

# Can Coping Strategy Play a Role on Students' Online Test Anxiety in Higher Education?

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**Abstract.** The coronavirus pandemic has turned offline learning into online. However, one aspect that has not been widely studied is online learning assessment. The two main purposes of this study are to examine the influence of online education during the coronavirus pandemic specifically on students' online exam anxiety and self-efficacy and to clarify the role of coping strategies as a moderator between students' anxiety and self-efficacy. Besides, construct and validate the scale of students' online exam anxiety. The data is carried out by undertaking a cross-sectional survey of 228 higher education students who are accounting teacher candidate from several universities. The research variables are online exam anxiety, self-efficacy, and copy strategy. After that, the conceptual model is validated and tested using moderation regression analysis. Regarding the main measurements of instrument, validity and realibility test showed a good result. The results revealed that students' online exam anxiety can affect their self-efficacy. It was also found a strong association between online exam anxiety and self-efficacy at low levels of coping strategy. Vice versa, it got considerably weakened at high levels of coping strategy. However, the limitations of this study only represent the accounting teacher candidate. Futher studies can offer to analyze the impact of student anxiety on students achievement.

**Keywords:** Accounting Teacher Candidate, Coping Strategy, Online Test Anxiety, Self-Efficacy

## 1 Introduction

The Republic of Indonesia, Minister of Education and Culture, has officially instructed schools to carry out online learning since March 17, 2020. Readiness for online learning, such as facilities and infrastructure, teacher skills in using technology, and online learning platforms, were identified to achieve learning objectives. Teachers and lecturers are required to be able to use technology. Likewise, success in online learnig activities can be achieved if there is a good role between parents and students. Various studies have been conducted to analyze the impact of online learning from the mental side [1][2]. However, not many have studied self-efficacy.

Self-efficacy is an individual's belief in his ability to complete a job. Bandura [3] and Zimmerman et al. [4] defines self-confidence as an individualistic factor that signifies belief in an individual's ability to organize and carry out the necessary actions to produce the desired achievement. Self-efficacy studies in the assessment of learning outcomes need to be studied in more detail. Especially now that learning is done virtually so that the evaluation of learning outcomes is done virtually. The previous research result explained that students will have self-

efficacy problem because of the anxiety that students have. Students have a high level of anxiety in taking exams, affecting their confidence in doing exam questions [5]. Other research also states that students' self-efficacy in online learning decreases because the learning environment is not conducive [6]. Factors that affect student self-efficacy in online learning include anxiety [7][8][9], coping strategies [10][5][1].

Anxiety, when online exams take place is related to self-efficacy. Students experience anxiety about the coronavirus, namely experiencing trauma and worry [11]. This worry and trauma hurt student efficacy [5]. Furthermore, anxiety in taking online exams in lectures also forms low self-efficacy [12]. Students feel anxious, afraid, worried, and uncomfortable with online exams. Especially if there is an internet signal interference that results in not collecting exam results on time [13], this condition will take place continuously, which will be related to self-efficacy.

One of trait anxiety is a situation-specific or it is considered an exam anxiety. Students that experience exam anxiety before test usually have poor performance that effect on their academic review [14], including mental and physical health [15]. Students have different concepts of exam anxiety. Previously, to know the performance of someone can be measured by exam anxiety. Students with anxiety usually so irrelevant and avoid behaviours that lead to self-efficacy and poor academic performance. In addition, student with high levels of anxiety during online exam will show behaviour like confused and restless [16].

From another mental point of view, coping strategies can moderate the interaction students' anxiety on self-efficacy in online exams [10]. The way students adjust to the demands of higher education, especially in online learning, can be a source of stress, which can negatively impact motivation and achievement [17]. Coping strategies can affect academic success because the number of effort students put into achieving specific outcomes depends on coping with negative emotions and obstacles. Their beliefs also influence the level of effort and how students deal with stress about how capable they are and how much they can control the results achieved [18].

