Predictors of Academic Stress: The Role of Emotion Regulation and Hardiness in Thesis Writing

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Abstract. Thesis writing is a complex activity that requires cognitive, emotional, and behavioral skills. This study investigated the role of emotion regulation and hardiness as predictors of academic stress in final-year students. A total of 105 participants in this research by an online survey consisting of the Perception of Academic Stress Scale (α = 0.78), Emotion Regulation Questionnaire Scale (α = 0.80), and Dispositional Resilience Scale (α = 0.72). Multiple regression analysis techniques were used to analyze the data. The results show emotion regulation and hardiness are crucial for reducing academic stress. High hardiness students are better to endure academic stress. Meanwhile, emotion regulation did not emerge as a significant predictor of academic stress. Strategies that focusing solely on emotion regulation may not mitigate academic stress in students. Promoting hardiness may be effective to help students to cope with academic stress.

Keywords: academic stress, emotion regulation, hardiness, thesis writing

1 Introduction

Stress can occur in various contexts, including pressure in the academic environment. Academic stress is a form of stress that occurs in the academic environment and affects faculty and students in educational institutions [1]. The sources of stress can come from oneself, relationships with friends, lecturers, family, campus, physical health, or socioeconomic factors. Research on students in Malang, Jember, and Kediri showed that 51.1% of students experienced high stress levels [2]. Based on that study, the most common sources of stress are lecture load, limited time, academic difficulties, learning relationships, and academic pressure.

In addition, Aulia and Panjaitan study showed that students who experience academic stress are in the moderate-to-severe category [3]. The results showed that 77 students working on their theses experienced moderate stress (71.3%) and 16 students experienced severe stress (14.8%). Based on observations from students who were working on a thesis at UIN SGD Bandung, stress is often associated with complaints, fatigue, dizziness, anxiety, and lack of enthusiasm, with some even contemplating ending their studies [4].

Thesis writing aims to discover students' abilities to solve research problems, starting by determining the title, collecting data, and drawing conclusions. Students working on their theses must have a sense of optimism and enthusiasm, achieve achievements, and play an active role [5]. However,

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many students experienced difficulties in writing their theses. The challenges faced by students are diverse, such as a lack of reading resources, many revisions, a lack of research time, a limited grasp of theoretical concepts, struggling to identify a research problem, being busy, and having difficulty meeting with the supervisors, and the supervisor is slow to respond [6]. This is in line with the research conducted by Etika and Hasibuan, who found that the problems often faced by students who work on their theses are confused about finding a title, lack of time, lack of references, the supervisor is busy, laziness, lack of motivation, difficulty in managing time, lack of focus, and fatigue [7].

The academic stress experienced by students when writing a thesis cannot be ignored because it can pose negative consequences. Academic stress can be detrimental to students because the pressure they experience prevents them from performing well, accordance to their actual capacity [8]. Consequently, thoughts arising from academic pressure can affect academic performance. Academic stress that occurs in students affects the process of working on their thesis; namely, the more neglected the thesis writing, the more hampered the cognitive process in completing the thesis due to worry, anxiety, stress, and reduced motivation to work on the thesis [9].

If not overcome immediately, academic stress could affects students' learning outcomes or achievements. Academic stress affects physical reactions, feelings, thoughts, and behaviors. The effects of academic stress are physiologically manifested by the appearance of cold sweats, stiff bodies, trembling, heart palpitations, weakness, dizziness, and pallor. Affectively, feelings of sadness, anxiety, sensitivity, anger, and frustration appeared. Cognitively, students have difficulty focusing on learning, thinking negatively about themselves and their environment, and understanding and remembering materials. In addition, behavior affects avoidance, procrastination, laziness, and excessive pleasure seeking [10].

2 Literature Review

According to Gadzella and Baloglu, stress can arise from internal and external factors [10]. Internal factors include frustration, conflict, pressure, and *self-imposed stress*. External factors include family demands, school, and the physical environment. According to Oon, academic stress factors are divided into two categories: internal factors, which include mindsets, personalities, and beliefs, and external factors, which include environmental and physical factors [11].

