The Use of Academic Resilience in Mediating the Effect of Self-Efficacy on Students' Academic Procrastination During the Covid-19 Pandemic

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Abstract. One of the students' problems during the pandemic is difficulty managing task completion. The students tend to procrastinate on completing the tasks and cannot even complete the tasks on time. Thus, students need to have self-efficacy in dealing with their academic problems, especially managing task completion during online learning. This quantitative study aims to find out whether resilience is a mediating variable between the effect of self-efficacy and academic procrastination. In addition, the number of samples was 107 students who were at the high school level. The data were analyzed by using Path Regression Analysis.

Moreover, the results of this study indicated that the score of the direct and indirect effects is $-0.364 + (-0.294) = -0.658$. The results of these calculations showed that the score of the direct effect is -0.364 and the indirect effect is -0.294, which means that the indirect effect is greater than the direct effect. These results indicated that academic resilience significantly mediated the effect of self-efficacy on academic procrastination.

Keywords: Self Efficacy · Academic Resilience · Academic Procrastination

1 Introduction

Since the end of 2019, there has been a phenomenon of COVID-19 outbreak that has hit the whole world. Indonesia is one of the affected countries. Even until 2021, the condition is still concerning due to the Corona Virus Disease-19 pandemic (Kompas, 2020).

This phenomenon has many impacts on all sectors, including the education sector. The Minister of Education and Culture of the Republic of Indonesia strives for teaching and learning activities to be carried out remotely because face-to-face activities have the potential to threaten the health of educators and students (Kemendikbud, 2020). However, the distance learning system, which is new to students, causes them to procrastinate on their online tasks. The piled-up tasks during the pandemic become serious pressure on students (Kompasiana, 2020). Maharani and Budiman (2020) explained that the piled-up tasks during the pandemic caused students to experience stress and procrastination in completing the tasks. The study conducted by Gracelyta and Harlina (2021) found that

there were 4.3% of students' academic procrastination during the COVID-19 pandemic at a high level, 63.3% at a moderate level, and 32.5% at a low level.

Procrastination occurs when someone postpones a task that can be done early (Ferrari, 1995). Meanwhile, McCloskey (2011) stated that individuals are said to be academically procrastinating when they neglect and postpone their tasks. This procrastination affected the worse grades at school (Ellis & Knaus, 1977). It is supported by Munawaroh et al. (2017), that found that students who tend to delay their academic assignments will get bad scores on some subjects in class.

Procrastination occurs due to several factors. One of the trigger factors is the negative perception of students. This negative perception is the assumption of students that the tasks are overabundant and hard to do (Ferrari & Moralez, 2007). This perception, during the pandemic period, not all students were stuck in procrastination. Students who adapt well to the online learning system can bring up positive performance. A person's ability to adapt and rise from academic stress is called academic resilience. In addition, a person's ability to deal with difficult situations that prevent him/her from achieving academic success is called academic resilience (Bernard, 2004).

A study conducted by Madjid (2021) found that there was a high negative correlation between social support and resilience to academic procrastination. In other words, individuals with high social support and academic resilience have low academic procrastination. Thus, this study used the same variable as the previous one. However, in this study, academic resilience was used as a mediating variable or an intervention variable because other studies described that students who can adapt positively to complex conditions, such as an abundance of tasks, tend to have a high sense of confidence in their ability to work on and complete various academic tasks (Oktaningrum & Santoso, 2019). In addition, Candra, Wibowo, and Setyowani (2014) in their study explained that to deal with academic procrastination, students need confidence in their abilities to overcome their problems and take the necessary actions to solve problems.

A person's belief in his ability to succeed in a particular situation is known as self-efficacy (Bandura, 2001). Students with high self-efficacy tend to feel confident that they can complete various academic tasks through their abilities and will perceive many academic tasks as challenges that must be resolved immediately. Meanwhile, students who have low self-efficacy will tend to feel unsure and unable to complete academic tasks immediately.

