



Resilience Under Pressure: Investigating the Relationship Between Self-Efficacy, Self-Esteem, and Stress

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Abstract

This study aims to examine the relationship between self-efficacy, self-esteem, resilience, and stress in final semester students. Using a quantitative approach, data were collected through a questionnaire distributed to 160 final semester students in Surabaya and Sidoarjo. Data analysis was carried out using SmartPLS4 to test the validity, reliability, and relationships between variables. The results showed that self-efficacy and self-esteem had a significant negative effect on stress when reinforced by resilience, while resilience itself played an important role in reducing stress levels. These findings emphasize the importance of development interventions aimed at improving self-efficacy, self-esteem, and resilience to help final semester students manage academic stress and life transitions, and improve their psychological well-being.

Keywords: Resilience Under Pressure, Self-Efficacy, Self-Esteem, Stress

INTRODUCTION

The pressure on final-semester students is a frightening thing. The pressures that haunt final-semester students often come not only from the pile of assignments and theses, but they also have to face future uncertainty, such as job readiness, social demands, family expectations, unrealistic ambitions, and high competitiveness (Hidayat *et al.*, 2021). According to statistics released by the Empower Institute Indonesia (2017), a soft skills training and consulting institution that conducted a survey of 33 final-semester students in Malang City from various universities regarding academic stress. According to the data, approximately 24% of participants fell into the low category, 24% fell into the high category, and 51% fell into the academic stress intensity category. According to the data, more than 50% of participants experienced academic stress that had to be overcome (Hidayat *et al.*, 2021). Research from (Kurniawati & Setyaningsih, 2020) explains that the prevalence of student stress is 38.91% worldwide, 61.3% in Asia, and 71.6% in Indonesia.

Research from (Hidayat *et al.*, 2020) concluded that final semester students are at a crucial point in their lives—a phase where anxiety, self-doubt, and stress are not exceptions

but rather a part of everyday life. With the increasing pressure experienced by students during the end of the semester, some students usually lack confidence in coping. According to (Rayhan Deta Maulana & Ramon Ananda Paryontri, 2024) , some students stated that a lack of self-confidence can make them feel unable to achieve good results. According to several other studies, such as research from (Saputra et al., 2024) , those who have a lot of social support tend to be more optimistic because they believe they have sufficient resources to overcome various obstacles in life. In addition, (Saleh et al., 2017) found that more than half of students experience low *self-efficacy* and *self-esteem* , which are important predictors of stress. This suggests that *self-efficacy* and *self-esteem* play an important role in how students manage stress. (Zhang et al., 2022) , found that the relationship between *self-efficacy* and *self-esteem* is mutually reinforcing, where increasing one can increase the other.

Maslow's Humanistic Theory states that all humans are unique, talented, creative, and have their own choices. This can be achieved through high self-confidence. This theory states that those who are able to understand their own potential, accept their own reality, and develop to actualize themselves are mentally healthy individuals. However, if someone is unable to maintain their composure and self-actualization to the point of being unable to endure difficulties, they are categorized as having a mental disorder (Hasanah & Haziz, 2021) . One thing that has been proven to be a more consistent predictor of success is each individual's *self-efficacy* and *self-esteem* (Zajacova et al., 2005) .

Overall, this study highlights the importance of developing strategies to enhance *self-efficacy* and *self-esteem* as a means of managing stress among final-semester college students. Interventions designed to enhance these two aspects can help students better cope with academic pressures and life transitions and improve their overall well-being.

METHODS

This research used a quantitative approach to examine the relationship between stress, self-efficacy, and self-esteem among final-semester college students. The data collection technique used in this study was a questionnaire sent to respondents relevant to the research topic. This questionnaire was intended to collect data on stress, resilience, self-efficacy, and self-esteem in relation to the variables studied. In the first stage, the researcher developed a research design. In the second stage, the researcher created a questionnaire in line with the existing research design and implemented it using Google Forms containing questions in easy-to-understand language. According to Taherdoost (2022), readability is used to ensure that the questions are clear and easy for respondents to understand so they can provide accurate and

relevant answers. In the third stage, the researcher distributed questionnaires to final-semester college students in the cities of Surabaya and Sidoarjo.

In this study, the minimum sample size (Hair et al., 2019) was 10x22 items, or 220. It was found that 160 respondents (72.73%) of the 220 respondents successfully answered the questions that had been distributed. We selected respondents based on characteristics over 3 years, and the data obtained were analyzed using the SmartPLS4 application, which is useful for data analysis. Two different types of analysis are provided by the SmartPLS methodology: external analysis and internal analysis (Hair et al., 2018). PLS was used to ensure the validity and reliability of the hypotheses as well as mediation and moderation. The analysis was carried out using data validity and reliability checks to ensure that the instruments used in the questionnaire were reliable.

