

ANXIETY STUDENTS OF WMSCU MATHEMATICS EDUCATION TOWARDS STUDY RESULTS IN THE FIRST SEMESTER

Fransiskus Gatot Iman Santoso^{1*)}, Gregoria Ariyanti²⁾

^{1*) 2)} Faculty of Teacher Training and Education, Widya Mandala Catholic University Surabaya

^{1*)} email: gatot.iman.s@ukwms.ac.id

²⁾ email: gregoria.ariyanti@ukwms.ac.id

Abstract

This study aims to determine the description of the anxiety of WMSCU Mathematics Education students in the first semester towards the student achievement index in the odd semester of the 2022/2023 academic year. This type of research is descriptive research using quantitative data to determine student anxiety scores and student achievement index. The research subjects were students of the WMSCU Mathematics Education Study Program (MESP) Class of 2022, with the object of research on MESP student anxiety and first-semester study results. The data collection method uses the distribution of student anxiety questionnaires during the first semester of study at MESP. This student anxiety questionnaire consists of 60 items, consisting of 29 favorable items and 31 unfavorable items. Student anxiety questionnaires are arranged based on physical, mental, and behavioral aspects. This study's data analysis method is descriptive statistics because the data is in the form of numbers that explain or describe student anxiety and first-semester grade point average. The research was conducted in the odd semester of the 2022/2023 academic year. From the research results, the average score of MESP students' anxiety during studying at MESP for the physical aspect was 42.14; the mental aspect was 42.57; the behavioral aspect was 43.57; and overall was 128.29. The conclusions of this study are (1) The level of student anxiety during studying at MESP is at the criteria for a medium level of anxiety, with details of the level of student anxiety in the physical aspect, mental aspect, and behavioral aspect at the criteria for a medium level of anxiety, and (2) There is a negative relationship between student anxiety scores during studying at MESP and the student achievement index for the odd semester of FY. 2022/2023.

Keywords: *Student Anxiety; Mathematics*

Abstrak

Penelitian ini bertujuan untuk mengetahui gambaran kecemasan mahasiswa Pendidikan Matematika UKWMS pada semester pertama terhadap indeks prestasi mahasiswa pada semester Gasal Tahun Akademik 2022/2023. Jenis penelitian ini ialah penelitian deskriptif dengan menggunakan data kuantitatif untuk mengetahui skor kecemasan mahasiswa dan indeks prestasi mahasiswa. Sebagai subjek penelitian adalah mahasiswa Program Studi Pendidikan Matematika (PSPM) UKWMS Angkatan Tahun 2022, dengan objek penelitian kecemasan mahasiswa PSPM dan hasil studi semester pertama. Metode pengumpulan data dengan menggunakan penyebaran angket kecemasan mahasiswa selama berkuliah di PSPM semester pertama. Angket kecemasan mahasiswa ini terdiri dari 60 item, yang terdiri dari 29 item *favorable* dan 31 item *unfavorable*. Angket kecemasan mahasiswa disusun berdasarkan aspek fisik, aspek mental dan aspek perilaku. Analisis data yang digunakan adalah statistik deskriptif karena data berupa angka-angka. Data ini memberikan gambaran tentang kecemasan mahasiswa dan indeks prestasi semester pertama. Penelitian dilaksanakan pada semester Gasal Tahun Akademik 2022/2023. Dari hasil penelitian diperoleh, bahwa skor rata-rata kecemasan mahasiswa PSPM selama berkuliah di PSPM untuk aspek fisik sebesar 42,14; aspek mental sebesar 42,57; aspek perilaku sebesar 43,57; dan secara keseluruhan sebesar 128,29. Kesimpulan dari penelitian ini adalah (1) Tingkat kecemasan mahasiswa selama berkuliah di PSPM pada kriteria tingkat kecemasan sedang, dengan rincian tingkat kecemasan mahasiswa aspek fisik, aspek mental dan aspek perilaku pada kriteria tingkat kecemasan sedang, dan (2) Ada hubungan negatif antara skor kecemasan mahasiswa selama berkuliah di PSPM dengan indeks prestasi mahasiswa semester Gasal TA. 2022/2023.

Kata kunci: Kecemasan Mahasiswa; Matematika

1. INTRODUCTION

It is a fact in the field that many students, both at the school and college levels, still experience difficulties when learning mathematics. As a result, students consider math a scary subject. There are even learners who, when they hear the word "math", these learners experience pale faces, trembling bodies, and even cold sweat. Math is considered a monster. When taking math lessons, these learners feel restless and anxious, which results in these things can affect learning outcomes. This influence can cause students' math skills to be low. According to Sujono (in Wijayanti, 2000), "it turns out that until now there are still many students think that mathematics is a difficult subject, to learn it requires a certain willingness, ability, and intelligence. Therefore, many students are afraid of math and as far as possible will try to avoid numbers and number operations". Many people think that math is still considered a scary subject.

