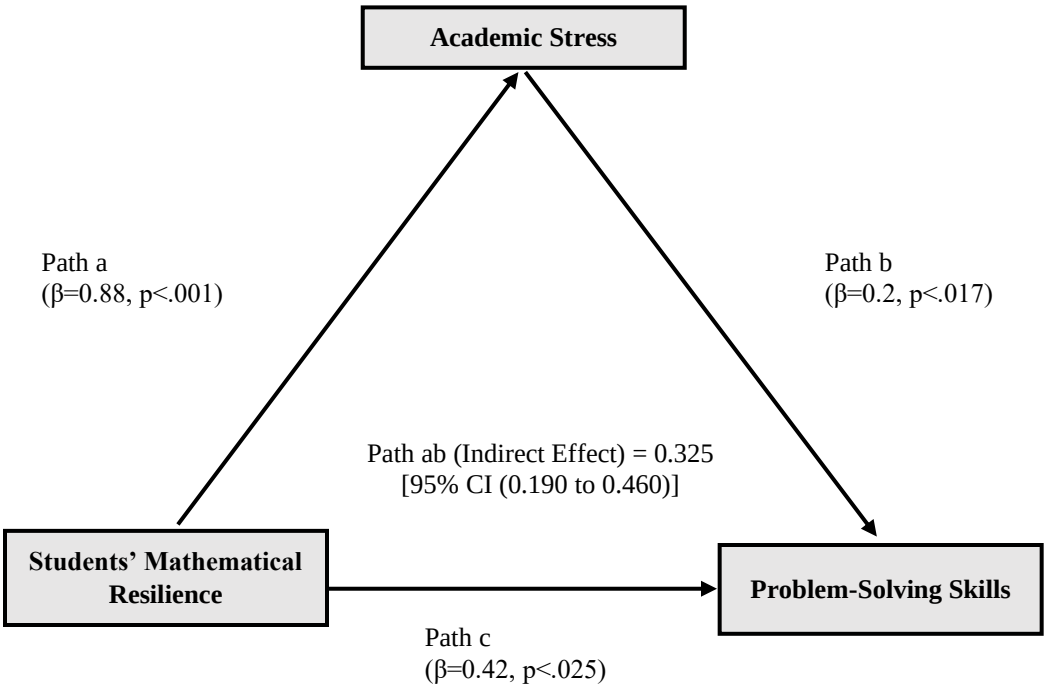
Table 9
Total Effect

							95% Confidence Interval	
			Estimate	Std. Error	z-value	p	Lower	Upper
IV	→	DV	0.593	0.174	3.412	< .001	0.252	0.933

Table 9 showed the total effect of students' mathematical resilience significantly influences problem-solving skills among mathematics major students [β=0.593]. It can be observed that for every unit increased in the independent variable will results in a 0.593 rise in the dependent variable which is the problem-solving skills. This indicated that even without the presence of the mediating variable, academic stress, students' mathematical resilience already affected problem-solving skills. Since the direct effect is significant, it can be concluded that the relationship between students' mathematical resilience and problem-solving skills is only partially mediated by academic stress.

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Figure 1
Path Plot Showing the Variables of the Study



In addition to the result of the study, Figure 1 showed relationship between students' mathematical resilience and problem-solving skills through mediating effect of academic stress. In Path A, students' mathematical resilience (IV) has a significant relationship with academic stress (MV), since p-value is <.001 which is less than 0.05 level of significance, which indicated that it has a significant relationship.

In Path B, academic stress (MV) found that it has significant relationship with problem-solving skills (DV), since the p-value is .017 which is less than 0.05 significance level which indicated that it has significant relationship. In Path C, students' mathematical resilience (IV) has a significant relationship with problem-solving skills (DV), since the p-value is .025 which is less than 0.05 significance level, this indicated that it has a significant relationship.