RESULTS AND DISCUSSION

Based on the results of the completed questionnaire, the description of 160 respondents is shown in Table 1 below:

Table. 1 Distribution Respondents

		Frequency	Presentation
Type	Man	56	35.00%
Sex	Woman	104	65.00%
Domicile	Sidoarjo	44	70.63%
	Surabaya	82	29.38%

Outer Model

Validity testing is the process of ensuring that a test truly measures what it is supposed to measure, so that the test results can be used for the intended purpose. The higher the instrument's validity, the higher the accuracy of the research tool. A validity test is considered valid if the *outer loadings value* is higher than 0.7, and is considered good if the EVE value is higher than 0.5. This indicates that the indicators used adequately reflect the constructs used (Hair et al., 2020). Reliability testing is used to assess how well a system and its reliability match a particular research tool. Reliability is said to be reliable if the Cronbach's alpha value is greater than 0.06 (Hair et al., 2020).

Table. 2 Validity and Reliability Test

Variables	Item	Outer Loading	Cronbach Alpha	AVE
Self-Efficacy	Always never give up when facing difficulties when completing work?	0.722	0.846	0.563

	Always confident in completing every difficult task with confidence?	0.750		
	Always confident in completing every task successfully?	0.762		
	Always confident of achieving every work target?	0.752		
	Always able to be positive in changing situations and conditions?	0.711		
	Always able to create comfortable conditions in various work situations?	0.800		
Self-Esteem	I feel that I am a valuable person, at least equal to other people?	0.831	0.830	0.602
	I feel like a person who has a number of good qualities?	0.827		
	I am able to do things like most other people?	0.827		
	I am positive about myself?	0.754		
	Overall I am satisfied with myself.	0.606		
Stress	I feel burdened with so many courses?	0.845	0.819	0.582
	I find it difficult to cope with my many academic assignments?	0.786		
	Inability to understand some subjects makes me unhappy?	0.733		
	I'm afraid of failing one or more courses?	0.771		
	I don't want my grades to go down?	0.669		
Resilience	Am I able to adapt when changes occur?	0.834	0.813	0.588
	I can face whatever happens?	0.831		
	I try to see the humorous side of everything?	0.808		
	I tend to bounce back after adversity?	0.835		
	I can achieve my goals, despite the obstacles?	0.832		
	I don't get discouraged easily by failure?	0.451		

After elimination, all external loads mentioned in Table 2 above show that each indicator has a value above 0.04 but still below 0.07. Thus, it can be concluded that all indicators meet (Hair et al., 2017) . Meanwhile, the *Cronbach alpha value* is greater than 0.50 so all indicators are said to be reliable. The EVE value is useful for evaluating the accuracy of the construct, the EVE value is considered good if the value is greater than 5 and a higher EVE value indicates a better level of convergence (Hair et al., 2020) . The EVE value is considered good if the value is more than 5 and if the value is higher, it indicates a higher convergence threshold.

The total number of items was 22 during the *resilience research* on item 1 (Am I able to adapt when change occurs?). If there are invalid items, the researcher will delete them according to the established protocol (Hair, 2017). It is recommended that indicators with external loadings below 0.40 be considered inappropriate and therefore removed from the scale. The research findings show that the AVE value obtained is more than 0.50, which indicates that the scale in question shows good discriminant validity.

Discriminant Validity: Fornel Lacker Criterion

Fornel – Lacker Criterion is a measurement of discriminant validity. According to the Fornel-Lacker criteria, a construct is said to have good discriminant validity if the above values are 0.65 and also 0.85 (Hair et al., 2018).

Table 4 Fornel – Lacker Criterion

<i>Variables</i>	<i>Resilience</i>	<i>Self-Esteem</i>	<i>Self-Efficacy</i>	<i>Stress</i>
<i>Resilience</i>	0.767			
<i>Self-Esteem</i>	0.448	0.776		
<i>Self-Efficacy</i>	0.092	0.489	0.750	
<i>Stress</i>	0.736	0.611	0.213	0.763

From the data results above, it can be seen that the square root of the AVE of each construct (diagonal value) is greater than the correlation between that construct and other constructs (non-diagonal value). This indicates that each construct in the model has good discriminant validity, meaning the indicators used can describe each construct accurately and do not overlap with other constructs.

Composite Reliability

Composite Reliability is One type of data analysis that can be used to determine the consistency and accuracy of a particular Smartpls measurement during data processing. The following is the *composite output. reliability* obtained:

Table. 5 Fornel – Lacker Criterion

Variables	Composite Reliability
<i>Resilience</i>	0.873
<i>Self-Esteem</i>	0.882
<i>Self-Efficacy</i>	0.885
<i>Stress</i>	0.874

The results of the research conducted show that each variable has a *composite value*. good *reliability* . *Because it has a composite value reliability* more than 0.7.