Many factors may influence students' assumption that math is a difficult subject, including (1) learners are considered passive recipients and are considered as "blank paper" ready to be written on, so the teacher is considered a source of knowledge, and it is possible because of the teacher's mindset that considers the teacher to be the most master of mathematics material, (2) The mindset of learners who make mathematics a lesson learned by memorizing, (3) The experience of learners who make mistakes tends to be punished, which as a result will cause a deep trauma in learners, and (4) How to do math problems that must be the same as the way taught by the teacher. If it is not the same, the answer done by the learner is wrong, even though the answer is correct. As a result, students cannot think creatively, and creativity in students needs to develop.

The assumption of students that math is a difficult subject allows the emergence of anxiety in students towards mathematics. According to Nevid et al. (2005), "Anxiety is a state of apprehension or a state of worry in someone who complains that something bad is about to happen". Learners who experience math anxiety will show various emotional

responses when faced with problems related to numbers. These emotional responses include physical, mental, and behavioral aspects. According to Nevid et al. (2005), physical aspects can include difficulty breathing, heart palpitations, and dizziness; indigestion, sleep disturbances, eating disorders, and facial expressions. Mental aspects can be affective and cognitive. Meanwhile, behavioral aspects can include avoidance, clinging and dependence, being shaken, and making neurotic movements.

The Mathematics Education Study Program (MESP) is one of the study programs of Widya Mandala Surabaya Catholic University (WMSCU), located at the Madiun City Campus. MESP organizes an educational process that produces Mathematics Education graduates whose curriculum programmed by MESP has a dominant mathematics course content compared to education, learning, and other subjects. So students studying at MESP are expected to have good math skills. However, not all MESP students have good math skills. This is because prospective students who are accepted into MESP can come from various high school origins (both science majors and social studies majors) and from various vocational schools (both exact vocational and social majors). As a result, prospective students who enter MESP have diverse mathematical abilities. For prospective students with good math skills, it is expected that they can take lectures at MESP well and may not experience high anxiety in learning mathematics. However, prospective students who have poor math skills it is suspected that these prospective students will experience difficulties in attending lectures at MESP. As a result, during their study at MESP, these prospective students will experience high anxiety in learning mathematics.

Therefore, this research was conducted to see the anxiety of MESP students while studying at MESP in the first semester. The anxiety of MESP students will be related to the first-semester study results. This study aims to determine the anxiety of WMSCU Mathematics Education students in the first semester towards the student achievement

index in the odd semester of the 2022/2023 academic year.

2. LITERATURE REVIEW

A. Anxiety

Anxiety is a psychological condition of a person who is full of fear and worry, where feelings of fear and worry about something that is not certain to happen. Anxiety comes from Latin (*anxius*) and from German (*anst*), which is a word used to describe negative effects and physiological stimuli (Muyasaroh et al., 2020). There are many things to worry about, such as health, social relationships, exams, and environmental conditions. These are some of the things that can be a source of anxiety. Anxiety is an appropriate response to threats, but anxiety can be abnormal when its level is not in proportion to the threat or when it seems to come without a cause. That is when it is not a response to environmental changes. In extreme forms, anxiety can interfere with daily functioning.

According to Nevid, Rathus, and Greene (Nevid et al., 2005), *Anxietas* or anxiety is a state of worry in someone who complains that something bad is about to happen. Meanwhile, according to Mary Baradero (Baradero, 2016), anxiety is an excessive and unclear feeling of worry and is a response to external and internal stimuli that causes emotional, cognitive, physical, and behavioral symptoms.

B. Aspects of Anxiety

According to Nevid et al. (2005), anxiety consists of 3 aspects: physical, cognitive, and behavioral. The following are indicators of each aspect of anxiety:

- 1) The physical aspects of the indicators include Difficulty breathing, a racing heart, cold fingers or limbs, and dizziness. Indigestion: irregular digestion, abdominal pain or nausea, frequent urination, diarrhea. Sleep disorders: sleep is not restful, suffering from insomnia and nightmares. Eating disorders: loss of appetite. Facial expressions: anxiety, nervousness, facial flushing.
- 2) The mental aspects of the indicators include Affective: constantly filled with tension, anxiety, uncertainty, over-

sensitivity (irritability) in relationships, inferiority, sadness, fear of losing control, fear of inability to cope, wanting to run away from the reality of life, and fear of being wrong. Cognitive: difficulty concentrating, difficulty making decisions, a belief that something terrible is about to happen with no clear explanation, thinking that everything is no longer under control, thinking that everything feels very confusing without being able to cope, thinking about the same disturbing things over and over again, thinking that you must be able to escape from the crowd or you will faint, unable to get rid of disturbing thoughts.

- 3) The behavioral aspects of the indicators include Avoidance, for example: leaving class. Attached and dependent, for example, cheating. Shaken, for example: very surprised and dumbfounded. Making neurotic movements, for example: breaking fingernails and clearing the throat.