Furthermore, Devonport and Lane [18] suggests that coping can affect academic success because students have confidence in their ability to achieve specific results depending on how they overcome negative emotions and barriers. Their beliefs also influence the level of effort and the way students cope with stress about how capable they are and how much control they have over outcomes. Coping models include approach and avoidance strategies, with the expectation [19], that these variables will be positive (i.e., approach) or inversely (i.e., avoidance) concerning self-efficacy, goal mastery, and self-regulation. When people take action and strategize to achieve goals rather than sitting still or avoiding situations, positive results can be achieved. Although academic coping strategies (and the relationship between coping strategies and other variables of interest) have not received much attention, adaptive coping strategies may be essential for college students during a pandemic.

Regarding two main purposes of this study to examine the influence of online exam anxiety on students' self-efficacy and to clarify the role of coping strategy as moderating variable on the interaction between them, theoretically, this studies contributes to social cognitive theory in which there is self-efficacy that can provide success for an individual in achieving good academic performance. Someone with high levels of self-efficacy in carrying out a problematic assignment causes them confident and calm to solve problems. Meanwhile, someone with low levels of self-efficacy causes wrong perceptions that cause stress and depression, resulting in inability to solve problems. Furthermore, contributing to anxiety theory and individual mental health during the covid 19 pandemics with online learning.

## 2 Method

We used quantitative research. There were three types of variables in this research. First, anxiety as independent variable. Second, the moderation variable is coping strategy. Third, the dependent variable is self-efficacy. Anxiety is described as a fundamental phenomenon and a central nervous problem [20]. Anxiety is the reaction of complex emotional of individual due to intra-psyche or situational reasons affecting whose emotional intensity can vary as time goes by Talidong et al. [21]. Previous studies stated that anxiety consisted of suspense, afraid, worry, and increased the activity of autonomic nervous system. Online anxiety exam is a complex reaction or emotional state in individuals when taking online exams. The indicators are fear, anxiety, nervousness, and restlessness.

Coping strategy is a fundamental process that describes how a person in complicated situations can detects, assesses, deals with and learns. Previous studies only focused about measuring the difference among individuals and coping strategy. It also revealed that the effect of someone's feelings like pressure, despair on mental and physical health can be maintained or aggravated by coping strategy. Simple coping strategies can also referred to as a set of responses that make a person might do in complicated situations. The responses are restructuring of cognitive, problem-solving, information seeking, releasing emotion, evasion, keeping away, admission, support seeking and social rejection [22]. The research investigates coping strategies from two perspectives based on the function of problem-focused coping and emotion-focused coping [23]. Coping strategy is a conscious effort to regulate emotions, cognition, behaviour, physiology, and environment in response to stressful events or circumstances. The indicators are problem-focused coping and emotion-focused coping.

Self-efficacy is belief in one's ability to organize and carry out the actions necessary to produce the desired achievement [23]. Self-efficacy is belief in one's ability to manage and carry out the activities required to make the desired achievement [3][24]. Everything that a person believes can be done with existing skills and abilities, not with the basic skills [25]. Furthermore, self-efficacy is belief in one's own ability to complete a job. The indicators are self-efficacy on academic and emotional self-efficacy.

Data collected in this study was done using the technique survey in several public universities in Indonesia. The questionnaire was distributed by google form. The data collection method was simple random sampling. By that we got 228 respondents. There were two steps before testing the hypothesis. First, validity and reliability test. If the Cronbach alpha value more than 0.70, data is reliable. Second, the classic assumption test that consist of multicollinearity, heteroscedasticity, and normality tests. Then, to analyse the data, we used moderation regression analysis with the following formula.

$$SE = a + b_1OA + b_2ACS + e$$

Information:

SE : Self-Efficacy

OA : Online Test Anxiety

CS : Coping Strategy

ACS : Interaction between online test anxiety and coping strategy

Hypothesis testing is carried out to find the causal relationship between variables as hypothesized whether rejected or accepted. Hypothesis testing is carried out using a one-tailed/one-way/one-way hypothesis approach, namely a hypothesis clearly stated in the

direction of the relationship or difference in value/level. The rule of hypothetical decision making is if the p-value is < 0.05, then the hypothesis is accepted, and vice versa.

