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The Role of Self-Efficacy on Academic Stress with Optimism as a Moderating Variable: Case Study in the Post-Covid-19 Higher Education Sector

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ABSTRAK

Salah satu kendala yang menjadi perhatian dalam dunia pendidikan adalah stres akademik karena harapan siswa yang masih perlu dicapai dalam pembelajaran dengan kenyataan pembelajaran yang terjadi. Tujuan penelitian ini untuk mengetahui peran self-efficacy terhadap stress akademik dengan optimisme. Penelitian ini merupakan penelitian kuantitatif cross-sectional dengan metode ex post facto. Teknik pengambilan sampel yang digunakan adalah convenience sampling. Responden berjumlah 113 orang dengan kuesioner sebagai metode dan instrumen pengumpulan data. Teknik analisis data yang digunakan adalah analisis statistik inferensial. Hasil penelitian menunjukkan bahwa tidak terdapat hubungan antara efikasi diri akademik dengan optimisme, begitu pula dengan stres akademik. Pada hubungan variabel dengan dimensi stres akademik, efikasi diri akademik berhubungan dengan tekanan belajar dan keputusasaan. Terdapat pula pengaruh signifikan efikasi diri akademik terhadap stres akademik, dan optimisme berpengaruh signifikan terhadap stres akademik. Hal ini menunjukkan adanya pengaruh yang signifikan pada kedua variabel prediktor terhadap stres akademik yang menegaskan bahwa optimisme tidak dapat dijadikan sebagai moderator antara efikasi diri akademik dan stres pendidikan. Penelitian ini memberikan implikasi yang berharga dalam upaya meningkatkan manajemen stres akademik pasca-COVID, dengan memberikan pemahaman yang lebih mendalam tentang peran self-efficacy dan optimisme dalam mengelola stres tersebut.

ABSTRACT

One of the obstacles that become a concern in the world of education is academic stress because student expectations still need to be achieved in learning with the reality of learning that occurs. The purpose of this study was to determine the role of self-efficacy on academic stress with optimism. This research is a cross-sectional quantitative research with ex post facto method. The sampling technique used is convenience sampling. Respondents totaled 113 people with questionnaires as a method and instrument of data collection. The data analysis technique used is inferential statistical analysis. The results showed that there was no relationship between academic self-efficacy and optimism, as well as academic stress. In the variable relationship with the academic stress dimension, academic self-efficacy is associated with learning pressure and hopelessness. There is also a significant effect of academic self-efficacy on academic stress, and optimism has a significant effect on academic stress. This suggests a significant influence on both variables predictors of academic stress, confirming that optimism cannot be used as a moderator between academic self-efficacy and educational stress. This research provides valuable implications in efforts to improve post-COVID academic stress management, by providing a deeper understanding of the role of self-efficacy and optimism in managing such stress

1. INTRODUCTION

The covid pandemic has passed, and several industrial sectors have functioned as before, including the education sector. The education sector is vital because it is a milestone in the readiness for the progress of a nation, both in terms of leadership and readiness in the industrial sector. The change started from online to hybrid, where several activities combined online and offline. Problems arise,

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especially in learning in college. Some of the problems arising from changes in online and offline learning are the emergence of academic stress. Academic stress on students has an impact on the emergence of anxiety and depression due to problems in seeing the future (Beiter et al., 2015; Mahapatra et al., 2021). Hybrid learning is a challenge, especially for educators and students. Studies find that hybrid learning has a higher level of interaction, engagement, and motivation for students than traditional face-to-face classes. This condition is caused by the low level of students understanding of the material educators provide. Because of these problems, students form academic stress, especially when faced with exams (Li et al., 2023; Liang et al., 2015). One study found that Hybrid learning is also a problem in decreasing students' mental health. This transition causes psychological distress because the lack of face-to-face interaction makes students have poor academic performance. Because of a limited attention span, most knowledge comes from book resources, and there is no control over the learning process, making students feel unable to follow learning (Khoirunnisa et al., 2023; Shahid et al., 2022). To confirm the problems in hybrid learning, the researcher conducted a preliminary study by interviewing five people with three basic questions that emphasized the load when classes were held offline. Based on the five individuals we interviewed, three categories were summarized, namely, first, the workload increased, in contrast to the situation when learning online; second, there is money out for transportation costs; third, worry about getting good grades because, according to students it is easier to get an A while studying online.