C. Math Anxiety

Spielberg (in Slameto, 2015) distinguishes anxiety into two parts: anxiety as a trait (trait anxiety) and anxiety as a state (state anxiety). Anxiety as a trait is the tendency of a person to feel threatened by several harmless conditions. Anxiety as a state is an emotional condition or temporary state in a person characterized by feelings of tension and worry that are consciously lived and subjective and increased activity of the autonomic nervous system. As a state, anxiety is usually associated with specific environmental situations, for example, in a public performance (speech), in a lesson (learning), or in an exam.

Anxiety is very influential on human behavior. Naturally, humans who feel anxious or afraid will avoid the feared thing, likewise for students at school. According to Prawitasari (2012), to develop students' potential, teachers and schools should create a learning climate that can make students free from anxiety while stimulating them to develop high-achievement motivation in learning.

As explained above, it is natural for students who are learning to have math

anxiety. Math anxiety is a feeling of anxiety or fear that causes inconvenience in relation to mathematical activities, such as math teaching and learning activities, or anxiety in taking math tests.

Freedman (2006) (in Imro'ah et al., 2019) defines math anxiety as "an emotional reaction to mathematics based on past unpleasant experiences which harms future learning." So math anxiety is a student's emotional reaction based on previous unpleasant experiences, which interferes with further learning. If students have previously obtained good learning results, they are likely to avoid excessive anxiety. Conversely, if the student previously obtained poor learning results, then it is likely that in the next math learning effort, he experienced a large level of anxiety.

Math anxiety can be a common phenomenon and a barrier to learning math. Math anxiety can be followed by math avoidance, leading to math phobia, which is a mental illness where the sufferer is afraid of math before they try to do the math. It can also be said that math anxiety is "a feeling of tension and fear that interferes with a student's mathematical performance".

Math anxiety relates to negative feelings and attitudes about math. This anxiety can affect people of all ages, from elementary school to university. It can be suspected that math anxiety can reduce student confidence and motivation in learning mathematics. So students tend to avoid math. Students' negative thoughts haunt them. They are anxious about the bad consequences of doing or solving math problems, including math exams/tests.

D. Factors that give rise to Math Anxiety

According to Trujillo and Hadfield (Anita, 2014), the causes of math anxiety can be classified into three categories, namely:

1) Personality Factors (psychological or emotional)

For example, students' fear of their abilities (self-efficacy belief) and low self-confidence lead to low expectancy value, low self-motivation, and emotional history, such as past unpleasant

experiences related to mathematics that cause trauma.

2) Environmental or Social Factors

For example, tense conditions during the teaching and learning process of mathematics in the classroom are caused by the teaching methods, models, and teaching methods of mathematics teachers. The fear and anxiety of math and the lack of understanding felt by math teachers can be passed on to their students. Another factor is the family, especially parents, who sometimes force their children to be good at math because math is seen as a science that has prestige value.

3) Intellectual Factors

Intellectual factors consist of cognitive influences, which are more directed at the talent and level of intelligence students possess. The research results of Ashcraft and Kirk show a correlation between math anxiety and verbal ability or talent and intellectual quotient (IQ).

3. RESEARCH METHODS

This research is included in the type of descriptive research. According to Sugiyono (2019), descriptive research is research conducted to provide an overview of one object under study through sample or population data, as it is by analyzing data and making generally applicable conclusions. This research also uses quantitative data. This data is obtained by analyzing the subject's answer score on the scale as it is.

The research subject is MESP students in the class of 2022, with the object observing MESP student anxiety and first-semester study results. The aspects of student anxiety measured include physical, mental, and behavioral aspects.

This study used data collection methods by distributing questionnaires. The questionnaire is a student anxiety questionnaire during the first semester of studying at MESP. This anxiety questionnaire consists of 60 items, consisting of 29 favorable items and 31 unfavorable items. The scale used uses the Likert method with 4 (four) categories of answer options available on each item, namely: Strongly Agree (SS),

Agree (S), Disagree (TS), and Strongly Disagree (STS). According to Hadi (2007), modifying of the Likert scale consisting of 4 (four) answer categories is intended to eliminate the weaknesses of the five-level scale because the neutral category has a double meaning, or it can be interpreted as undecided. The availability of answers in the middle also causes a tendency to answer to the middle (central tendency effect), especially for those who are undecided about the direction of the answer. In addition, the purpose of the SS - S - TS - STS answer categories is to see the tendency of respondents' opinions to agree or disagree.