RECOMMENDATIONS

The suggestions of the researcher are established based on the results and the wholeness of the paper. In light of the aforementioned findings of the study, the following recommendations were made. The level of students' mathematical resilience among mathematics major students is high. However, among the items of each indicator of students' mathematical resilience, it was found that mindset of growth was the item with the lowest mean result. It is therefore suggested that educators may employ instructional strategies that highlight the significance of effort, persistence, and the belief that intelligence and mathematical abilities can be cultivated through dedicated practice and learning from mistakes. Furthermore, fostering a growth-oriented mindset can be reinforced by encouraging faculty to provide constructive feedback that specifically promotes and reinforces a positive and adaptive approach to learning mathematics.

Moreover, the level of problem-solving skills among mathematics major students is moderate. It is therefore suggested that students may focus on refining their ability to analyze complex situations and develop strategies, involving critical thinking, creativity, and adaptability through practice sets, assessments and academic self-evaluation, affecting their overall academic experience.

Furthermore, the level of academic stress among mathematics major students is high. However, among the items of each indicator of academic stress, it was found that perception of workload has the item with the lowest mean result. It is therefore suggested that students may efficiently manage their time to navigate through various challenging academic tasks. This involves shifting their perception of tasks from being obstacles to opportunities, ultimately enhancing their academic journey.

Finally, as the academic stress partially mediates the relationship between students' mathematical resilience and problem-solving skills, it is recommended that future researchers investigate other variables that could fully mediate the relationship between students' mathematical resilience and problem-solving skills throughout the learning of mathematics. The researcher suggests to explore "The Relationship of Academic Resilience and

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Problem-Solving Skills as Mediated by Mathematics Motivation among Non-Mathematics major Students." They are also encouraged to utilize other methodologies, factors, or variables that the study was not able to cover. Further, they might conduct it in other locales and/or with larger scale participants.

CONCLUSIONS

Based on the findings of this study, the following conclusions were drawn in answer to the objectives:

The level of students' mathematical resilience among mathematics major students is high, indicating they are well-equipped to face and overcome mathematical challenges. Thus, nurturing and strengthening these traits will further support their ability to persist through difficulties, improve their mathematical performance, and foster long-term success and resilience in their studies.

On the other hand, the level of problem-solving skills among mathematics major students who demonstrated problem-solving skills is moderate. Thus, enhancing problem-solving strategies and fostering critical thinking can further improve students' ability to tackle complex mathematical challenges and boost their overall academic performance.

Moreover, the level of academic stress among mathematics major students who demonstrated academic stress is high. Thus, addressing factors contributing to academic stress, such as workload, pressure to perform, and time constraints, could help reduce stress and improve students' academic well-being and performance.

Based on the findings, there is a significant relationship between students' mathematical resilience and problem-solving, as it is affirmed that problem-solving in a general context is more likely to be affected by students' mathematical resilience. Therefore, students' mathematical resilience influences their problem-solving skills, which stipulates a significant relationship between the two variables.

Based on the findings of the study, there is also a significant relationship between students' mathematical resilience and academic stress. Fostering mathematical resilience in students could help mitigate the negative impacts of academic stress, enabling them to better cope with challenges and enhance their academic performance in mathematics. Therefore, students' mathematical resilience is influenced by their coping strategies for academic stress, which highlights the significant relationship between the two variables.

Additionally, there is a significant relationship between academic stress and problem-solving skills. Effectively managing academic stress could enhance students' problem-solving abilities, allowing them to approach mathematical challenges with greater confidence and improve their overall performance. Therefore, students' effective management and coping strategies for academic stress influence their problem-solving skills, which demonstrates a significant relationship between the two variables.

Furthermore, the mediation analysis revealed that academic stress has partially mediated the relationship between students' mathematical resilience and problem-solving skills. Therefore, the effectiveness of learning experiences in mathematics is intricately intertwined with the interplay of students' mathematical resilience, problem-solving skills, and management and coping strategies for academic stress, influencing students' academic achievements and overall mathematical proficiency. However, from the context of the results, these stipulate that the relationship between students' mathematical resilience and problem-solving skills is partially mediated by the indirect pathway through academic stress, a claim that is also supported by the estimation of a significant indirect effect.

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