Some literature can explain this finding that students need to adapt to change when there is a transition in learning. However, due to difficulties in adapting, students become stressed in the academic field, and it is feared that if they do not have good coping strategies, they will cause problems in the future (Chandra, 2020). Academic or educational stress is one of the educational psychology variables defining a high academic load in learning. Academic stress is also influenced by three factors, namely social, environmental, and internal demand. Academic stress can make students adapt their behavior to academic demands. In the process, this causes students to become depressed, which has an impact on mental health, such as depression, anxiety, and suicidal behavior (Barker et al., 2018; Kwak et al., 2019; Sun et al., 2011; Yang et al., 2021). Students experiencing learning during the Covid-19 period from 2020-2021 are experiencing an online learning period, with the main obstacle being restrictions on movement, so they need to meet their study partners. The most common feelings during the Covid-19 learning period are fear and boredom because of the pandemic, so students cannot travel. Unclarity in learning goals is also one factor supporting the increase in academic stress during Covid-19 (Ikizer et al., 2021; Yang et al., 2021). Academic stress consists of 5 dimensions, namely pressure from the study (the extent to which a person feels burdened with learning activities), workload (the extent to which a person is burdened with assignments given by the lecturer), worry about grades (the extent to which a person is worried about getting a grade below average -average), self-expectation (the extent to which a person must meet academic achievement standards), and despondency (the extent to which a person is unsure of his abilities) (Sun et al., 2011; X. Yu et al., 2015).

Academic self-efficacy was found to have a significant positive effect on academic stress. Academic self-efficacy is a belief in oneself with the hope of mastering learning so that individuals can achieve academic success. Academic self-efficacy is proven to be one of the determinants of whether someone will experience academic stress. However, when a person has self-confidence and can overcome academic difficulties, the individual will minimize stress because he already has good coping (Karaman et al., 2019; van Zyl et al., 2022). Several studies have explained the effect of self-efficacy on academic stress. For example, Previous research found that self-efficacy has a negative effect on academic burnout in students; this is understandable because self-efficacy is a mediator of stress responses and academic stressors during study and exams. Other research reveals that burnout in college students is closely related to their lack of self-efficacy; psychological well-being is threatened due to a lack of self-confidence that drains emotional states to academic exhaustion (Gao, 2023; Jung et al., 2015). Self-efficacy has a strong relationship with coping with stress; this can explain why self-efficacy is believed to reduce academic stress. Self-efficacy allows an individual to evaluate himself from existing stressors and makes individuals respond by developing strategies to deal with stress. For individuals with high self-efficacy, stress will be viewed as a challenge, not a threat (Freire et al., 2018; Meyer et al., 2022; Ngui et al., 2020). Self-efficacy in education is included in the self-efficacy academic variable group. Academic self-efficacy is the belief of students globally related to welfare and academic performance. Academic self-efficacy was found to be able to reduce mental health problems in students, such as depression and anxiety in dealing with learning (Byrne et al., 2014; Mao et al., 2020; Sim et al., 2015; van Zyl et al., 2022). Self-efficacy is closely related to optimism; optimism is used in this study as a moderator variable. Optimism is one of the positive psychological variables that serve as a giver of hope for individuals facing difficulties. Optimism can function as a moderator because having an optimistic attitude can help a person in dealing with adverse life events and can strengthen a person's belief in carrying out their activities (Abbasi et al., 2020;

Suryadi et al., 2021). A study found that self-efficacy has a close relationship with optimism. The research also explains self-efficacy and optimism related to student happiness. This result is also closely related to the variable self-efficacy when it becomes a mediator between optimism and academic performance. Even though optimism is a lousy predictor of academic performance, optimism can increase students' self-efficacy so that they can improve their academic performance (Feldman et al., 2015; Usán et al., 2022).

Optimism and self-efficacy can also increase well-being which can be helpful for individuals to become the basis of their knowledge in managing stress. Optimism and self-efficacy also function to increase the life satisfaction of students. This assumption is because self-efficacy and optimism help them reflect on life and help them cope with their stress. One of the results of the study also stated that optimism possessed by individuals had a positive effect on self-efficacy (D'Souza et al., 2020; Sabouripour et al., 2021). Other research also reveals that optimism can be a moderator when special situations require students to create, develop, innovate, and use creative self-efficacy. That optimism increases motivation to do something so that the dynamics of self-efficacy and optimism can be said to reduce pressure in learning and make it easier for students to get the desired results (Darabi et al., 2017; Y. Yu et al., 2018). In the study of academic transitions, several studies have yet to discuss the conditions of a pandemic, especially during the Covid-19 pandemic, because the pandemic, which led to social distancing, has only occurred again in the last few decades. In research on the transition from high school to university, students showing high levels of optimism will reduce depression and anxiety. Then optimism can also improve stress coping and academic management in the school environment. Then, optimism will reduce perceived stress at the student level because optimism will improve student learning performance (Fraser et al., 2021; Popa-Velea et al., 2021; Tan et al., 2014). This research is novel in promoting positive psychological variables as moderators for reducing academic stress. This research is one of the potential studies to see the effects of learning changes in the higher education sector. Because researchers have difficulty finding predictor variables to help reduce post-pandemic academic stress, the selected predictor variables are assumed to be intuitive by looking at the potential of these variables in explaining the causal relationship to academic stress outside the post-covid-19 context. The research aim and objective is to see the optimism as a moderating variable to educational stress when predicted with self efficacy.