Data analysis used descriptive statistics because the data were in the form of numbers. These numbers are in the form of student anxiety scores and first-semester study results. For the categorization of student anxiety, both per aspect and overall, based on the following table:

Table 1. Criteria for Student Anxiety Level

Interval Score of Student Anxiety per Aspect	Student Anxiety Score Interval (overall)	Student Anxiety Level Criteria
20 ≤ anxiety score per aspect < 40	60 ≤ anxiety score < 120	Low
40 ≤ anxiety score per aspect < 60	120 ≤ anxiety score < 180	Medium
60 ≤ anxiety score per aspect ≤ 80	180 ≤ anxiety score ≤ 240	High

4. RESULTS AND DISCUSSION

A. Research Results

The research was conducted in the odd semester of the 2022/2023 academic year at MESP WMSCU Madiun City Campus. The distribution of the MESP student anxiety questionnaire in the first semester was carried out in the first week of December 2022, the fourteenth lecture meeting of the academic year 2022/2023 odd semester. The number of respondents observed was seven students. While collecting data about MESP students and the results of the first-semester study, namely the results of student studies in the odd semester of the 2022/2023 academic year, were obtained by researchers in January 2023. The student data was obtained from the Bureau of Academic Administration and Student Affairs (BAAK) of WMSCU Madiun

City Campus. The following is a description of the research results, as follows:

Table 2. Student Anxiety Score per Aspect

Subject Code	Student Anxiety Score		
	Physical Aspects	Mental Aspects	Behavior Aspects
S1	32	34	36
S2	46	44	48
S3	42	44	42
S4	41	39	42
S5	52	53	47
S6	45	45	49
S7	37	39	41
Min Score	32	34	36
Max Score	52	53	49
Mean Score	42,14	42,57	43,57
Standard Deviation	6,47	6,02	4,65

Table 3. Student Anxiety Score and Study Outcomes of First-Semester Students

Subject Code	Student Anxiety Score	First Semester Student Study Results
	Total Score	
S1	102	3,54
S2	138	3,13
S3	128	3,54
S4	122	3,91
S5	152	3,58
S6	139	3,88
S7	117	3,73
Min Score	102	3,13
Max Score	152	3,91
Mean Score	128,29	3,62
Standard Deviation	16,48	0,26

Table 4. Criteria for Student Anxiety Level per Aspect and Overall

Subject Code	Student Anxiety Level Criteria			
	Physical Aspects	Mental Aspects	Behavior Aspects	Total Score
S1	Low	Low	Low	Low
S2	Medium	Medium	Medium	Medium
S3	Medium	Medium	Medium	Medium
S4	Medium	Low	Medium	Medium
S5	Medium	Medium	Medium	Medium
S6	Medium	Medium	Medium	Medium
S7	Low	Low	Medium	Low
Average score	Medium	Medium	Medium	Medium

Table 5. Recapitulation of Student Anxiety Level Criteria (SALC)

SALC	Physical Aspects		Mental Aspects		Behavior Aspects		Total Score	
	N	%	N	%	N	%	N	%
Low	2	28,57	3	42,86	1	14,29	2	28,57
Medium	5	71,43	4	57,14	6	85,71	5	71,43
High	0	0	0	0	0	0	0	0

Based on Table 2, Table 3, Table 4, and Table 5, it is obtained that students' anxiety while studying at MESP is as follows:

- 1) the physical aspect has the smallest score of 32, the largest score of 52, and an average of 42.14 with a standard deviation of 6.47. Table 2 shows that the average score (= 42.14) on this physical aspect is included in the criteria for a medium anxiety level. The distribution of anxiety levels in physical aspects is two students (28.57%) experiencing physical aspect anxiety in the low category, five students (71.43%) experiencing physical aspect anxiety in the medium category, and no students (0%) experiencing physical aspect anxiety in the high category. This percentage shows that most MESP students experience physical anxiety in the medium category. This means that most students have a medium level of anxiety in physical aspect anxiety while studying at MESP.
- 2) the mental aspect has the smallest score of 34, the largest score of 53, and an average of 42.57 with a standard deviation of 6.02. Table 2 shows that the average score (= 42.57) on this mental aspect is included in the criteria for medium anxiety level. The distribution of anxiety levels in mental aspects is three students (42.86%) experiencing anxiety in mental aspects with low categories, four students (42.86%) experiencing anxiety in mental aspects with medium categories, and no students (0%) experiencing anxiety in mental aspects with high categories. This percentage shows that most MESP students experience mental aspect anxiety in the medium category. This means that some students have a medium level of anxiety in mental aspect anxiety when students are studying at MESP.
- 3) the behavioral aspect has the smallest score of 36, the largest score of 49, and an average of 43.57 with a standard deviation of 4.65. Table 2 shows that the average

score (= 43.57) on this behavioral aspect is included in the criteria for medium anxiety level. The distribution of anxiety levels in behavioral aspects is 1 student (14.29%) experiencing anxiety in the behavioral aspects of the low category, 6 students (85.71%) experiencing anxiety in the behavioral aspects of the medium category, and no students (0%) experiencing anxiety in the behavioral aspects of the high category. This percentage shows that most MESP students experience anxiety in the behavioral aspects in the medium category. This means that most students have a medium level of anxiety in the anxiety of behavioral aspects when students are studying at MESP.

