

# Is There Any Difference in the Growth Mindset between Male and Female Students during a Pandemic?

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## ABSTRACT

The pandemic that occurred until July 2021 still had an impact on the implementation of education in Indonesia. We examine how the growth mindset of students in the teaching and education faculties is during the pandemic. One hundred eighteen students participated in this study by filling out an online growth mindset questionnaire with the help of a Google form. Descriptive statistical tests were conducted to see the percentage of growth mindset, which included two dimensions, namely intelligence mindset and moral mindset. In addition, we tested the differences on both dimensions of growth mindset based on gender and GPA. The results showed that the percentage of intelligence mindset and moral mindset was at points 3 and 4 based on a Likert scale of 1 to 6. This was in the moderate category. There is no difference in the intelligence and Moral mindset based on gender and GPA. This result proves that both men and women have the same tendency of growth mindset position.

**Keywords:** growth mindset, fixed mindset, gender, education school

## INTRODUCTION

Pandemics that occur throughout the world impact many aspects of life, one of which is the learning process. Full online learning is recommended and even mandatory for all levels of education. However, the impact is starting to be felt until many studies report that online

learning is not effective (Nurdin & Anhusadar, 2020); this is due to its impact on learning effectiveness such as dizziness because students are required to interact online through gadgets, online learning is boring ((Mustakim, 2020). very ineffective and students ask to immediately apply face-to-face learning because online learning cannot be used as a suitable method in the teaching and learning process (Dewantara & Nurgiansah, 2020). Other research says that online learning makes it easy for students to commit academic dishonesty (Herdian et al., 2021), as well as academic stress (Herdian & Mildaeni, 2021). However, there are also research reports that say that online learning has proven to be effective during WFH due to the Covid-19 pandemic (Darmalaksana et al., 2020; Simatupang et al., 2020)

Many factors influence the ineffectiveness of online learning. For example, many teachers find it challenging to adapt to technology, especially teachers aged 50 years and over. As evidence that we conducted an initial study on the application of online learning, information was obtained that it was challenging to learn the technology used to support online learning. On the other hand, the teacher must also prepare a lot of creative materials and strategies in online learning so that students can learn with fun but stay focused. Similar to the results of research conducted by Ula et al., (2021), teacher mastery of technology

still lacks in online learning, so that teachers become stressed in dealing with their work (Anita et al., 2021). In addition, the application of online learning is still far from the concept of e-learning, such as Interactivity, Independence, Accessibility, and Enrichment (Jaelani et al., 2020). This is the reason why online learning in Indonesia is not optimal in its application

Other factors, such as psychology in online learning, are quite a concern for researchers. A research report by Wijayanti & Widodo (2021) states that student motivation in learning plays an important role in online learning success during a pandemic. In addition, a recent study said that one of the efforts to increase or maintain student enthusiasm for online learning during a pandemic is to increase the growth mindset (Zhao et al., 2021). Studies on growth mindset have shown that someone with a growth mindset will change or improve their situation that is considered detrimental and challenging (Liu et al., 2020). It can be concluded that in a pandemic condition that requires online learning to be considered a challenge for students to continue to follow well without any obstacles and decreased academic performance.

The term growth mindset is the individual's perspective on his abilities and intelligence (Duckworth, 2016). The concept of mindset refers to the underlying belief whether personal attributes, such as intelligence, emotions, and personality, can change (Dweck, 1999). This perspective is whether it is fixed or growth. Growth mindset is a condition where a person will assume that everything can change such as intelligence and morals. On the other hand, the fixed mindset assumes that everything is permanent and difficult to change, including intelligence and morals. The growth mindset has been widely studied to be able to have a positive impact such as school well-being and Grit (Wahidah & Royanto, 2019), achievement (Sawitri, 2019), entrepreneurial behavior on the internet

(Dewi et al., 2020), and self-regulated learning (Putri & Royanto, 2021)

