Relationship between Level of Test Anxiety and Module Score in Medical Students: An Analytical Observational Study

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Abstract

Modul score are scores obtained from theoretical exams in the form of MCQ (Multiple Choice Questions) which have a large portion in determining graduation. The achievement of module scores can be influenced by many factors, one of which is the level of anxiety. Anxiety during exams is known to inhibit cognitive function which affects performance during exams so that it can affect the results obtained. This study aims to determine the relationship between the level of anxiety and the value of the mental health problem module in FK Unissula students class of 2021. This study is an observational study with a cross-sectional research design conducted at the Faculty of Medicine, Universitas Islam Sultan Agung. Respondents were asked to complete the Nist and Diehl Test Anxiety Questionnaire questionnaire consisting of 10 questions. The data obtained were analyzed with the spearman correlative test to determine the meaning and strength of the relationship between anxiety levels and module scores. The results of the study from 140 samples found that most students who were not anxious got good grades with a percentage of 63.1%, students who were mildly anxious the majority got enough scores with a percentage of 36.2% and students who were severe anxious about the majority got less scores with a percentage of 56%. The results of the bivariate analysis test using the spearman correlative test obtained a p value of 0.000 (p < 0.05). The correlation coefficient between anxiety levels and module scores was 0.391. The level of anxiety significantly affects the value of the mental health problem module in FK UNISSULA students batch 2021 with weak correlation strength.

Keywords: Anxiety level; Module Scores; Medical student

INTRODUCTION

Examination is a measuring tool used to determine the ability of students in the learning process. Assessment in the exam aims to determine whether learning objectives have been achieved and as a basis for evaluation of an educational program (Lisiswanti et al., 2014). One of the factors that affect test scores is environmental factors, namely the COVID 19 pandemic. The COVID-19 pandemic has caused a change in the implementation of medical education to a form of distance or online learning. In a study conducted by Do Hwan et al. (2021), there was a decrease in the

average student test scores in most courses by 62.5% during the COVID 19 pandemic (Kim et al., 2021). Another study conducted by Al-Husban et al (2021) showed that there was a decrease in student exam scores by 60% compared to before the COVID 19 pandemic (AL-Husban et al., 2021).

Student anxiety levels increased during the COVID 19 pandemic. Research conducted by Khoshaim et al. (2020) shows that around 35% of college students experience moderate to severe anxiety during the COVID 19 pandemic (Khoshaim et al., 2020). Another study conducted by Fauziyyah et al (2021) during online learning the average number of student anxiety in Indonesia is 40% (Fauziyyah et al., 2021). This happens because many students have difficulty adjusting to online learning, heavy task loads and difficulty understanding lecture material, increasing feelings of anxiety in students (Walean et al., 2021).

First-year medical students tend to have high levels of anxiety and are prone to *stress*. This occurs due to life transitions and adjustments in the new university and social environment. Anxiety is known to cause a decrease in learning concentration and memory which will affect academic performance and exam results obtained (Ramadan et al., 2019). Exam anxiety has a linear relationship with exam performance and performance. In general, the more difficult the exam, the bigger it is stressors that is felt and gives an effect of anxiety in certain situations. Students who have low levels of anxiety can maintain focus and concentration during exams and are often associated with better academic performance compared to students who are very anxious (Maier et al., 2021).

Anxiety during exams can inhibit cognitive function in the form of attention and memory of a person which affects the performance and results of the exam obtained (Shahab et al., 2019). Based on this description, researchers are interested in examining the relationship between the level of anxiety in facing exams and the value of the student module of the Medical Faculty, Universitas Islam Sultan Agung, Semarang class of 2021**.**

METHOD

This type of research is observational analytic with a cross sectional design. This research has been carried out at the Faculty of Medicine, Universitas Islam Sultan Agung, Semarang in July 2023. The sample size is calculated based on *the slovin* formula, which is as many as 140 respondents. The population in this study is all students of the Faculty of Medicine, Universitas Islam Sultan Agung, Semarang Class of 2021 who took the Mental Health Problems Module and met the criteria for inclusion and exclusion of the study. Inclusion criteria include students from the Faculty of Medicine, Universitas Islam Sultan Agung, Semarang Class of 2021, students who are willing to be research respondents, and currently taking the mental health problems module. The exclusion criteria for this study were students who had anxiety disorders, and students were experiencing problems with family and friends and had a medical history that could make them anxious, such as drug abuse. The instrument used to measure anxiety levels in students is the *Nist and Diehl Test Anxiety Questionnaire* which consists of 10 question items. Data on anxiety levels and module scores were tested using the *spearman correlation test*.