To overcome academic stress experienced by students, regulating one's emotions is crucial. According to Gross, emotion regulation is an individual's ability to consciously or unconsciously regulate feelings [12]. If students have good emotion regulation, they can maximize positive emotions, minimize negative emotions, and overcome difficulties they feel well. However, if the ability to regulate emotions is low, the individual will experience constant stress and will tend to experience stress under pressure. According to Greenberg and Stone [13], the opinion reinforces that emotion regulation can reduce stress levels in students because individuals can express their emotions verbally and in writing. By expressing their feelings, individuals can help improve their psychological and physical health when dealing with traumatic events in their lives, as well as help cope with the mental stress experienced.

Emotion regulation and stress are interrelated, and emotion regulation can play an essential role in creating awareness among students about how to respond to and overcome stress appropriately [4]. Therefore, the ability to regulate emotions can reduce academic stress. This finding is in line with Sari study, that there is a negative relationship between emotion regulation and academic stress [14]. Therefore, high emotional regulation affects academic stress. In addition, Pratama and Suprihatin's research showed that there is a relationship between emotion regulation and academic stress among students [15]. Students with good emotion regulation are aware of their emotional state, process emotions, turn emotions into productivity, and build good relationships that can affect academic stress [15]. Likewise, studies on new students [16] and on final students [9] showed that *hardiness* was significantly and negatively related to academic stress. This means that the higher the hardness of the final students, the lower their academic stress levels. This is because, with hardiness, students can control, have a commitment to complete their thesis, and change stressful situations, showing results that are not very different; there is a negative correlation between emotional regulation and academic stress. Anggraini and Widyastuti's study corroborated the finding that emotion regulation has a significantly negative relationship with academic stress [17].

In addition, academic stress can be minimized through individual personalities. This can be seen in many previous studies showing that other variables play a role in academic stress, namely, personality. According to Taylor, this is reinforced by the fact that one factor of academic stress is influenced by personality [18]. A person's personality can determine their level of stress tolerance. This is supported by research conducted by Parkes, which states that personality can affect an individual's perception of problems, and personality characteristics that can reduce the impact of stress from a problem are those that can deal with sources of stress and control the source of stress [19]. According to Kobasa, hardiness is a vital personality type for dealing with stress [20]. Hardiness is a personality characteristic that can make individuals stronger, more stable, and more resistant to stress, thereby reducing its harmful effects [21].

Students with a hardiness personality show commitment to themselves, can see the challenges of a problem, have a positive attitude towards the environment, and can control the situation (20). This means that when facing problems while working on a thesis, students will commit to doing their thesis well and assess changes as challenges, thereby reducing academic stress. Therefore, based on the problems and pressures faced by final students in completing their thesis, an authoritarian, tenacious personality and the ability to manage emotions are needed to survive various difficulties.

As mentioned above, several studies have been conducted on academic hardiness and stress. Similarly, research on emotion regulation and academic stress has been conducted widely. However, research examining the simultaneous role of these two variables in academic stress remains underexplored. Therefore, this study aimed to investigate the role of emotion regulation and hardiness in predicting academic stress in students working on their theses.

3 Method

2..1. Participants

The participants in this study were undergraduate students in their final year, who were working on their theses. Convenience sampling was used in this study. The total number of participants who filled out the questionnaire was 126, but 21 participants were excluded because they did not meet the research criteria. The final number of participants in this study was 105. They were aged 20-23 years, with the majority being 88.6% female (n=93) and the remaining 11.4% male (n=12).

3.2. Measurement

There are three scales to collect data. The Perception of Academic Stress Scale (PAS), Emotion Regulation Questionnaire (ERQ), and Dispositional Resilience Scale (DRS-15). All were administered online.