The mindset possessed by individuals is caused by environmental factors such as parents, family, community, friends, mass media (Iskandar, 2008). In addition, other studies say that there are demographic factors that affect the growth mindset, such as gender. Like a study conducted by Macnamara & Rupani (2017), intelligence and mindset are significant in women (but not in men), which shows that smarter women tend to have fixed mindsets. In addition, women are more susceptible to the detrimental effects of a fixed mindset in mathematical ability (Dweck, 2007). Another study said no difference in a growth mindset for women and men (Sigmundsson et al., 2020). The differences in the results of previous studies are interesting to study further with regard to gender differences in a growth mindset. In addition to the purpose of gender differences in the growth mindset, it is also important to investigate whether there are differences in the growth mindset based on the GPA

## **MATERIALS & METHODS**

### **Participants**

This research was conducted during the pandemic in Indonesia. Participants in this study amounted to 118 active students from the faculty of teaching and education in Indonesia. Filling out the questionnaire was done online by participants using a Google form. Willingness to become a respondent is indicated by a statement of agreement before the online filling begins. Based on table 1. Information was obtained that in the age category, this study was dominated by the age of 18 years as many as 22 students or 18.6%, 19 years as many as 44 students or 37.3%, and 20 years as many as 35 students or 29.7%. While the participants are at least 17 years old, 24 years old, and 27 years old, each is one student or 0.8%. Based on the semester category, this research was dominated by

semester 2 with 64 students or 54.2% and semester 4 with 50 students or 42.4%.

Meanwhile, the participants were at least from semester 8 (2.5%) and semester 6 (0.8%). Based on gender category, this study was dominated by females as many as 103 female students or 87.3%, while male as many as 15 students or 12.7%. Based on the last GPA category, participants with a final GPA of 3.51 - 4.00, namely 74 students or 62.7%, dominated this study. GPA 2.76 - 3.50 was 43 students or 36.4%, the least was GPA 2.00-2.75 as many as one student. We also collect data regarding "Are the majors taken in accordance with their passion?" obtained information that 106 students, or 89.8%, said was appropriate. In comparison, as many as 12 students, or 10.2%, said it was not following their passion.

### Measure

The data collection tool uses a scale Implicit Theory Measures developed by Dweck et al. (1995). The intelligence mindset consists of 3 statement items, and the moral mindset consists of 3 statement items. Cronbach's Alpha Scale ( $\alpha$ ) for the intelligence mindset is 0.809, and the moral mindset is 0.878. Both scales have item-test correlation values in the range of 0.624-0.704 for the intelligence mindset and 0.737-0.787 for the moral mindset, so it can be said to have a good item-test correlation

value. Scoring data using a Likert scale from 1 (true) to 6 (not true).

Variable	Level	Count	%
Age	17	1	0.8
	18	22	18.6
	19	44	37.3
	20	35	29.7
	21	12	10.2
	22	2	1.7
	24	1	0.8
	27	1	0.8
Semesters	2	64	54.2
	4	50	42.4
	6	1	0.8
	8	3	2.5
Sex	Male	15	12.7
	female	103	87.3
GPA	2,00 - 2,75	1	0.8
	2,76 - 3,50	43	36.4
	3,51 - 4,00	74	62.7
Is Majors your passion?	yes	106	89.8
	No	12	10.2

### Statistical Analysis

We calculated the Likert scale distribution percentage based on the respondent's answer choices using descriptive analysis. Then test the Independent Samples T-Test to see the difference in intelligence mindset and moral mindset based on the demographic data obtained, namely sex and GPA.

### RESULT

We conducted a percentage analysis on the answer choices given by all respondents; the data is shown in table 1. Each item's percentage was carried out for two mindset domains, namely intelligence mindset and moral mindset.

variable	items	percentage (%) of Likert scale						mean	SD
		1	2	3	4	5	6		
Intelligence Mindset	Item 1	7.6	13.6	41.5	21.2	13.6	2.5	3.415	1.571
	Item 2	10.2	23.7	18.6	24.6	12.7	10.2	3.458	1.539
	Item 3	9.3	21.2	23.7	27.1	12.7	5.9	3.619	1.643
Moral Mindset	Item 1	13.6	16.9	23.7	18.6	14.4	12.7	3.271	1.167
	Item 2	8.5	25.4	19.5	17.8	16.1	12.7	3.364	1.483
	Item 3	11.0	18.6	19.5	17.8	14.4	18.6	3.305	1.349