RESULTS AND DISCUSSION

The collection of research data on the relationship between anxiety levels in facing exams with module scores in students of the Faculty of Medicine, Universitas Islam Sultan Agung class of 2021 was carried out in July 2023. Respondents who participated in the study amounted to 201

people, but those who met the research criteria amounted to 140 people. In this study there were 61 respondents who were excluded with details of 40 people having anxiety disorders, 17 people having problems or conflicts with family and friends, 2 people had a medical history that could make anxiety and 2 people were not willing to be respondents to the study. The characteristics of research respondents which include gender, age and GPA are shown in the following table.

Table 1. 1 Characteristics of respondents

Characteristic	Sum	Percentage (%)
Gender		
Man	56	40
Woman	84	60
Age		
19-20 years	73	52,2
21-22 years	67	47,8
GPA (*Grade Point Average*)		
<3.00	1	0,7
3,00-3,50	130	93
>3.50	9	6,3

Based on Table 1. it is known that most of the respondents were 84 women or 60%. Respondents were aged between 19-22 years, with the majority aged 20 years as many as 67 people or 47.9%. The majority of respondents have a GPA of 3.00-3.50 with a percentage of 93%.

Data on anxiety levels were measured using *the Nist and Diehl Test Anxiety Questionnaire questionnaire.* The final score of the anxiety level assessment was not anxious (score 10-19), mild anxiety (score 20-35), and severe anxiety (score > 35) with the following results.

Table 2. Anxiety Levels

Anxiety Level	Sum	Percentage (%)
No Anxiety	75	53,6
Mild Anxiety	50	35,7
Severe Anxiety	15	10,7
Total	140	100

Based on Table 2. it is known that respondents have varying levels of anxiety with the category of not anxious as much as 53.6%, mild anxiety as much as 35.7% and severe anxiety as much as 10.7%.

Module score data is classified into good (A,AB), sufficient (B), and less (C,CD,D) scores with the following results.

Table 3. Module Score

Module Score	Sum	Percentage (%)
Good	57	40,7
Enough	58	41,4
Less	25	17,9
Total	140	100

Based on Table 3. it is known that respondents who get module scores with good categories as much as 40.7%, enough as much as 41.4% and less as much as 17.9%.

Table 4. Relationship between Anxiety Level and Module Score

Anxiety Level	Module Score			p-value	Correlation coefficient (r)
	Good n (%)	Enough n (%)	Less n (%)		
No Anxiety	36 (63,1)	37 (63,7)	2 (8,0)	0	0,391
Mild Anxiety	20 (35,0)	21 (36,2)	9 (36,0)		
Severe Anxiety	1 (1,7)	0 (0)	14 (56,0)		

Based on Table 4, it is known that the majority of respondents who are not anxious and mildly anxious have good and sufficient module scores, while respondents with severe anxiety levels have less module scores.

Based on the results of the spearman *correlative test*, a p *value of* 0.000 (p <0.05) means that there is a significant correlation between the level of anxiety and the value of the module with a positive correlation direction. The correlation strength is 0.391, meaning that the anxiety level has a weak correlation strength with the module score.

Discussion

Anxiety can result from responses to conflict or stress. One of the stressors that trigger anxiety in students is when facing exams (Wardhana et al., 2015). The results of this study showed that based on the results of filling out questionnaires by students of the class of 2021 who underwent the mental health module, 140 respondents had different levels of anxiety. In respondents with good and sufficient module score categories, the majority have no anxiety, while respondents with less module scores are dominated by severe anxiety levels. This study is in line with the results of previous studies which stated that those who passed the majority of exams had mild levels of anxiety in medical students of Udayana University (Thinagar et al., 2017).