Inner Model

1. *Variance Inflation Factor (VIF)*

VIF is used to evaluate collinearity. VIF is declared independent if its value is greater than 5. (Hair et al., 2020) .

Table. 6 VIF

Variables	VIF
<i>Resilience -> Stress</i>	1,331
<i>Self-Esteem -> Stress</i>	1,962
<i>Self-Efficacy -> Stres</i>	1,542
<i>Resilience x Self-Efficacy -> Stress</i>	1,227
<i>Resilience x Self-Esteem -> Stress</i>	1,099

Based on Table 6 above, which shows that the VIF value is less than 5, the level of *multicollinearity* between variables is low. These results indicate that the SEM PLS indicator estimates are unbiased (*robust*).

2. *R Square*

In endogenous constructs, R Square is a determinant coefficient that indicates how much the independent variable contributes significantly to the regression model. R Square can be used to indicate the variation of the dependent variable. According to Chin (1998), an R Square value of 0.67 is considered strong, while a value of 0.33 is considered moderate, and a value of 0.19 is weak.

Table.7 R Square

Variable	R Square	R Square Adjusted
<i>Stress</i>	0.674	0.664

Based on the results of table 6 above, the R Square value for the stress variable is 0.674 or 67.4%, which indicates that the variable is in the strong category.

3. *Estimate for Path Coefficient*

According to Hair et al. (2018), the ideal path coefficient *is* in the range of -1 to 1, where a larger value indicates a stronger relationship or correlation between exogenous and endogenous variables. To test the significance of this relationship, the t-statistic or p- *value is used*. If the calculated t-value is greater than the t-table (1.96) or the p- *value is less than 0.05*, it can be concluded that there is a significant influence between the two variables being tested

(Kerja et al., 2024) . Thus, the interpretation of the path coefficient and the results of this statistical test is very important in the analyzed model.

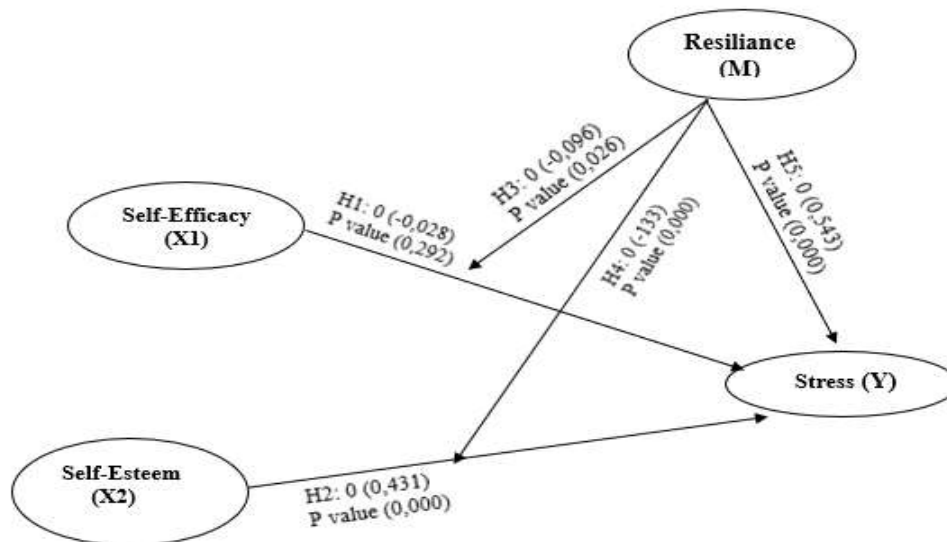


Figure. 1 Path Coefficient

From the picture it shows that:

- Self- Esteem has a positive effect on stress with a t-statistic value > 1.96 and a P value of 0.000 so it is said to be significant.
- Self-Efficacy* has a negative but insignificant effect on *stress* because the t statistic value is < 1.96 and the P value is 0.292.
- Resilience* has a positive effect on *stress* with a t statistic value > 1.96 and a P value of 0.000, so it is said to be significant.
- Self-Efficacy has a negative effect on stress with a t-statistic value < 1.96 and a P value of 0.026, so it is said to be significant and is strengthened by the *resilience variable*.
- Self-Esteem has a negative effect on stress with a t-statistic value of > 1.96 and a P value of 0.000, so it is said to be significant and is strengthened by the *resilience variable* .

