

THE ROLE OF ACADEMIC OPTIMISM IN THE ACADEMIC STRESS OF INDUSTRIAL ENGINEERING STUDENTS MUHAMMADIYAH UNIVERSITY GRESIK IN THE COVID-19 PANDEMIC

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Abstract. This study aims to find out whether there is an influence of academic optimism on academic stress of industrial engineering students during the covid-19 pandemic. In this study, 37 participants participated. Data collection is done by incidental sampling technique. The collection of academic stress data was conducted through an adoption questionnaire compiled by Risa Pangestu (2019) while the academic optimism questionnaire of adoption from Syahrul Alim (2020) with a Likert scale. The data analysis in this study used a simple linear regression technique. The results of this study showed H_0 was rejected. An R Square score of 0.526 indicated that there was an influence of academic optimism variables by 27.6%, while the remaining 72.4% was influenced by other variables not studied. Based on the analysis of the data, it can be concluded that there is an influence of academic optimism on the academic stress of industrial engineering students during the covid-19 pandemic.

Keywords: academic optimism, academic stress, industrial engineering students of universitas muhammadiyah gresik.

INTRODUCTION

The corona virus disease 2019 (covid-19) outbreak has attacked many countries in the world, especially in educational institutions, including universities. To combat Covid-19, the government has issued a call for a ban on gatherings, social distancing and physical distancing, using masks and washing hands. The prohibition also applies to universities in conducting lectures from face-to-face to online lectures (Ministry of Education and Culture Circular Letter No. 1 of 2020). It is hoped that the implementation of online or online learning can be carried out by universities (Firman, F., & Rahayu, S., 2020).

This causes students to experience stress due to lectures because it is difficult to understand the material given by the lecturer through online learning. Prior to the COVID-19 pandemic, students generally also experienced academic stress, such as in Nia Agustiningsih's research (2019), which showed that most students experienced moderate stress, namely 24 people (47.06%), which was caused by the large amount of material to be studied, lack of free time with family or friends, less able to share time or due to financial problems, etc. During the pandemic, students also experience academic stress, according to the results of research by Rifa and Rinka (2021), 55.1% of Indonesian students are stressed because of distance learning, while 66.3% of students outside Indonesia experience stress. Next, 40% of Indonesian students experience anxiety because of online lectures, while 57.2% are experienced by students outside Indonesia.

New students also generally experience stress due to difficulty adjusting to social and academic environments. Experts from various sectors view stress as a disease of modern society. Stress is the result of the perception of individuals who do not have the resources to cope with situations that occur from the past, present, and future. For adolescents who are classified as late teens will begin to enter the world of lectures, students enter the developmental age group in late adolescence, namely between the ages of 18-22 years (Santrock, 2012: 8). Multiple peer transitions occur at this age range. New student is the status that a person gets when studying at the first level in lectures. During the lecture period, new students will experience many new changes in themselves. First-year students or freshmen coming from high school or vocational school to college are usually faced with increasing developmental tasks such as learning to be more responsible, less dependent on parents, changing learning systems, changing peer groups or peer groups and increased focus on the future (Santrock, 2012: 8). Not only developmental tasks are increasing, but a new student is entering a different course than usual. This change is due to the COVID-19 pandemic.

The purpose of this reaserch was to determine the role of academic optimism in academic stress students of industrial engineering, muhammadiyah university of gresik in the covid-19 pandemic. From this, I further deepened the problems in my research through interviews with students at the beginning of the industrial engineering semester. Based on interviews I did with 3 students at the beginning of the industrial engineering semester, I got results that match the symptoms experienced by a student who is experiencing academic stress. Based on interviews I did with 3 students at the beginning of the industrial engineering semester, I got results that match the symptoms experienced by a student who is experiencing academic stress. This shows that beginning of the industrial engineering semester experienced academic stress.