- 4) overall student anxiety during studying at MESP in the first semester has the smallest score of 102, the largest score of 152, and an average of 128.29 with a standard deviation of 16.48. Table 3 shows that the average score (= 128.29) is included in the criteria for medium anxiety level. The distribution of anxiety levels is two students (28.57%) experiencing anxiety in the low category, five students (71.43%) experiencing anxiety in the medium category, and no students (0%) experiencing anxiety in the high category. The percentage shows that most MESP students experience anxiety in the medium category. This means that most students have a medium anxiety level when studying at MESP in the first semester.

Based on Table 3, the study results of MESP students in the odd semester of the academic year. 2022/2023 with an average IPS of 3.62 with a standard deviation of 0.26. These results indicate that the study results of MESP students in the first semester resulted in a very good semester achievement index. This means that MESP students in the 2022 batch in this study in the odd semester of the 2022/2023 academic year can participate in lectures at MESP very well.

B. Discussion

Anxiety is a common thing that is described as a feeling of discomfort towards a cause of anxiety. In general, anxiety is a psychological and physiological state

characterized by somatic, emotional, and behavioral components. These components combine to create an unpleasant feeling that is usually associated with anxiety, worry, or fear (Dzulfikar, 2013). The somatic component is related to the physical aspect of a person, the emotional component is related to the mental aspect of a person, and the behavioral component is related to the behavioral aspect of a person.

Symptoms of someone experiencing physical anxiety can be difficulty breathing, palpitations, indigestion, sleep disturbances, eating disorders, and facial expressions, such as restlessness or nervousness. For symptoms of someone experiencing anxiety in the mental aspect, it can be effective, such as tension, anxiety, unrest, or over-sensitivity, and cognitive, such as difficulty concentrating, difficulty making decisions, uncontrollable thinking, confused thinking, or repetitive distracted thinking. While the symptoms of someone experiencing anxiety in the behavioral aspect can be in the form of avoidance, clinging and dependence, being shaken, or making neurotic movements, such as breaking fingernails and clearing their throat. These aspects of anxiety will be observed in MESP students when studying at MESP.

Everyone will experience anxiety. Anxiety has different levels in each person and, of course, will impact that person. The impact of this anxiety makes a person feel uncomfortable and lack concentration. As stated by Shiraev & Levy (2016), common anxiety disorders that appear in various cultures include the first body syndrome that appears in the form of fatigue, lack of concentration, and muscle tension. Secondly, psychological syndromes appear in the form of protracted anxiety about certain performances or social activities. Another impact of anxiety can also make a person experience fear, worry, and anxiety. As revealed by Jarnawi (2020), unreasonable fear, worry, and anxiety ultimately present anxiety, and this anxiety will certainly have an impact on behavioral changes, such as: withdrawing from the environment, difficulty focusing on activities, difficulty eating, irritability, low emotional control of anger, sensitive, illogical, insomnia. Sometimes it

will also be born in the form of psychosomatic disorders such as skin allergies, shortness of breath, racing heart, cold sweats, and nausea. These disorders, if not treated quickly, can certainly damage a person's life to achieve a happy life in this world and the hereafter.

The disturbances that occur in the above anxiety in students or college students, such as feeling uncomfortable and lack of concentration, will certainly affect their learning outcomes, especially math learning outcomes. Anxiety is one of the factors most often found in the learning process, especially in math lessons. This view arises because one of the characteristics of mathematics is abstract. It is undeniable that there are still many students who dislike mathematics because they consider it a difficult subject, the material studied in mathematics contains numbers, and there are too many mathematical formulas that must be memorized. In addition, students are also required to get good math learning results. As a result, students will experience anxiety, discomfort, and lack of concentration, which in turn students experience anxiety. So a dilemma arises, if this anxiety is not managed correctly, it will result in math learning outcomes resulting in poor grades. This is what wants to be researched related to the anxiety of MESP students while studying at MESP in the first semester. MESP students who are the subject of this research are MESP students in class 2022. For MESP students' anxiety during studying at MESP in the first semester and students' first-semester grade point average. Descriptively, it will be connected between the scores of MESP students' anxiety during studying at MESP in the first semester with the student's first-semester grade point average.

Based on the results of descriptive analysis of student anxiety data during studying at MESP in the first semester, it was found that the average student anxiety in the physical aspect was 42.14 (medium anxiety level criteria), the average student anxiety in the mental aspect was 42.57 (medium anxiety level criteria), and the average student anxiety in the behavioral aspect was 43.57 (medium anxiety level criteria). Overall, the average anxiety of students while studying at MESP is

128.29 (medium anxiety level criteria). This means that students who study at MESP in the first semester have medium anxiety.