Self-Efficacy has a negative but insignificant effect on stress

According to previous research from (Acosta-Gonzaga, 2023) Students' *self-efficacy* can help them cope with perceived stress. Higher *self-efficacy* leads to lower stress, and conversely, lower *self-efficacy* leads to higher stress. However, this study found that *self-efficacy* does not always have a strong protective effect against stress. In this situation, high levels of *self-efficacy* can increase stress responses, especially if a person's perspective is

inconsistent with reality or if a person always believes in themselves and is unaware of risks (Preusser *et al.* , 2017) . In addition to self-efficacy, several psychological factors influence stress, such as social relationships, awareness, and other psychological factors. Therefore, the effect of self-efficacy may not be significant if other factors are more dominant (Schonfeld et al., 2016) .

Self-Esteem has a significant positive effect on stress

The findings of this study indicate that *self-esteem* has a significant positive effect on stress. *Self-esteem* can protect individuals from psychological vulnerabilities such as stress and help them cope . This is evidenced by the significant correlation between *self-esteem* and stress levels ($p=0.00$). Furthermore, low *self-esteem* negatively impacts physical responses to acute stress and reduces the perception of chronic stress; in other words, the higher the self-esteem, the lower the measured stress response. This is consistent with previous research conducted in Vietnam that also showed that low self-esteem is associated with increased academic stress, anxiety, and depression; therefore, interventions to improve self-esteem are crucial for reducing stress (Nguyen *et al.*, 2019) . This is despite the fact that individuals may believe that high levels of self-esteem can reduce stress levels and protect people from the negative effects of psychological stress.

Resilience has a significant positive effect on stress

The findings of this study indicate that *resilience* has a significant positive effect on stress. This is evidenced by the H3 test, which states that *resilience* can influence stress. It can be said that *resilience* is crucial in lowering the stress threshold experienced by each individual. Individuals tend to experience lower levels of stress, higher levels of anxiety, and lower levels of depression, both in daily life and when dealing with large groups (Havnen et al., 2020) . As a mediator and moderator, resilience can reduce stress levels over time in relation to mental health and strengthen the relationship between stress and depression or anxiety (Lara-Cabrera et al., 2021) .

Self-Efficacy has a significant negative effect on stress, strengthened by resilience.

The results of this study indicate that self-efficacy has a significant negative effect on stress, which is then reinforced by resilience. This means that the more a person believes in their own abilities, the lower their stress levels. This relationship is even stronger when a person also has high levels of resilience because resilience serves as a moderator or mediator that strengthens the protective effect of self-efficacy on stress. For example, among college students

and healthcare providers, it has been shown that self-efficacy and resilience together reduce stress levels, both in academic and professional contexts, and improve psychological well-being and quality of life. (Liu et al., 2024) . Furthermore, resilience within an individual can enhance the influence of self-efficacy in reducing stress, so that people with both factors tend to be able to adapt and maintain mental health even when they are under pressure. The study also showed that interventions aimed at increasing self-efficacy and resilience can be an effective strategy for reducing stress and improving well-being, both in educational and workplace settings (Yudiati et al., 2025) . Therefore, developing programs that address both issues is crucial to help individuals overcome life's challenges and adapt.

Self-Esteem has a significant negative effect on stress, strengthened by resilience .

Research consistently shows that self-esteem has a significant negative impact on stress. This means that those with higher self-esteem consistently experience lower levels of stress. This relationship is even stronger when someone also has high levels of *resilience* , as *resilience* serves as a protective factor, helping people become more resilient to stress and emotional instability. Research on college students and employees shows that self-esteem and resilience are closely related in reducing stress, with high self-esteem increasing resilience and both factors together significantly reducing stress (Geh, 2023) . Furthermore, resilience can enhance the protective effect of self-esteem against stress, so people with both factors are better able to adapt and maintain mental health even when they face life or academic challenges. (Yetim, 2022) . This study also highlights the need for interventions aimed at enhancing self-esteem and resilience to reduce stress and improve psychological well-being, particularly among college students. Therefore, individuals need to cultivate self-esteem and resilience to help them face life's challenges and responsibilities in a more flexible and healthy manner.

CONCLUSION

Based on the research results, it can be concluded that *self-efficacy*, *self-esteem* , and *resilience* are important factors in reducing stress levels in final-semester students. Self-efficacy has a significant negative effect on stress, reinforced by *resilience*. This means that if an individual's self-confidence and resilience are higher, stress levels will decrease. Self-esteem also has a significant negative effect on stress and is reinforced by resilience. Therefore, someone who is better able to cope with stress if they have higher self-esteem and resilience. *Resilience* has been shown to play a crucial role in reducing the stress threshold. Therefore, interventions aimed at increasing self-efficacy, self-esteem, and resilience are crucial to help

final-semester students better cope with academic pressures and life transitions and can improve their psychological well-being.

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