Based on the results of the interviews above, also strengthened by 2 previous studies, academic stress can be influenced by optimism. based on previous research conducted by Huan, Yeo, Ang and Chong (2006), showed the results that there was a significant negative relationship between optimism and academic stress. Another study also showed the same results, namely the research conducted by Mathur and Sharma (2015) which showed that resilience and optimism had a significant effect on academic stress. That is, individuals who have high optimism then experience low academic stress. In contrast, individuals who have low optimism have high academic stress. Based on the results of this study, it is known that academic stress can be influenced by optimism

In my research, there are some differences from the 2 previous studies, namely the measuring instrument used in previous studies using the Life Orientation Test – R (Scheier et. al. 1994) for the optimism variable and the Academic Expectation Stress Inventory (Ang and Huan 2006). for the academic stress variable, while my research uses an adopted and modified measuring instrument owned by Risa Pangestu (2019) for the academic stress variable and Syahrul Alim (2020) for the academic optimism variable.

RESEARCH METHOD

In this study using quantitative methods. The sampling technique used in this study uses a non-probability sampling technique using incidental sampling. Data collection techniques in this study used a questionnaire/questionnaire. For measuring academic stress, it was carried out through the adoption of Risa Pangestu's (2019) while academic optimism adopted Syahrul Alim's (2020) using a Likert scale. Data analysis in this study used a simple regression technique. The population in this study were active students of the Industrial Engineering Study Program, Faculty of Engineering, batch 2020, Universitas Muhammadiyah Gresik, totaling 37 students. In this study using the theory of Olejnik and Holschuh, 2016 for the academic stress variable, then Seligman's theory, 1991 for the academic optimism variable.

RESULT AND ANALYSIS

1.1 validity test results

Tabel 1.1 Validity of Expert Judgment on the Academic Stress Scale

Expert Judgement	Criticism and Suggestions
1. Dr. Asri Rejeki, M.M, Psikolog	Separated item number 50 because it has 2 purposes.
2. Chandrania Fastari, M.Psi., Psikolog	Some items are replaced with more specific words, the word lessons are replaced with lectures.
3. Citrawanti Oktavia, M.Si., Psikolog	There are several items that need to be reviewed in laying out aspects, paying attention to the PUEBI and EYD rules for writing items.

Tabel 1.2 Validity of Expert Judgment on the Academic Optimism Scale

Expert Judgement	Criticism and Suggestions
1. Dr. Asri Rejeki, M.M, Psikolog	Items that have the word lesson are replaced with lectures.
2. Chandrania Fastari, M.Psi., Psikolog	Some items are replaced with words according to the subject.
3. Citrawanti Oktavia, M.Si., Psikolog	Pay attention to how to write indicators, especially in the aspect of permanence, Typo is still there, pay attention to the PUEBI and EYD rules for writing items

1.2 Reliability Test Results

Item analysis and item reliability in this study were measured using the rasch model instrument. The test results of the analysis of academic stress items, which amounted to 54 items, showed very good reliability, while the reliability of Cronbach's Alpha was very good. The highest logit is on item no 12, the lowest logit is on item no 3. Then from the results of table 4.4 the analysis test using the academic stress variable Rasch which can be seen in the appendix shows the results of 2 outlined/fallen items, namely items number 4 and 16.

Then the results of the analysis of the 67 items of academic optimism using the Rasch model showed very good reliability, while the reliability of Cronbach's Alpha was very good. The highest logit is on item no 57, the lowest logit is on item no 11. Then from the results of table 4.6 the analysis test using the academic optimism variable Rasch which can be seen in the appendix shows the results of 2 outliner/fallen items, namely items number 35 and 61.

1.3 Assumption Test Results

1.3.1 Normality test

Tabel 1.3 the results of the normality test of academic stress and academic optimism variables

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
X	.101	37	.200*	.957	37	.164
Y	.078	37	.200*	.971	37	.437

- *. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Based on table 1.3, the results of the normality test using the Shapiro-Wilk Test can be seen that the normality test value is 0.164 for variable X and 0.437 for variable Y which is greater than 0.05 ($p > 0.05$). From these results it can be seen that both have a normal distribution.

1.3.2 Linearity Test

Tabel 1.4 the results of the normality test of academic stress and academic optimism variables
ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.
Stres Akademik Optimisme Akademik	Between Groups	6773.631	29	233.573	4.175	.028
	(Combined)					
	Linearity	1980.022	1	1980.022	35.388	.001
	Deviation from Linearity	4793.608	28	171.200	3.060	.065
	Within Groups	391.667	7	55.952		
Total		7165.297	36			

based on table 4.8, it can be seen that the significance value of Deviation from Linearity is 0.065, which means it is greater than 0.05. So it can be concluded that there is a linear relationship between Academic Stress and Academic Optimism for Industrial Engineering students.