The Perception of Academic Stress Scale (PAS) was used to measure academic stress. It was developed by Bedewy and Gabriel [22]. The PAS has an overall internal consistency of 0.78. The correlation between the items on this scale ranged from 3.8 to 4.8. The instrument was translated into Indonesian using a forward-backward translation procedure. This scale consists of three aspects: academic expectations, perception of workload and examinations, and academic self-perception. The total number of items was 18, with five alternative answers. There are five alternative responses: 1= Strongly Disagree, 2= Disagree, 3= Slightly Agree, 4= Agree, and the highest score is 5= Strongly Agree.

Emotion regulation was measured using a scale created by Gross and John [23], namely the Emotion Regulation Questionnaire (ERQ). It has been adapted in the Indonesian context by Salsabila, Iqbal, and Widiasmara [24]. Cronbach's alpha of ERQ was 0.80. This scale consists of two subscales: Cognitive Reappraisal and Expressive Suppression. The total number of items on this scale is 10 items, with seven alternative responses: 1= Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4= Neutral, 5= Somewhat Agree, 6= Agree, 7= Strongly Agree. The higher the total score, the higher the emotion regulation score.

Hardiness was measured using The Dispositional Resilience Scale 15 (DRS-15), which was developed by Barthone based on Kobasa, Maddi, and Khan's aspects [25]. The DRS-15 has been adapted into Indonesian by Ramadhany [26]. The Cronbach's alpha coefficient is 0.72. The correlation between items ranged from 0.75 to 8.73. The scale comprises three aspects: commitment, control, and challenge. The number of items is 15, with four alternative responses: 1= Strongly Disagree, 2= Disagree, 3= Agree, and 4= Strongly Agree. The higher the score the subject received, the more complex the subject was perceived to be.

3.3. Data analysis

The data obtained will be analyzed using multiple regression analysis. Regression was used to determine whether the regulation of emotion and hardiness together can predict academic stress, as proposed in the previous hypothesis. Data analysis calculations were conducted using the Statistical Package for the Social Science (SPSS) 25.0 for Windows computer program.

Result

Table 1. Participants demography

Aspecs	Category	Total	Percent
Gender	Male	12	11.4%
	Female	93	88.6%
Age	20	9	8.6%
	21	63	60%
	22	30	28.6%
	23	3	2.8%

Based on Table 1, participants of this study were dominantly female (88.6%) and 21 years old (60%). Before we analyze the data, all regression assumptions were checked for normality, linearity, multicollinearity, and heteroscedasticity. The residual data met normal distribution with a p-value of 0.20 ($p > 0.05$). The linearity test also indicated that all three variables were linear. The results of the multicollinearity test showed that the three variables had no multicollinearity, since the *tolerance value* was > 0.10, and the VIF value was <10. The heteroscedasticity test was performed using the Glycer test, where all variables were greater than 0.05, so that heteroscedasticity did not occur.

A hypothesis test was conducted using multiple linear regression with the enter method. The analysis results showed that the R Square value was 0.26, which showed that the contribution of both variables, namely hardiness and emotion regulation, could explain 26% of the variance of the academic stress.

Table 2. Prediction of the subscale of self-regulation and hardiness to academic stress

Prediktor	B	SE	β	p
expressive suppression	0.18	0.20	0.08	0.39
cognitive reappraisal	0.05	0.17	0.03	0.77
hardiness	-0.77	0.14	-0.51	0.00
F	12.02			
R^2	0.26			

Based on Table 2, it can be found that the F value is 12.02, and the significance is 0.00 ($p < 0.05$). Based on the value of the regression coefficient produced, the hypothesis is acceptable, where the two variables, namely, the subscales of emotion regulation and hardiness, can significantly predict academic stress. Further analysis showed that only hardiness could significantly predict academic stress, with a t-value of -5.58 and a significance value of 0.00 (sig < 0.05). The emotion regulation subscale was not a significant predictor of academic stress. The expressive suppression value of t obtained was 0.87, with a significance value of 0.39 (sig > 0.05). Cognitive reappraisal had a t-value of 0.29, with a significance value of 0.77. This demonstrates that emotion regulation variables, both expressive suppression and cognitive reappraisal, cannot significantly predict academic stress. Only hardiness predicted academic stress in students by 26%.