### 3 Result and Discussion

We are doing the validity and reliability instrument. Furthermore, we are doing multicollinearity, heteroscedasticity, and normality tests as part of the classic assumption test. Data is valid if the significance value is <0,05. All items of the self-efficacy, coping strategy, and online anxiety instruments are valid with a significance value of p-value is less than 0,05 (0,00<0,05). So, all of the data is valid.

Reliability test will pass if the Cronbach alpha value is > 0.70. Data analysis point out the Cronbach alpha value of self-efficacy (0.861), online anxiety (0.882), and coping strategy (0.898); therefore, the data is reliable. The multicollinearity test is used to temp the existence of multicollinearity by looking at the Collinearity Statistics column in the Variance Inflation Factor (VIF) or tolerance value. A good regression model is that there is no correlation between variables and the VIF value is around one and does not more than 10, or the tolerance value is close to one (1). The results show that the VIF values of online anxiety and coping strategy are 1.444 and 1.986. Besides, the value of tolerance are 0.692 and 0.503.

The heteroscedasticity test is used to analyze whether there is a variance inequality of the errors for all observations of each variable in the regression model. There are several types of heteroscedasticity analysis. In this study we used glejser method; based on data analysis results, the significance value of online anxiety is 0.729, and coping strategy is 0.658. Both of them were more than 0.05. So, the regression model passes the heteroscedasticity test. The normality test is used to analyze the data are normally distributed or not. In this study we used the Kolmogorov-Smirnov as normality test. The data will normally distributed if the p-value > 0.05. The data test results show that the p-value is 0,530 or >0,05. So, the data is normally distributed.

The Moderation Regression Analysis can state as interaction test that aims to know the role of mediating variable whether it strengthens or weakens the relationship between the interaction between the multiplication of two or more variables and variabel dependent in the multiple liner regression equation. The results of the Moderation Regression Analysis are shown in Table 1.

**Table 1.** The results of the MRA analysis

| Variable                         | Unstandardized Coefficient | t-value | Sig.  |
|----------------------------------|----------------------------|---------|-------|
| Constant                         | 34.682                     | 4.437   | 0.000 |
| Online anxiety                   | 0.107                      | 2.425   | 0.016 |
| Online anxiety * coping strategy | 0.003                      | 0.994   | 0.321 |

(Primary Data, 2021)

Based on the results of the Moderation Regression Analysis, the data shows that the online anxiety coefficient is 0.107 and the interaction between online anxiety and coping strategy is 0.003 so that the formulation of regression equation as follows.

$$SE = a + b_1OA + b_2ACS + e$$

$$SE = 34.682 + 0.107 + 0.003 + e$$

A constant value is 34.682. It means if the online anxiety and the interaction between online anxiety with coping strategy are 0, the self-efficacy is positive at 34.682.

Online anxiety has a relationship with self-efficacy. When students are worried, they come to only focus on what make them upset or eager with stress, for example overthinking about their test result [26]. One of trait anxiety is a situation-specific or it is considered an exam anxiety. Students that experience exam anxiety before test usually have poor performance that effect on their academic review [14], mental, until physical health concerns [15]. Students have different concepts of exam anxiety. Previously, to know the performance of someone can be measured by exam anxiety. Students with anxiety usually so irrelevant and avoid behaviours that lead to self-efficacy and poor academic performance. In addition, student with high levels of anxiety during online exam will show behaviour like confused and restless [16].

Anxiety that occurs includes fear, worry, nervousness, and anxiety when facing online exams. Often students are afraid of not being able to collect exam results on time. In addition, you are also worried if the uploaded file is not sent or the document is damaged. Nerves usually occur when lecturers monitor using zoom meetings or online exam LMS. While restless when they can not answer questions thoroughly and correctly. Everything happens to every student, so there needs to be an understanding of the anxiety they experience. Do not interfere with online exam activities.