1.4 Research Result Data Analysis

1.4.1 correlation test

Table 1.5 Correlation Test Results of Academic Stress and Academic Optimism Variables

Correlations		X	Y
Stres Akademik	Pearson Correlation	1	-.526**
	Sig. (2-tailed)		.001
	N	37	37
Optimisme Akademik	Pearson Correlation	-.526**	1
	Sig. (2-tailed)	.001	
	N	37	37

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

Based on table 1.5 The results of the correlation test using Pearson Correlation can be seen that the significant value (2-tailed) is 0.001 or less than 0.05 ($p < 0.05$) which means that there is a relationship between Academic Stress and Academic Optimism. Then for the results of the Pearson Correlation get the results of -0.526, which means that the X variable with the Y variable has a negative relationship. This shows that the higher the academic stress of industrial engineering students, the lower the academic optimism of students and the higher the academic optimism of industrial engineering students, the lower the academics of students.

1.4.2 Simple linear regression test

Table 1.6 simple linear regression test results for academic stress and academic optimism variables

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.526 ^a	.276	.256	12.102

a. Predictors: (Constant), Optimisme Akademik

b. Dependent Variable: Stres Akademik

Based on table 1.6, following the results of the regression test, it can be seen that the R Square value is 0.276 in other words 27.6% of Academic Optimism affects Academic Stress. While 0.6% is influenced by other factors not examined.

1.4.3 anova test

Table 1.7 anova test results for academic stress and academic optimism variables
ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1980.022	1	1980.022	13.365	.001 ^b
	Residual	5185.275	35	148.151		
	Total	7165.297	36			

a. Dependent Variable: Stres Akademik

b. Predictors: (Constant), Optimisme Akademik

Based on table 4.11, the results of the Anova or F Test analysis are 13,365 with a probability of 0.001 which is smaller than 0.05, then the regression model that can be used to predict the academic optimism variable can significantly predict the academic stress variable.

1.4.4 coefficients test

Table 1.8 the results of the coefficients of academic stress and academic optimism variables.
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	213.938	25.847		8.277	.000
	Optimisme Akademik	-.529	.145	-.526	-3.656	.001

a. Dependent Variable: Stres Akademik

Based on table 1.8, it can be seen that the value of the academic stress variable is 213.938 while the value of academic optimism is -0.529. These results show the regression line equation for organizational commitment and work discipline, namely $Y = 30,543 - 0.849 X$. Based on the regression equation, it states that for every 1% addition to the value of academic optimism, the value of academic stress decreases -0.529 So that the regression coefficient is negative which can be said that the higher the academic optimism, the lower the academic stress.

Based on the regression coefficient decision-making requirements, it can be concluded that the value of Sig. has a significance level below 0.05, then the hypothesis in this study is H_a is accepted while H_o is rejected. This explains that there is an influence of academic optimism on the academic

stress of Industrial Engineering students during the COVID-19 pandemic at Muhammadiyah University of Gresik.

CONCLUSION

Based on the results of research data analysis, it can be concluded that the Pearson Correlation value is -0.526 , $p = 0.001$ which means that the Academic Optimism variable and the Academic Stress variable have a negative relationship. This shows that the higher the academic stress of industrial engineering students, the lower the industrial engineering students and vice versa. So it can be concluded that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, which means that there is a "significant influence between academic optimism and academic stress on industrial engineering students at the University of Muhammadiyah Gresik. The results of the calculation of the correlation value show $r = -0.526$ a negative influence between academic optimism and academic stress. This shows that the higher the academic stress of industrial engineering students, the lower the industrial engineering students and vice versa. The coefficient of determination (r^2) of $r = -0.526 = 0.276$ which means $r^2 = 27.6\%$. This informs that the contribution of academic optimism to academic stress is 27.6%, while the remaining 72.4% is influenced by other variables not examined. So it can be concluded that "there is a significant effect between academic optimism and academic stress on industrial engineering students during the COVID-19 pandemic at the University of Muhammadiyah Gresik.

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