4 Discussion

This study aimed to determine whether emotion regulation and hardiness could simultaneously predict academic stress in students who were working on their theses. Data analysis showed that the simultaneous regulation of emotion and hardiness can predict academic stress in students who were working on their theses. However, further analysis showed that of these two variables, only hardiness could predict academic stress, but not emotion regulation. Hardiness can explain 26% variance of the academic stress.

This study corroborates Prasetya, Merida, and Novianti's study, which showed a negative relationship between hardiness and academic stress in students during distance learning [11]. Similarly, this study underlines the findings of Ramadhan and Aslamawati on academic hardiness and stress, which showed a significant negative correlation in the relatively strong category [27]. This highlights that the higher the hardiness of the students, the lower their academic stress; conversely, the lower the hardiness of the students, the higher their academic stress. Students who have high resilience in responding to stress experienced relatively lower stress than students who do not have sufficient resilience in responding to stress.

Smet stated that hardiness is a personality trait that can keep individuals healthy despite experiencing stressful events [28]. Individuals with hardiness personalities have aspects of hardiness that can minimize academic stress. This is in line with Kobasa's theory, which explains that individuals with a hardiness personality will have commitment, self-control, and be able to face challenges [20]. Students with a hardiness personality can engage in the activities they face (i.e., commitment). They are confident that they can overcome events that occur (control). Individuals can see change as an opportunity to develop themselves rather than as a threat to themselves (challenges).

Students who are fully committed to their thesis work will not experience academic stress. It is because they do not give up easily and can involve themselves with full awareness, interest, and curiosity in the process of working on their thesis. Finally, students with high self-control will survive to achieve their desired goals, even though the thesis process has pressure that can cause stress. This is because individuals can direct and manage their situations more effectively. Students with hardiness personalities can also experience stress when faced with stressful situations. However, they can deal with situations that can positively cause stress and bring comfort to themselves. In other words, hardworking students do not run away from or withdraw from stressful situations [29]. In contrast to students with low hardiness, those with high hardiness feel capable and think positively, thereby reducing stress [9].

In line with the research conducted by Muhammad, students with high hardiness will have behaviors that make them stronger in fighting stress, and they will also believe that they can control and influence all events that occur [30]. Thus, students with a hardiness personality can view problems that occur positively and have confidence in managing the situation [9].

This study also suggests that emotion regulation dimension (expressive suppression and cognitive reappraisal) cannot predict academic stress in students who were working on their theses. This finding differs from previous research, which revealed a relationship between emotion regulation and academic stress in a study conducted by Anggraini and Widyastuti on Grade XII students [17]. Several factors, such as differences in subjects, can cause differences in the results. The study used the subject of high school students in grade XII, while this study used the subject of final-year students working on their theses. Nevertheless, the results of this study support the research of Aprilia and Yoenanto [31] and Rachmawati and Cahyanti, who showed that emotion regulation does not significantly influence the academic stress of students preparing a thesis [32].

Based on the results of this study and previous supporting research, other factors are more dominant in influencing academic stress among students working on their theses. Therefore, it can be concluded that if students have high emotional regulation, this may affect their academic stress. However, it is possible that students with high emotional regulation can also experience high academic stress. In this case, the high and low emotion regulation of each individual did not affect the academic stress experienced.

Students with expressive suppression emotion regulation strategies tend to suppress their emotions, even though they do not show feelings that are felt in stressful conditions. In this case, students who use expressive suppression will store their own emotions; it is difficult to understand the emotions they feel and view them as negative. Even if an individual feels a positive emotion, they try not to express it. Releasing stress is more challenging when emotions are suppressed [33].

Gross stated that expressive suppression can consistently worsen one’s conditions [12]. This is because expressive suppression attempts to inhibit, hide, or reduce emotionally expressive behaviors. In line with Gunawan and Bintari, expressive suppression strengthens the negative relationship between stress and psychological well-being [33]. This means that individuals with high stress levels who use expressive suppression strategies more often show lower psychological well-being.