However, it is possible that efficacy does not directly affect procrastination. Thus, it is necessary to test this effect. This refers to the results of Hayat's (2021) study, which found that academic resilience significantly mediated the relationship between self-efficacy and student exam anxiety with a score ($\beta = -0.108$, $P < 0.0001$). Meanwhile, Najla (2020), in her study, explained that resilience has a significant effect of 20.5% on student academic procrastination. Therefore, based on the initial researchers' observation, and strengthened by several.

In previous studies, it is stated that there is a correlation between self-efficacy and academic procrastination. In addition, there is also a correlation between self-efficacy and academic resilience. In this study, the researchers investigated whether self-efficacy has an indirect effect on academic procrastination. If it has an indirect effect, self-efficacy is affected by academic resilience before finally affecting academic procrastination. As

it is known, the researchers have not found any other studies in Indonesia that examine academic resilience as a variable that mediates the effect of self-efficacy on academic procrastination. Thus, the researchers examined this field through this study.

2 Method

2.1 Identification of Research Variables

There are three variables employed in this study; they are; self-efficacy as an independent variable (X), academic procrastination as a dependent variable (Y), and resilience as a mediating variable (Z).

Research Subject. The sample of this study covers 107 students who are at the high school level. While the sampling technique used was the random sampling technique.

Research Instruments. This study used a Likert scale to collect the data. A scale of self-efficacy, academic resilience, and academic procrastination was used as the instrument of this study. The self-efficacy scale refers to Bandura's (1997) theory of self-efficacy. Meanwhile, the academic resilience scale refers to Bernard's (2004) theory of academic resilience. Furthermore, the academic procrastination scale refers to Ferrari's (1995) theory of academic procrastination.

3 Results and Discussion

The results of the descriptive analysis described the state of the research subject. Table 1 describes the level of self-efficacy of the research subjects.

Table 1 presents the categorization of self-efficacy of the subjects. There were 22 respondents, with a percentage of 20.6% having low self-efficacy. In addition, there were 68 respondents, with 63.6% having moderate self-efficacy, and 17 respondents, with a percentage of 15.9% having high self-efficacy. Therefore, in general, it can be interpreted that the respondents have moderate to low levels of self-efficacy.

Meanwhile, the level of academic resilience of research subjects can be described in Table 2.

Table 2 shows 26 respondents, with a percentage of 24.3% having low academic resilience. In addition, there were Sixty-two respondents, with a percentage of 57.9%,

Table 1. Categorization of self-efficacy

Category	Criteria on	Frequency	Percentage
Low	$X < 40$	22	20,6%
Medium	$40 < X < 60$	68	63,6%
High	$X > 60$	17	15,9%
Total		107	100%

have moderate academic resilience. There we're also 19 respondents, with a percentage of 17.8% having a high level of academic resilience. Overall, it can be concluded that academic resilience is moderate to low. Meanwhile, the level of academic procrastination of the research subjects is described in Table 3.

The categorization of academic procrastination in Table 3 shows that there were fifteen respondents, with a percentage of 14.1%, do academic procrastination at a low level. In addition, there were 62 respondents, 57.9% doing moderate academic procrastination, and 30 respondents, with a percentage of 28.0% doing academic procrastination at a high level. Thus, it is indicated that the percentage of academic procrastination in the high category is two times greater than in the low category, specifically, the score of 28.0% compared to 14.1%. It can be concluded, however, that the level of academic procrastination carried out by students is in the moderate category.

In addition, the results of the hypothesis test that were obtained from the Path Regression Coefficient score of Model 1 can be explained in Table 4.

Table 4 shows that the coefficient significance of self-efficacy on academic resilience is $0.000 < 0.05$. It is indicated that academic resilience has a significant effect on

Table 2. Categorization of academic

Category	Criterion	Frequency	Percentage
Low	X < 50	26	24,3%
Medium	50 < X < 75	62	57,9%
High	X > 75	19	17,8%
Total		**107**	**100%**

Table 3. Categorization of academic procrastination

Category	Criterion	Frequency	Percentage
Low	X < 44	15	14,1%
Medium	44 < X < 66	62	57,9%
High	X > 66	30	28,0%
Total		**107**	**100%**

Table 4. Path Regression Coefficient

Independent Variable	Dependent Variable	Standard Coefficient (beta)	Sig
Self-Efficacy	Academic Resilience	0.675	0.000

self-efficacy. In addition, the Pearson correlation score of self-efficacy on academic procrastination is described in Table 5.