Student anxiety during studying at MESP in the first semester on this physical aspect is categorized as a medium anxiety level. Based on the scores of items filled out by students, it shows that during the students studying at MESP in the first semester, they feel their heart beating as usual, their fingers or limbs remain at normal temperature, and they do not feel dizzy. In addition, students do not feel indigestion, do not feel stomach pain, or nausea, urinate as usual, and do not experience diarrhea because students are used to learning mathematics while at school. This is well applied by students studying mathematics in the first semester at MESP. However, another thing that was observed was that some students had a little difficulty adapting at the beginning of the lecture. This is because there are students who graduated before 2022; these students need to be extra in following the form of learning in college, and course assignments must be done independently. This has a psychological effect on these students. The psychological effects students felt were the emergence of anxiety and nervousness during students studying at MESP in this first semester. This feeling is natural because students are just starting their first semester and adapting to learning at MESP.

In this mental aspect, student anxiety during college at MESP is categorized as a medium anxiety level. Based on the scores of items filled out by students, it shows that during the first semester of studying at MESP, students effectively feel tension and anxiety (worry) because students are just starting lectures in the first semester. In addition, the course material to be studied, especially new students, is familiar with advanced mathematics material and its deepening that has not been received at school. However, things such as uncertain anxiety, irritability, inferiority, sadness, and fear are not felt by students because the course materials are delivered by MESP lecturers well and clearly through fun learning according to the characteristics of lecturers and courses. Cognitively, students during their study at MESP are greatly helped by their initial math

skills while studying mathematics at school. With the initial ability of mathematics from mathematics scores in high school / vocational high school STTB which is good, students have no difficulty concentrating well during lectures. They can make decisions, control their thoughts well during lectures, think everything doing course assignments can be completed, and eliminate distracting thoughts.

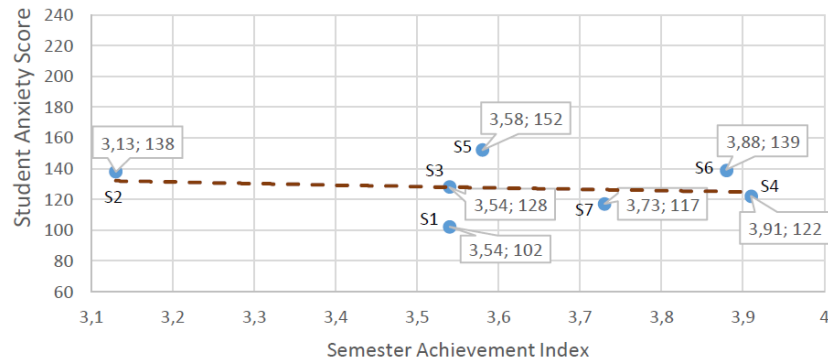
Student anxiety while studying at MESP is categorized as a medium anxiety level in this behavioral aspect. Based on the scores of items filled out by students, it shows that while studying at MESP and based on students' experiences while participating in classroom mathematics learning, it is observed that students do not do things to want to leave class during lectures. At the time of the exam, it was observed that students worked on their exam questions and did not cheat. Similarly, when doing course assignments, based on information from the lecturers in charge of the course, most students do their course assignments.

Based on the analysis of student anxiety from the physical, mental, and behavioral aspects, it can be observed that student anxiety while studying at MESP is still at a reasonable anxiety score. This is shown in Table 2 that each aspect's average anxiety score is close to the low anxiety level score per aspect and the medium anxiety level score per aspect, which is 40. Even the average anxiety of each aspect is far below the smallest high anxiety level score, which is 60. The overall average student anxiety score of 128.29 is in the criteria for a medium anxiety level. Even the average student anxiety score is quite close to the overall low anxiety level score and the overall medium anxiety level score, which is 120. Even this anxiety average is far below the smallest high anxiety level score, 180. Thus, student anxiety while studying at MESP is still at a reasonable anxiety score. Even if there are problems experienced by students that make their anxiety increase, this student's anxiety is still at a medium level of anxiety. And also, students will be able to control their anxiety well from students from the physical aspect, mental aspect, and behavioral aspects.

If the results of student anxiety while studying at MESP are related to the Grade Point Average for the Fall Semester of FY 2022/2023 which students obtained in the first

semester, it can be seen in the following graphics:

Graphics 1. Student Anxiety While Studying at PSPM with First Semester Achievement Index



Based on Graphics 1, the anxiety score of students while studying at MESP with the Semester Achievement Index (IPS) Gasal FY 2022/2023 shows a dotted line decreasing from left to right. From the left (point S2), it can be seen that the student anxiety score while studying at MESP is 138 with an IPS of 3.13. On the right (point S4), it can be seen that the anxiety score of students while studying at MESP is 122 with an IPS of 3.91. This is to be expected, if the anxiety score of students while studying at MESP is high, then the IPS obtained by students is expected to be low. Conversely, it should be suspected, if the anxiety score of students while studying at MESP is low, then the IPS obtained by students is thought to be high. Thus, if viewed as a correlation relationship, it is suspected that there is a negative relationship between students' anxiety scores while studying at MESP and the social studies obtained in the odd semester of the 2022/2023 academic year.