In addition, based on Denson’s study suggests that cognitive reapraisal can improve an individual's psychological perception of self-efficacy and control under stress, and it can increase cortisol reactivity in the short term [34]. Cortisol is a hormone involved in the stress response of the body. Cortisol is produced by the adrenal glands and released when individuals are stressed. When individuals experience stress, their cortisol levels increase. Excessively high levels of cortisol in response to stress can be harmful to an individual's physical health. This explanation supports the results of this study, which stated that the regulation of emotions, both expressive suppression and cognitive reappraisal, cannot predict academic stress among students.

Lavoue et al. explained that individuals feel emotions because of events and only when the event has benefits or can be harmful to the individual's well-being [35]. When an individual thinks that an event is depressing him, this does not mean that the same event is depressing others. Boo et al. revealed that the semester level that students undergo is the same as the psychological pressure experienced [36]. This means that the challenges students face when working on a thesis in the first

semester can differ from those faced in the second, third, fourth, and fifth semesters. The higher the student's semester level, the higher the psychological pressure experienced by first-semester students in compiling a thesis.

Based on demographic data, the participants in this study are dominated by students who are in the 8th semester, which is as many as 71.4% or 75 students, respectively. The data showed that the students were in the early second semester of the thesis process. This indicates that students who work on their thesis in the first semester do not perceive it as a treat, unlike students who have spent several semesters working on their thesis [31]. Handito and Leonardi revealed that the more semesters students take to work on their theses, the longer the graduation time, which can cause a decline in the graduation target [37]. This can lead to psychological stress. Based on this explanation, situations that can cause stress will not affect high and low emotion regulation because each individual can view and interpret the same event differently [31].

Based on the coping methods described by Lazarus and Folkman, emotion regulation was included in emotion-focused coping [38]. This is because emotion-focused coping is a way to overcome stress using emotions. Individuals who experience stress engage their emotions using their judgment of the sources of stress. Students who experience academic stress using emotion regulation strategies may be able to reduce their negative emotions, but this cannot help solve the problems they encounter. Therefore, academic stress is not appropriately resolved because it can appear in the future [31]. This finding highlights that emotion regulation cannot overcome academic stress over time.

This study has several limitations that should be considered. First, the distribution of participants was dominated by females (88.6%); therefore, the representation of male participants was small to generalize. Second, this study is correlational; therefore, it is impossible to conclude a cause-and-effect relationship between the independent and dependent variables. Third, although the academic stress measurement tool was forward-backward translated and modified according to the context of this study, it would be better in future research to validate the construct.

5 Conclusion

Overall, it can be concluded that the multiple linear regression analysis conducted in this study showed that both the variables of hardiness and emotion regulation, when considered, contributed significantly to explaining the 26% variation in academic stress. However, further partial analysis showed that only hardiness significantly predicted academic stress in students working on their theses. The two emotion regulation subscales, expressive suppression and cognitive reappraisal, cannot simultaneously predict academic stress. Campus policymakers should consider developing hardiness personality-strengthening programs to prevent or reduce student stress.

6 Suggestion

Several implications and suggestions can be drawn from this study's findings and limitations. First, there is a need to focus on developing mental strength and resilience to protect the students from stress. Efforts to improve individual hardiness can be made through educational programs that

involve learning stress management skills, improving self-efficacy, and developing adaptive coping strategies. Second, because emotion regulation in the form of expressive suppression and cognitive reappraisal had no significant influence on academic stress, further research should explore other factors that may regulate emotion and academic stress. More research is needed to understand the external factors affecting academic stress, such as social support, academic environment, and other personal factors. Third, it is essential to consider the limitations of future research. For example, a more evenly distributed sample of men and women should be examined to make the study results more gender representative. In addition, it is recommended that a specially validated academic stress measurement tool be used to measure stress levels in the context of thesis work or similar assignments. By paying attention to these implications and suggestions, further research can contribute to a better understanding of the factors that play a role in academic stress and develop effective intervention strategies to reduce academic stress in college students.

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