

The Way to Improve Mental Health and Change Stress Mindset by Using Online Education Platform

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Abstract

Stress mindset is a perspective on stress that can change stress management and performance in stressful situations. In relation to stress mindset aspects, this study verified the impact of academic stress, future anxiety, and positive mental health as a way to improve the mental health of students with a positive stress mindset through an online social networking platform. Additionally, the effectiveness of resilience was demonstrated as a way to increase the effectiveness of stress mindset. In order to verify hypotheses, this study conducted a survey from 104 university students in Korea. The results indicated that stress mindset was directly related to academic stress. In addition, resilience had a significant moderating effect on the relationship between stress mindset and academic stress. However, since the effect was not found for future anxiety and positive mental health, the need to establish a new strategy was raised. The research has implications in suggesting ways for students to have a positive stress mindset and increase its effectiveness.

Keywords: Stress Mindset, Academic Stress, Resilience, Future Anxiety, Positive Mental Health

1. INTRODUCTION

The 4th industrial era and the post-corona era place various burdens on college students looking for jobs due to an unpredictable future such as rapid environmental changes. In particular, job replacement anxiety caused by AI can cause psychological anxiety and job uncertainty [1,2]. This burden increases current academic stress and anxiety about the future. Additionally, because academic stress and anxiety have a positive correlation with each other, it explains that experiencing greater academic stress can cause greater anxiety [3]. Stress and anxiety caused by the burden of the future environment lower current performance and create a negative view of the future. As a process to resolve this phenomenon, this study explains the importance of stress mindset, resilience, and positive mental health in relation to anxiety about the future and

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academic stress.

Stress mindset is defined as a positive and negative mindset about stress. Stress mindset can be viewed as the extent to which one believes that stress is positive or negative for personal performance, goal achievement, and health [4-6]. Therefore, individuals may have different stress mindsets.

This study is based on the importance of stress mindset and explains the effectiveness of an online education platform as a way to change it. Students who receive training on stress mindset through an online education platform for a certain period of time will have a more positive stress mindset.

Students with positive stress-enhancing mindset will be less stressed about their current studies. Those who receive stress mindset training will maintain higher levels of positive mental health. Additionally, they will feel relatively less anxiety about the future. Anxiety is a frequently experienced mental health problem, and one of the anxiety disorders among students is anxiety about the future. High unemployment can be the most important stress factor for future anxiety, and one of the factors that reduces and protects future anxiety is resilience [7]. Based on this, this study emphasizes the importance of resilience, similar to stress mindset. Your results will be better if you have a positive attitude toward stress or if you can recover more easily from stress. Therefore, students with a stress-enhancing mindset and resilience will perceive less academic stress and future anxiety and maintain positive mental health.

Based on the research background presented above, the purpose of this study can be summarized as follows. First, this study explains the potential of an online education platform to help students have a more positive stress - enhancing mindset. Second, we investigate the relationship between resilience and students' performance - current academic stress, future anxiety, and positive mental health. Third, the interactive effects of stress mindset and resilience are verified. Through this process, the purpose and significance of the study is to assert the effectiveness of the online platform for changing stress mindset and to explain the influence of stress mindset and resilience on performance-related indicators of students.

2. Theoretical Background and Hypotheses

2.1 Positive Stress Mindset and Academic Stress

Stress mindset is defined as an individual's perception of stress and includes mindsets that enhance stress and mindsets that weaken stress [8]. Stress mindset is an individual's cognitive beliefs and can be viewed as an individual's interpretation of a stimulating event. When an individual is faced with a series of stresses and events, individuals with a positive stress mindset tend to interpret them from a positive perspective. These individuals may induce higher levels of positive emotions, and conversely, individuals who adopt a negative perspective may lead to more negative emotions or experiences [9]. This explains the cognitive differences of an individual and may differ depending on whether an event is perceived and interpreted positively or negatively. Therefore, stress that appears based on work or study may also be related to a person's stress mindset. This is because individuals with a more positive stress mindset tend to perceive problems from a positive perspective, thus experiencing more positive emotions, which ultimately promotes the reduction of negative emotions caused by academic stress [9-10].

When individuals face to academic stress, they with a positive stress mindset are able to take on the challenge and academic stress directly and view it as a positive aspect. This can reduce academic stress caused by school by making efforts to find a career path rather than avoiding it and turning attention to other aspects of life [6]. Academic stress can be directly related to exams in general. Therefore, the stress mindset may determine the level of academic stress depending on how one perceives the exam. Having a positive stress mindset can reduce academic stress caused by exams by viewing exams as a challenge rather than a threat and coping with them leisurely [11]. In addition, positive stress mindset can lead students to have more positive psychological health before exams because they perceive exams as more challenging. This can reduce academic stress by reducing the occurrence of negative emotions [11]. Overall, a positive stress

mindset plays a role in reducing academic stress by increasing the desire for academic achievement by not viewing exams as a threat and reconsidering the benefits of academic stress [12]. Conversely, when an individual's stress mindset is more negative, academic stress increases due to the perception that grades may lead to fear of losing self-recognition, which may lead to fear of losing self-recognition and even punishment [11]. Therefore, a positive stress mindset will reduce students' academic stress. Through this theoretical point, this study established Hypothesis 1 as follows.