Research on the relationship between students' anxiety and their learning outcomes or the relationship between anxiety and students' abilities has been conducted by many researchers. The results of this research are presented in various scientific articles, including:

1) The results of research conducted by Syafri (2017), one of the conclusions is that math anxiety has a very negative

effect on learning outcomes/learning achievements, and mathematics affects the mathematical abilities of students.

- 2) The results of research conducted by Riski et al. (2019) show a negative relationship between the level of math anxiety and math problem-solving ability, which means that the higher the student's anxiety level, the lower the problem-solving ability.
- 3) The results of research by Anita (2014), one of the conclusion is that each criterion of mathematics anxiety has a negative effect on mathematical connection skills, meaning that each increase in each math anxiety score, anxiety score for learning mathematics, anxiety score for mathematics exams, and anxiety score for numerical calculations affects the decrease in students' mathematical connection skills.
- 4) In other research results by Wijaya et al. (2018), one of the conclusions is based on the level of anxiety; the higher the student's math anxiety, the lower the adaptive reasoning ability of mathematics and vice versa.
- 5) The results of research conducted by Mukti et al. (2022) in one of its conclusions is that there is a negative effect of math anxiety on student learning achievement.

The results of this study show that it can be obtained that the relationship between student anxiety while studying at MESP and the social studies of students in the odd semester of the 2022/2023 academic year, namely a negative relationship. This means that there is a negative influence between student anxiety while studying at MESP and students' social studies in the first semester of the 2022/2023 academic year. So it can be stated that if the score of student anxiety during college at MESP is high, then the IPS obtained by students is low. Conversely, it should be suspected if the score of student anxiety during studying at MESP is low, then the IPS obtained by students is high.

Because student anxiety during studying at MESP has a negative meaning on the social studies of students in the odd semester of FY 2022/2023, an effort is needed so that the anxiety experienced by students while studying at MESP is minimized. Anxiety in a person is always there, and it cannot even be eliminated. Many things must be done by seeing that mathematics is a difficult, abstract subject, with many formulas that are difficult to memorize, so that mathematics anxiety becomes minimal and well managed. Researchers can summarize based on Woodard's opinion (Auliya, 2016; Zakaria & Nordin, 2008) and the opinion of Saputro (2014) about things that can be done to minimize students' anxiety about math lessons, among others:

- 1) Creating a conducive environment for math learning, students are made to feel happy, calm, and relaxed to learn math,
- 2) It starts by giving learners a rational explanation of why they should learn math and the benefits of math in everyday life,
- 3) Learning cooperatively helps learners to understand math problems because with peers, they feel they can learn well,
- 4) To instill confidence in students that they can learn math, teachers can provide exercises with easy problems so that they can work on these problems,
- 5) Eliminate negative prejudices against mathematics by providing simple to complex examples of the usefulness of mathematics in everyday life,

- 6) Teaching mathematics with various methods that can accommodate various student learning models.

Minimizing math anxiety does not only lie with teachers and students but also needs the role of parents. Because parents are the closest people in the family and community environment. The role of parents can be done in assisting their children in learning math at home. Parents can provide a good and pleasant learning atmosphere at home. Parents must also give their children a positive meaning of mathematics and can provide the benefits of mathematics in everyday life.

5. CONCLUSIONS

Based on the results of the research and discussion, it can be concluded that

- a. The level of anxiety of students while studying at MESP in the first semester is at the criteria for medium anxiety level, with details of the level of anxiety of students in the physical, mental, and behavioral aspects being at the criteria for medium anxiety level.
- b. There is a negative relationship between student anxiety scores during studying at MESP in the first semester and the student's Semester Achievement Index.

6. REFERENCES

- Anita, I. W. (2014). Pengaruh Kecemasan Matematika (Mathematics Anxiety) Terhadap Kemampuan Koneksi Matematis Siswa SMP. *Infinity Jurnal Ilmiah Pendidikan Matematika STKIP Siliwangi Bandung*, 3(1), 125–132. <https://doi.org/https://doi.org/10.22460/infinity.v3i1.p125-132>
- Auliya, R. N. (2016). Kecemasan Matematika dan Pemahaman Matematis. *Jurnal Formatif: Jurnal Ilmiah MIPA Universitas Indraprasta PGRI Jakarta*, 6(1), 12–22. <https://doi.org/http://dx.doi.org/10.30998/formatif.v6i1.748>
- Baradero, M. (2016). *Kesehatan Mental Psikiatri*. Penerbit Buku Kedokteran.
- Dzulfikar, A. (2013). Studi Literatur: Pembelajaran Kooperatif Dalam Mengatasi Kecemasan Matematika dan