2. METHOD

This research was conducted by universities in Jabodetabek and outside Jabodetabek. This research is a quantitative cross-sectional study with an ex post facto method. The sampling technique used is convenience sampling. Convenience sampling is the sampling technique that the population is easily available to become a participant (Andrade, 2021; Valerio et al., 2016) The respondents were 113 people aged 17-26 (M: 19.92; SD: 1.67) years and were active students from semester 1 - semester 14 who studied offline. Data was collected using the Google Form online form platform, completed with informed consent in October 2022. The researchers informed that the respondents' participation was voluntary and had the right to cancel whenever the respondent wanted. The questionnaire used in this study was a) Educational Stress Scale (α=0.89), which consists of 16 items with 5 dimensions (Pressure from study, workload, worry about grades, self expectation, despondency) with one example of the item being "There is too much competition among classmates that brings me a lot of academic pressure"; b) General Academic Self Efficacy Scale (α=0.74-0.78) to measure academic self-efficacy and consists of 5 items with one example of the item being "I will remain calm in my exam because I know I will have the knowledge to solve the problems"; and, c) The Indonesian version of the Life Orientation Test-Revised (LOT-R) (α=0.76) consists of 6 items to measure optimism with the example of the item "I rarely put my hope in good things that happen to me" (Sun et al., 2011; Suryadi et al., 2021; van Zyl et al., 2022). The analysis technique in this research uses three type of analysis. First is pearson correlations to see the correlation between variables; Second is multiple regression analysis to see causal relationship between dependent variable and two or more independent variables moderation analysis; and third namely moderator analysis involving moderator variables as causal modeling. Hypothesis testing for moderator analysis using SPSS 22.0 and Process v 4.0 by Andrew Hayes. Moderator regression testing was carried out to test moderators with models: 1) Academic Self Efficacy and Academic Stress; 2) Academic Self Efficacy* Academic Optimism and Stress.

3. RESULT AND DISCUSSION

Result

Table 1 describes the three variables' five-dimensional means, standard deviations, and Pearson correlation coefficients. There is no relationship between academic self-efficacy and optimism as academic

self-efficacy and optimism with academic stress. Regression cannot be continued because there is no significant relationship between variables. In the variable relationship with the academic stress dimension, academic self-efficacy is related to learning pressure and despondency. At the same time, optimism has no relation to these dimensions.

Table 1. Means, Standard Deviations, and Pearson's Correlation Coefficient for Academic Self Efficacy, Optimism, and Academic Stress.

Variables	M (SD)	1	2	3	a	b	c	d	e
1.Academic Self Efficacy	21.5 (2.71)	1	-	-	-	-	-	-	-
2.Optimism	16.41 (2.88)	0.10	1	-	-	-	-	-	-
3.Academic Stress	51.35 (12.09)	0.06	0.25**	1	-	-	-	-	-
a. Pressure from Study	11.41 (4.22)	0.19*	-0.30**	0.88**	1	-	-	-	-
b. Workload	9.83 (2.86)	0.05	-0.04	0.65**	0.54**	1	-	-	-
c. Worry about Grades	10.89 (2.96)	0.13	-0.11	0.62**	0.36**	0.25**	1	-	-
d. Self Expectation	10.38 (3.22)	0.02	-0.15	0.77**	0.60**	0.29**	0.48**	1	-
e. Despondency	8.84 (3)	0.18*	-0.28**	0.74**	0.63**	0.37**	0.25**	0.44**	1

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Multiple regression analysis will be conducted to see the effect of two variables, namely academic self efficacy and optimism on academic stress (see Table 2.). Based on the table, there is no significant effect of academic self-efficacy on academic stress, and optimism has a significant effect on academic stress. There is a significant effect of the two predictor variables on academic stress. Multiple regression analysis revealed the effect of academic self-efficacy and optimism on academic stress, which motivated researchers to analyze further whether optimism can be a moderator in reducing stress with academic self-efficacy. The moderation model in this study was insignificant, with the interaction of academic self-efficacy and optimism found to be insignificant. (βASE = -.19, 95% CI [-1.16, .77], p = .77; βO = -.41, 95% CI [-1.33, .50], p = .37; Mod = .00, 95% CI [-.02, .02], p = .73. Regression and Moderation Analysis of The Variables showed in Table 2.