Hypothesis1: A positive stress mindset will have a negative effect on academic stress.

2.2 The Moderating Effect of Resilience in the Relationship between Stress Mindset and Academic Stress

Academic stress refers to mental anxiety or distress that occurs in response to a negatively perceived school situation or environment [13]. Additionally, academic stress can be viewed as an individual's perception that the need for knowledge increases while at the same time there is not enough time to achieve that knowledge [14]. Collectively, academic stress is defined as the tension experienced by students, which often results in a painful state that manifests itself in a variety of psychological and behavioral problems [15]. Academic stress is a form included in the stress concept and may be related to stress mindset. Furthermore, it is believed that it can be controlled by resilience to cope with stress. Resilience refers to an individual's ability to adapt to significant adversity while maintaining a sense of safety [16]. Additionally, resilience is the ability to successfully overcome challenges and cope with change, providing experiences and opportunities for learning and growth [17]. Therefore, resilience can play a positive role in negative situations. In particular, it plays a key role in finding the power to influence or change the situation given to oneself for success [18], and as an important factor in task performance, the higher the resilience, the more difficult the situation or the high stress. Replace flexibly according to the environment [19]. Through these roles of resilience, the level of resilience may be related to the level of academic stress and how such stress is accepted and resolved. It is also believed that the level of academic stress can be determined via the interaction between positive mindset and resilience.

Stress mindset and resilience can facilitate to reduce the negative consequences of related stress by approaching stressful situations resulting from work within an organization from a more positive perspective and viewing them as challenges rather than threats [20]. In addition, a positive stress mindset and resilience, which is regarded as a positive attitude toward stress, can play a positive role in mental health because these attitudes substantially influence an individual's response to stressful experiences [20]. Resilience plays a facilitating role in forming a high level of positive stress mindset [21]. Therefore, positive stress mindset and resilience may have a positive correlation with each other. This explains that the stronger your resilience, the more likely you are to form a positive stress mindset. A high level of resilience allows individuals to turn their stress into a positive aspect and form a positive stress mindset in the face of adversity, allowing them to view uncertainty brought about by work as a challenging experience they can cope with and improve their mental health [20]. Furthermore, even if an individual's work stress is high, when he or she has a positive stress mindset, he or she maintains positive affect without damaging resilience, thereby protecting oneself from emotional fatigue and negative affect [22]. Additionally, a positive stress mindset can help people improve themselves by viewing stressors as challenges and reducing stress [23]. Through this, positive stress mindset can be seen as a key variable that can play a role in reducing academic stress. In these situations, higher resilience can help you overcome and resolve stress. Additionally, positive stress mindset and resilience are positively related to each other. Therefore, higher levels of positive stress mindset and resilience may lead to lower levels of academic stress via their interaction. Therefore, Hypothesis 2 was established as follows.

Hypothesis2: Resilience will moderate the relationship between stress mindset and

academic stress.

2.3 The Moderating Effect of Resilience in the Relationship between Stress Mindset and Future Anxiety

One of the concepts related to perspectives on the future is future anxiety [24]. Future anxiety refers to uncertainty, worry, and concern about what may happen in the future, and it is cognitive rather than emotional [25]. Future anxiety also refers to how people react to fears, personal experiences, and current events [25, 26]. Resilience is one of the factors that promotes the avoidance of anxiety by recognizing factors that can affect the way one responds to stressors and minimizing these effects [7, 27]. Resilience is the ability to maintain psychological functioning in difficult situations, and resilient individuals are able to maintain or restore mental health even after experiencing significant events such as grief, trauma, or stress. In these situations, resilience can help individuals have better adaptation processes to avoid future anxiety [7]. The higher the resilience, the more likely it is to find positive meaning in the process of performing work, allowing for a relatively optimistic evaluation. Furthermore, it can effectively cope with stress that occurs during the work process, ultimately reducing anxiety [28]. Additionally, when employees feel anxious, employees with high resilience are able to face difficulties and recover more easily from setbacks and failures [29]. Compared to low-resilience individuals, high-resilience individuals are less vulnerable to negative psychological outcomes due to lower rates of increase in future anxiety [30]. In particular, they are less vulnerable to threats and therefore less affected by additional stressors, namely job-related stress [31].