- Mengembangkan Self Efficacy Matematis Siswa. *Proseding Seminar Nasional Matematika Dan Pendidikan Matematika Jurusan Pendidikan Matematika FMIPA Universitas Negeri Yogyakarta*, 9 Nov2013, MP 45-54. <http://eprints.uny.ac.id/id/eprint/10730>
- Freedman, E. (2006). *Do You Have Math Anxiety?*
<https://www.ucmo.edu/offices/learning-commons/digital-learning-commons/math-anxiety-test.pdf>
- Hadi, S. (2007). *Statistik 2*. Andi Offset.
- Imro'ah, S., Winarso, W., & Baskoro, E. P. (2019). Analisis Gender Terhadap Kecemasan Matematika dan Self Efficacy Siswa. *KALAMATIKA Jurnal Pendidikan Matematika, Universitas Muhammadiyah Prof. Dr. HAMKA (UHAMKA) Jakarta*, 4(1), 23–36. <https://doi.org/https://doi.org/10.22236/KALAMATIKA.vol4no1.2019pp23-36>
- Jarnawi. (2020). Mengelola Cemas di Tengah Pandemi Corona. *Jurnal Al-Taujih Bimbingan Dan Konseling Islam*, 3(1), 60–73.
https://www.researchgate.net/publication/n/342982792_MENGELOLA_CEMAS_DI_TENGAH_PANDEMIK_CORONA
- Mukti, N., Sridana, N., Triutami, T. W., & Sarjana, K. (2022). Pengaruh Kecemasan Matematika dan Motivasi Belajar Terhadap Prestasi Belajar Matematika Siswa. *Jurnal Ilmiah Profesi Pendidikan Universitas Mataram*, 7(3), 2324–2332. <https://doi.org/10.29303/jipp.v7i4.973>
- Muyasaroh, H., Baharudin, Y. H., Fadjrinn, N. N., Pradana, T. A., & Ridwan, M. (2020). Kajian Jenis Kecemasan Masyarakat Cilacap dalam menghadapi Pandemi Covid 19. In *Lembaga Penelitian dan Pengabdian Masyarakat (LP2M) Universitas Nahdatul Ulama Al Ghazali (UNUGHA) Cilacap*. <https://repository.unugha.ac.id/858/>
- Nevid, J. S., Rathus, S. A., & Greene, B. (2005). *Psikologi Abnormal* (Fifth Ed.). Erlangga.
- Prawitasari, J. E. (2012). *Psikologi Terapan Melintas Batas Disiplin Ilmu*. Erlangga.
- Riski, F., Marethi, I., & Rafianti, I. (2019). Pengaruh Kecemasan Matematika Terhadap Kemampuan Pemecahan Masalah Siswa di SMA. *GAUSS: Jurnal Pendidikan Matematika Universitas Serang Raya*, 2(2), 11–23. <https://doi.org/https://doi.org/10.30656/gauss.v2i2.1750>
- Saputro, P. R. (2014). Kecemasan Matematika dan Cara Mengurangnya (Mathematic Anxiety and How to Reduce It). *Pythagoras: Jurnal Program Studi Pendidikan Matematika Universitas Riau Kepulauan Batam*, 3(2), 75–84. <https://doi.org/https://doi.org/10.33373/pythagoras.v3i2.590>
- Shirayev, E. B., & Levy, D. A. (2016). *Psikologi Lintas Kultural (Pemikiran Kritis dan Terapan Modern)* (Edisi 4). Prenada Media Group.
- Slameto. (2015). *Belajar dan faktor-faktor yang mempengaruhinya* (Ed. Revisi). Rineka Cipta.
- Sugiyono. (2019). *Statistika untuk Penelitian* (Cetakan 30). Alfabeta.
- Syafri, F. S. (2017). Ada Apa Dengan Kecemasan Matematika. *Journal of Medives: Journal of Mathematics Education IKIP Veteran Semarang*, 1(1), 59–65. <https://e-journal.ivet.ac.id/index.php/matematika/article/view/458>
- Wijaya, R., Fahinu, & Ruslan. (2018). Pengaruh Kecemasan Matematika dan Gender Terhadap Kemampuan Penalaran Adaptif Matematika Siswa SMP Negeri 2 Kendari. *Jurnal Pendidikan Matematika FKIP Universitas Halu Oleo Kendari Sulawesi Tenggara*, 9(2), 173–184. <https://doi.org/http://dx.doi.org/10.36709/jpm.v9i2.5867>
- Wijayanti, M. (2000). *Tingkat Kecemasan dalam Menghadapi Pelajaran Matematika dan Hubungannya dengan Prestasi Belajar Matematika dan Tingkat Keadaan Ekonomi Orang Tua, serta Perbedaan Tingkat Kecemasan dalam Menghadapi Pelajaran Matematika Antara Siswa Putra dan Putri, di Kala* [Universitas Sanata Dharma Yogyakarta].

<http://repository.usd.ac.id/id/eprint/24606>

Zakaria, E., & Nordin, N. M. (2008). The Effect of Mathematics Anxiety on Matriculation Students as Related to Motivation and Achievement. *Eurasia Journal of Mathematics, Science and Technology Education (EJMSTE)*, 4(1), 27–30.
<https://doi.org/https://doi.org/10.12973/ejmste/75303>