The Likert scale score used in this study is in the range of 1 to 6. A score of 6 is the highest score which states "very like me" with the respondent's self (growth mindset). While the score of 1 is the lowest score which states "very not like me" with

the respondent's self (fixed mindset). Based on table 2. It can be obtained information that in the intelligence mindset variable, the highest percentage is in the Likert range 3 and 4. It can be concluded that, in general, the intelligence mindset of our participants

does not have a high enough growth mindset tendency because the Likert score is in the middle of the range. While on the moral mindset variable, the highest percentage is in the ranges 3 and 2. It can be

concluded that, in general, the moral mindset in item 1 and item 3 has a "slight" tendency to fix mindset. While in item 2, participants tend to fix mindset.

**Tabel 3. Independent Samples T-Test by Sex**

		Mean	SD	t	df	p
Intelligence Mindset	male	10.600	2.971	0.798	116	0.426
	female	9.845	3.480			
Moral Mindset	male	10.467	3.871	-0.024	116	0.981
	female	10.495	4.334			

Note. Student's t-test.

Based on table 3, the calculation of the study results using the independent sample T-test shows that the t-count value of gender in the intelligence mindset was obtained 0.798 with sig 0.426 ( $p > 0.05$ ). This means that there is no difference in

intelligence mindset based on gender. Furthermore, the t-count value of sex on the Moral mindset was obtained -0.024 with a sig of 0.981 ( $p > 0.05$ ) so it can be concluded that there is no difference in the Moral mindset based on gender.

**Tabel 4. Independent Samples T-Test by GPA**

	GPA	Mean	SD	t	df	p
Intelligence Mindset	3,51 - 4,00	10.311	3.523	1.74	115	0.084
	2,76 - 3,50	9.186	3.088			
Moral Mindset	3,51 - 4,00	10.662	4.433	0.665	115	0.507
	2,76 - 3,50	10.116	3.995			

Note. Student's t-test.

Based on table 4, the calculation of the study results using the independent sample T-test shows that the GPA t-count value on the Intelligence mindset is 1.74 with sig 0.084 ( $p > 0.05$ ). Furthermore, the GPA t-count value on the Moral mindset was obtained 0.665 with a sig of 0.507 ( $p > 0.05$ ) so it can be concluded that there is no difference in the Moral mindset based on GPA.

men and women. It is likewise based on the GPA owned by each student.

## DISCUSSION

The growth mindset is essential for students because it can significantly impact students' academic performance. During this pandemic, the growth mindset has an important role. Especially when online learning is considered ineffective and adverse situations are encountered during a pandemic. The results of our study point to the growth mindset of students during the pandemic and how it differs between gender and GPA. The results of our investigation found no difference in the intelligence mindset and neither in the moral mindset for

The results of previous studies related to growth mindset and gender found that female students were reported to have higher mathematics achievement than male students in Indonesia. This happened. Along with the increase in the growth mindset, students' mathematics achievement also increased (Kismiantini et al., 2021). However, apart from achievement, we found no difference between men and women. This research implies that both men and women have the same growth mindset. So they have no different abilities in increasing the growth mindset. This is possible because the pandemic conditions faced by students impact the same problems as previous research discussed.

Based on descriptive data, we found that students' growth mindset was at the level of points 3 and 4 on a scale of 1 to 6. This shows that there is no high or low growth mindset tendency. So the implication of this research is that it is

necessary to increase students' growth mindset so that they can carry out online learning optimally and take advantage of this adverse situation to be a challenge. This is following previous research which said that students with a growth mindset were able to change negative situations, so that students spent a lot of time changing the situation so that it was in line with their learning goals (Liu et al., 2020).

## CONCLUSION

The pandemic that occurred in Indonesia until July 2021 still impacted the learning process, including in universities. The growth mindset is believed to overcome all forms of academic problems that are supposed to improve academic performance during the pandemic. No previous research has directly looked at the differences in gender and GPA in students' growth mindset. However, our results confirm that there is no gender difference in students' intelligence mindset and moral mindset. Likewise, no differences were found in the GPA results between the intelligence mindset and the moral mindset. However, we suggest to the institution that the mindset has an important role in students' academic success.

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