Table 2. Regression and Moderation Analysis of The Variables

	Model 1				Model 2			
Predictors	***b***	***SE***	***t***	***p***	***b***	***SE***	***t***	***p***
(Constant)	64.083	6.305	10.164	0.000	72.323	25.991	2.783	0.006
Academic Self Efficacy (ASE)	-0.038	0.093	-0.409	0.684	-0.194	0.487	-0.398	0.691
Optimism (O)	-0.244	0.093	-2.629	0.010*	-0.414	0.530	-0.782	0.436
ASE x O					0.003	0.010	0.327	0.744
R^2		0.063				0.064		
ΔR^2						0.001		
Adj. R^2		0.046						
F		3.674		.029*		0.107		0.066

Note. N = 113; ASE x O = Academic Self Efficacy x Optimism (interaction variable); **p < .05;** p < .001*

Discussion

Academic self-efficacy does not affect academic stress, and this is because academic self-efficacy does not include general beliefs about stress management. Although several studies reveal the importance of self-efficacy in reducing stress, self-efficacy that can reduce stress lies more in the existence of a more general belief, namely general self-efficacy, which regulates perceived competence in dealing with various demands in the academic field (Freire et al., 2020; Tan et al., 2014). Academic self-efficacy, in general, is how an individual's expectations are in providing performance in the academic field. Because self-efficacy is the only expectation in carrying out a task or learning, students will doubt their abilities when they face difficulties in doing academic things. Although, an individual already has the information and activities needed for learning. Academic self-efficacy is also not an expectation of the results obtained because individuals cannot predict how the results will be obtained; this will increase academic stress (Feldman et al., 2015; Shehadeh et al., 2020). In this study, academic self-efficacy was proven not to affect academic stress. For example, one study revealed that academic self-efficacy does not correlate with academic stress. This finding can be explained by the fact that self-efficacy is one of the variables influenced by cognition in the form of one's thoughts or beliefs in one's abilities but cannot reduce tension caused by pressure from the academic itself (Fallah, 2017; Fathi et al., 2021).

Then, some literature says that optimism can reduce stress because optimism increases one's perception of the future. Optimism in this study was measured on dispositional optimism, a relatively stable general tendency to expect favorable outcomes across important life domains. Optimism is the opposite of what it should be, and this could be because the sample that answers is homogeneous (85% of respondents have a moderate to high range of optimism). In theory, optimism will lead to more controlled academic stress. However, one study states that optimism has no significant effect on stress. This finding is because stress changes over time (Birkeland et al., 2017; Cohen et al., 2019). Two studies shed light on the diverse perceptions and coping mechanisms individuals employ when faced with stress, particularly in the context of Covid-19 and its aftermath. The first study highlights the significance of optimism as a powerful tool in managing stress effectively, especially when utilized as a protective factor. Optimism not only serves as a psychological shield but also acts as a potent strategy for training individuals in stress management. Conversely, the second study emphasizes the efficacy of a different approach, particularly for individuals prone to anxiety—the defensive-pessimism type. This approach involves individuals anticipating undesirable outcomes realistically and seeking solutions to potential stressors, particularly in academic settings. By adopting a defensive-pessimistic mindset, individuals proactively prepare for challenges, allowing them to navigate stressors more effectively. These studies underscore the importance of recognizing individual differences in coping strategies and tailoring interventions accordingly, whether it be fostering optimism as a protective factor or harnessing the proactive nature of defensive pessimism. Ultimately, understanding these diverse approaches can aid in developing more personalized and effective stress management interventions for individuals both during and after the Covid-19 pandemic (Gibbons, 2022; Suárez Riveiro, 2014).

While the studies provide valuable insights into the role of optimism and defensive pessimism in managing stress, they also reveal certain limitations that warrant consideration. One notable limitation is the absence of factors that could potentially mediate or moderate the relationship between optimism and stress management. For instance, the studies do not delve into the influence of conditions like depression or anxiety, which could significantly impact an individual's ability to harness optimism as a protective factor effectively. Additionally, there is a dearth of research specifically examining optimism as a protective factor against academic stress during the transition to post-Covid learning environments. This gap highlights the need for further exploration into how optimism manifests in various contexts and its implications for stress management. Moreover, while optimism may indeed serve as a protective factor for some individuals, it may not universally impact one's self-confidence in fulfilling academic responsibilities. Recognizing this variability is crucial in developing comprehensive models for student stress management, particularly in the midst of a pandemic. By acknowledging these limitations and areas for further investigation, the studies can serve as a springboard for refining strategies to support students in navigating stress during challenging times, ultimately contributing to the development of more effective stress management interventions in educational settings.

4. CONCLUSION

The stress management study of post-covid stress academic variables has the potential to be one of the studies in supporting stress control data on students. Self-efficacy and optimism result that they cannot be predictors of educational stress; changes in adaptation and conditions in the higher education sector for offline learning can explain this. Suggestions for future research are expected to take other variables in defining academic stress, such as general self-efficacy, emotional intelligence, academic resilience, and other possible variables. Additional respondents must also be done to define academic stress properly

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