Several aspects of life represent the universal nature of anxiety are psychology, art, belief and so on. Anxiety theories are classified into psychoanalytic, physiological, existential, behavioural and cognitive. The psychoanalytic as one of anxiety theories explains anxiety as daily event and its play role as resources for neurosesan [27]. The two-way theory of exam anxiety explains that anxiety can have properties not only attenuating but also facilitating. Regarding attenuating of anxiety, to success in exam a person need to have motivation to reduce the anxiety, on the other hand, causes avoidance behaviour. Facilitating anxiety has been shown to positively affect task-related behaviours such as preparing for exams ahead of time and increasing focus during exams. On the other hand, debilitating anxiety causes an increase in thinking and affects irrelevant behaviour on exams. They avoid studying and experience self-deprecating thoughts.

Another anxiety theories is a phenomenological. It describes anxiety as a natural condition of an individual who is present at every situation. Previous studies stated that there are another categories of anxiety theory, namely learning and cognition dimentions. Learning activities can be used by each individual to evade anxiety as an ominous stimulus [8]. Simply put, the inconvenience that poses a threat can cause anxiety up to lead to new habits. Anxiety is a kind of feeling of fear that the source of fearis not clearly known. In line with this research, the emergence of anxiety among students due to the implementation of online exams.

Coping strategies have a role in reducing anxiety. Almost every ages have impression about stress. They will use various ways to relieve stress that is being suffered or faced. A combination between pressure on physical, unstable emotional, and stress lead to incovinience situations. This kind of situations make the individual have motivations to do some activities to decrease their stress. The effort made by individual well-known as coping. Coping is a process in which a person tries to manage the perceived difference not only wants (demands) but also income (resources). It is valued in a pressure event or situation [10].

In managing coping strategies, students pay attention to two things such as problem focused coping and emotional focused coping. Problem focused coping is individuals' ability to focus on solving the stress problems they experience during the exam, such as personal problems with parents, issues with peers, and internet network problems. Meanwhile, emotional focused coping is the ability of individuals to focus on managing their emotions

when online exams take place—for example, controlling anger, hate, sadness, etc. Coping strategies can be adequately addressed if the individual has high-stress resistance. Besides that, you must also have a relaxed mind to face all kinds of challenges.

Furthermore, Devonport and Lane [18] suggested that coping can affect academic success because students have confidence in their ability to achieve specific outcomes depending on how they cope with negative emotions and barriers. Their beliefs also influence the level of effort and the way students cope with stress about how capable they are and how much control they have over outcomes. The coping model includes both approach and avoidance strategies, with the expectation Devonport and Lane [18] that these variables will be positive (i.e., approach) or inversely (i.e., avoidance) concerning self-efficacy, goal mastery, and self-regulation. When people take action and strategize to achieve goals rather than sitting still or avoiding situations, positive results can be achieved. Although academic coping strategies (and the relationship between coping strategies and other variables of interest) have not received much attention, adaptive coping strategies may be crucial for college students during a pandemic.

#### 4 Conclusion

Self-efficacy studies in the assessment of learning outcomes need to be studied in more detail. Especially now that learning is done virtually so that the evaluation of learning outcomes is done virtually. The results revealed that students' online exam anxiety can affect their self-efficacy. Students have a high level of anxiety in doing exams, affecting their confidence in doing exam questions. Another study also stated that students' self-efficacy in online learning decreased because the learning environment was not conducive. The students' anxiety hurts their self-efficacy. It was also found that there was a strong association between online exam anxiety and self-efficacy at low levels of coping strategy. Coping strategies have a role in reducing anxiety. Almost every ages have impression about stress. They will use various ways to relieve stress that is being suffered or faced. A combination between pressure on physical, unstable emotional, and stress lead to incovinience situations. This kind of situations make the individual have motivations to do some activities to decrease their stress.

In contrast, coping strategy in high levels can weaken the relationship between anxiety and self-efficacy. The limitations of this study only represent the accounting teacher candidate. So, it is necessary to study in more detail business and economics students and other prospective teacher students. It needs to be done considering that teacher candidates must have comprehensive knowledge and skills in learning evaluation. So that it is easy to implement when teaching practice or micro-teaching. Future studies can offer to analyze the impact of student anxiety on students achievement.

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