Table 5 presents the result of the R Square score in the Path Regression Model 1, which has a score of 0.456. This result indicated an effect of self-efficacy on academic resilience, with a score of 45.6%. On the other hand, another score of 53.4% was the result of other variables which were not included in this study. Moreover, the score of e1 can be obtained from the formula of e1 $= \sqrt{(1-0.456)} = 0.736$. Therefore, the path regression structure of model 1 can be obtained as follows (Fig. 1):

From the results of hypothesis testing, the score of the Path Regression Coefficient Model 2 was Obtained. The results are described in Table 6.

The table of Path Regression Model 2 presents the coefficient significance of self-efficacy on academic procrastination, which has a score of 0.000. Meanwhile, the coefficient significance of academic resilience on academic procrastination is 0.000. The coefficient significance of self-efficacy is lower than 0.05 (<0.05), indicating that self-efficacy has a significant effect on academic procrastination. Likewise, the coefficient significance of academic resilience on academic procrastination is 0.000, which can be interpreted that the significance score of academic resilience being lower than 0.05 (< 0.05). Thus, it can be concluded that there is a significant effect on academic procrastination.

Table 5. The score of the R Square Path Coefficient

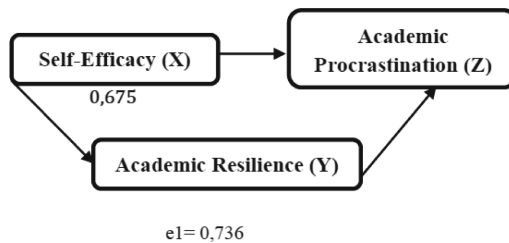| Path Regression Model	R	R Square
1	0.675	0.456

Fig. 1. Path Regression Model 1

Table 6. Path Regression Coefficient Model 2

Independent Variable	Dependent Variable	Standard Coefficient (beta)	Sig
Self-Efficacy	Academic Procrastination	−0.364	0.000
Academic Resilience		−0.435	0.000

Table 7. The score of R Square Path Coefficient Model 2

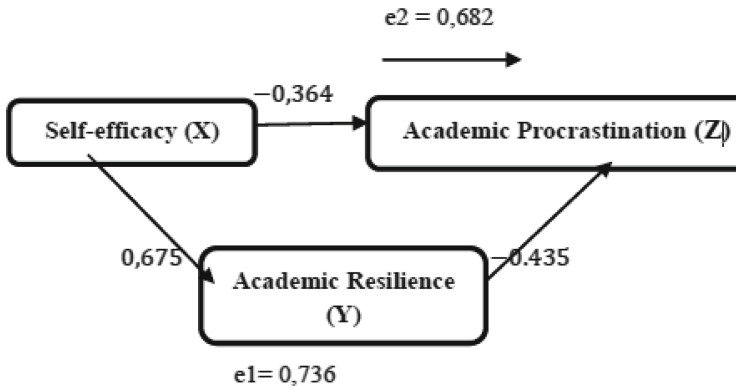| Path Regression Model	R	R Square
2	0.732	0.535

Fig. 2. Path Regression Model 2

Table 7 shows that the score of the R Square in Path Regression Model 1 is 0.535. It means that the contribution of self-efficacy and academic resilience to academic procrastination is 53.5%, and the remaining 56.5% is the contribution of other variables that are not.