Based on the results of the *Spearman correlative test*, there is a significant relationship between the level of anxiety and the value of the mental health problem module in FK Unissula Class of 2021 students. The results of this study are in line with previous research which states that there is a significant relationship between the level of anxiety about the results of *the Objective Structured Clinical Examination* (OSCE) in students at the Faculty of Medicine, University of Lampung (Elindra et al., 2019).

In students who get good module scores, the majority have no anxiety. This is in line with previous research which states that students of the Faculty of Medicine, Sam Ratulangi University Manado who have mild anxiety get good grades (Limen et al., 2018). Mild anxiety in college students can have a positive effect. This is because students who have mild anxiety will develop learning motivation, interest and creativity in preparing for exams better. Individuals who have motivation and interest in learning will have a strong desire to carry out teaching and learning activities well. Motivation and interest in learning make a person try hard to obtain material and learn it in the hope of getting good results (Erina & Ompusunggu, 2020). Low levels of anxiety can also arise because these students have prepared well for the exam from a long time before the exam, so that on the day of the exam they can do the exam questions more calmly. Learning readiness can affect a person's learning success, the better the preparation a person makes in learning, the learning results obtained will be maximum (Tridellya et al., 2019).

Students of the Faculty of Medicine, Universitas Islam Sultan Agung class of 2021 mostly have a high GPA with a range of 3.00-3.50. The level of intelligence or intelligence of a person is the ability to use his knowledge to solve the problems he faces. A person's level of intelligence can affect the learning success he achieves, the higher a person's intelligence, the higher the learning achievement he achieves. Someone with a high level of intelligence tends to be able to grasp and understand the lessons taught better and is able to give more precise responses to questions on exam questions so that they can get better test scores (Rosita et al., 2015).

In this study, students of class 2021 who received scores in the mental health problem module with a less category tended to have severe levels of anxiety. Severe anxiety is anxiety that is deeply rooted in a person. This kind of anxiety is usually difficult to overcome and has more negative effects. This anxiety has the effect of inhibiting or harming the development of one's personality (Simran et al., 2015). This result is in line with previous research which states that someone who has a severe level of anxiety tends to cause the person to be unable to control themselves and unable to carry out obligations in accordance with the guidance (Elindra et al., 2019).

Psychosocial factors such as family support are known to influence anxiety in college students. Psychosocial factors refer to the complex interaction between psychological and social factors that affect an individual's mental and behavioral well-being. Social support such as support from friends and family can provide protection against *stress* and anxiety, while lack of social support or social isolation can increase the risk of anxiety (Windarwati et al., 2020). Interpersonal conflicts such as problems in relationships with friends and family can be a significant source of stress. Disagreement or disharmony in social interactions can trigger feelings of anxiety. These factors can interact and place additional burdens on college students especially when they are trying to balance academic demands with social changes and dynamics in their personal lives (Seo et al., 2023).

This study has some limitations, namely the researchers did not consider several factors other than anxiety that can affect the value of modules such as learning motivation, interest in learning, readiness to learn and level of intelligence. The dissemination and filling of the research questionnaire was carried out before the final examination of the module and the relationship test was the module scores which was a collective of mid and final module test scores, SGD scores and skills so that it could not represent the relationship between the level of anxiety in facing the exam with the students' module scores well, researchers did not dig deeply into psychosocial factors in respondents, as well as a proportion of study samples mostly having high GPAs.

CONCLUSION

There is a significant relationship with the strength of the weak relationship (correlation coefficient 0,391) between the level of anxiety in facing the exam and the module scores of students of the Faculty of Medicine, Universitas Islam Sultan Agung, Semarang class of 2021. In future studies, researchers are expected to consider several factors other than anxiety that can affect the value of modules such as learning motivation, interest in learning, readiness to learn and level of intelligence, and can pay attention to the time of dissemination and filling out research questionnaires and can explore in depth about psychosocial factors in research respondents.

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