Based on the results of the hypothesis analysis in Fig. 2 shows that the direct effect score of self-efficacy on academic procrastination is −0.364. On the other hand, the indirect effect of self-efficacy through academic resilience on academic procrastination is the multiplication between the score of beta X (ED) against Y (RA) and the score of beta Y (RA) against Z (PA), which is $0.675 \times (-0.435) = -0.294$. So, the total effect of self-efficacy on academic procrastination is obtained through the score of the direct effect plus the indirect effect, particularly $-0.364 + (-0.294) = -0.658$. Based on the results of these calculations, it can be explained that the direct effect score is −0.364, and the indirect effect score is −0.294. In other words, if the score of direct effect and indirect effect is compared, it can be seen that the score of indirect effect is greater than the score of direct effect. The score of indirect effect, which is greater than the score of direct effect, indicates that there is a mediating variable. Thus, it can be clarified that academic resilience indirectly mediates the effect of self-efficacy on academic procrastination.

The present study examined academic resilience, which mediated the effect of self-efficacy on students' academic procrastination during the COVID-19 pandemic. This study was conducted due to students' procrastination in completing tasks. During the COVID-19 pandemic. Since there was a different learning system in the emergence of the pandemic, it required students to be able to make adjustments in learning, especially in completing their tasks. To deal with different conditions, however, the students need to be not only persistent but also confident in their ability to complete their academic

tasks. The findings in this study revealed that the students' self-efficacy has a significant effect on academic resilience. There was a positive correlation between self-efficacy and academic resilience. It is supported by the study conducted by Oktaningrum and Santoso (2018), which found that there was a positive relationship between self-efficacy and academic resilience. Furthermore, they also explained that self-efficacy and resilience were two things that support each other. This finding was also in line with a study by Anggraini (2017), which revealed that self-efficacy has an important influence in dealing with academic difficulties, such as not giving up easily, never quitting, and being tough in dealing with academic problems. Therefore, individuals with low resilience tend to be unable to solve problems easily (Sari, 2017). This issue happened because self-efficacy is one of the protective or central factors of academic resilience (Lightsey et al., 2006).

Individuals with academic resilience will be able to deal with pressures related to academic tasks (Harahap, 2020). This view is in line with the results of this study which found that there was a significant effect between academic resilience and academic procrastination. In other words, individuals with persistence and resilience in confronting pressures will not procrastinate on tasks. It is supported by the study conducted by Hendriani (2017) that individuals who have good academic resilience will never give up easily on solving academic problems. They tend to be more positive, optimistic, and able to solve problems effectively. Through self-efficacy or good resilience, individuals can also be more convincing to deal with various problems to achieve their goals easily.

Confidence in self-ability is obtained when a person has good self-efficacy. Individuals with good self-efficacy tend to have a more positive perception of a problem. Thus, they can solve their problems easily. Meanwhile, individuals who have low self-efficacy tend to have difficulty adjusting to problems. It makes them postpone solving their problems, especially in the academic scope (Lunga, 2021). This view is also in line with the results of this study which showed that there was a strong negative relationship between self-efficacy and academic procrastination. In other words, the higher the self-efficacy, the lower the academic procrastination.

Another study finding revealed that academic resilience is a mediator between the effect of self-efficacy and academic procrastination. It is supported by Hayat's (2001) study, which found that academic resilience significantly mediated the relationship between self-efficacy and student questions. Although with different variables - self-efficacy and academic resilience procrastination-it remain a significant mediating variable.

This study concludes that there was a significant positive effect between self-efficacy and academic resilience and a negative correlation between efficacy and academic procrastination. About the three variables, it can be concluded that academic resilience was a variable that mediated the effect of efficacy on academic procrastination.

The limitations in this study are related to the academic resilience variable, which mediates the effect of self-efficacy on academic procrastination during the covid 19 pandemic. This study cannot be generalized to other phenomena or natural learning systems because the data of this study was taken from remote learning systems during the COVID-19 pandemic. In addition, the

respondents in this study were limited to a sample of high school students, so it could not be generalized to higher education or junior high school levels. Therefore, a more in-depth study is needed regarding the topic of this research, which might be concerned with different phenomena or a larger population of respondents.

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