Resilience is an individual's resource, and when the level of resilience is high, it helps members engage in their work with less negative effects of social media misinformation, perceived threats, and anxiety [32]. Collectively, individuals with less resilience may experience significant stress if they perceive a situation as very threatening. However, performance makes a big difference if individuals view the situation as a challenge and feel they have the resources necessary to overcome the challenge [33]. On the other hand, people with a positive mindset that enhances stress are able to maintain optimal alertness in stressful situations due to their way of thinking. Conversely, people with a negative mindset deny stressful situations or become overwhelmed by them, causing more stress. Furthermore, individuals with a positive stress mindset are able to predict their optimal level of arousal, which leads to lower levels of anxiety. Additionally, individuals with a negative stress mindset may become overwhelmed by stress, causing high levels of anxiety [34]. Through previous research by [35], it has been verified that stress mindset has a negative effect on anxiety. Through this, higher levels of stress mindset may predict lower levels of future anxiety. Additionally, prior research has already shown that higher levels of resilience can lead to lower levels of anxiety [36]. In relation to these theoretical perspective, the stronger individuals' positive stress mindset and resilience, the more their level of future anxiety will be reduced. In other words, the stronger the resilience of a positive stress mindset in reducing future anxiety, the more likely its interaction with a positive stress mindset can lead to a lower level of future anxiety. Based on this, Hypothesis 3 was established as follows.

Hypothesis3: Resilience will moderate the relationship between stress mindset and future anxiety.

2.4 The Moderating Effect of Resilience in the Relationship between Stress Mindset and Positive Mental Health

Stress mindset is viewed as a set of beliefs that individuals use to drive expectations of specific responses [4]. Stress mindset affects an individual's motivation, well-being, and learning, so changing an individual's mindset can improve mental health and overall well-being [5, 37]. Additionally, the negative impact on an individual's mental health can be reduced by a stress-enhancing mindset. This is because when an individual

has a stress-reinforcing mindset, they can view high levels of negative stress as strengthening their potential resilience and are more likely to view the stressor positively and be more accepting of the situation [38].

Even if individuals with high resilience experience adversity while performing their work, they are able to overcome such situations without negative effects on their psychological health and alleviate the stress that arises based on the unpredictable organizational environment [39]. Resilient individuals perceive difficulties as challenges, which makes them committed and committed to achieving their goals and working hard to meet their needs and desires. This can ultimately lead to a better positive evaluation of one's life [40]. The higher the resilience, the better employees are able to elicit positive emotions when coping with stress, show persistence at work, and better handle emotional stressors [41]. Additionally, the more resilient you are, the more confident you are and the ability to express positive emotions, and the easier it is to acquire appropriate coping strategies and diverse perspectives. Ultimately, one can effectively express negative emotions and effectively control the negative impact of stress on oneself [42]. In addition, resilience can help develop the ability to face future events and consequently improve well-being at work [43].

Overall, resilience is a protective factor against stress, has a positive impact on an individual's psychological well-being, and plays a positive role in maintaining psychological health. In addition, the quality of positive mental health can be further improved by positively adapting to work and reducing the negative impact of negative stress on mental health due to the moderating effect of resilience [44]. Higher levels of resilience lead to improved quality of life, lower perceived stress, and mental health varies significantly depending on level of resilience, with individuals with lower levels of resilience having a much higher prevalence of mental illness than those with higher levels of resilience [45]. Based on this, the more positive stress mindset and resilience you have, the more your positive mental health will improve. In other words, the higher the resilience in situation, where a positive stress mindset can lead to positive mental health, the higher the correlation with the positive stress mindset will improve a higher level of positive mental health. Therefore, Hypothesis 4 was established as follows.

Hypothesis4: Resilience will moderate the relationship between stress mindset and positive mental health.

3. Method

3.1 Sample and Procedures

This study conducted a survey from university students in Korea. The data were collected from March 2024 to April 2024. Specifically, a total of 104 questionnaires were distributed online and a total of 104 questionnaires were collected. Therefore, the recovery rate was 100% and the data were used in the empirical analysis. The result of the demographic characteristic analysis is summarized as follows. There is a total of 104 participants, 69 male (66.3%) and 36 female (33.7%). Regarding age, less than 20 years old were 34(32.7%), 21 years old were 20(19.2%), 22 years old were 20(19.2%), 23 year old were 13 people(12.5%). over 24 years old were showed to be 17(16.3%). Regarding the current grade, there are 30(28.8%) students are in grade 1, there are 32(30.8%) students are in grade 2, there are 30(28.8%) students are in grade 3, and there are 12(11.5%) students are in grade 4. Lastly, in relation to major, the management majors accounted for 85.6% with 89 students, the humanities and social sciences majors accounted for 6.7% with 7 students, and other majors accounted for 7.7% with 8 students. Table 1 below shows the results of the demographic characteristics analysis.

Table 1. Demographic Characteristics Analysis

		Frequency	Percent
Gender	Male	69	66.3
	Female	35	33.7
Age	Less than 20	34	32.7
	21	20	19.2
	22	20	19.2
	23	13	12.5
	Over than 24	17	16.3
Grade	Grade 1	30	28.8
	Grade 2	32	30.8
	Grade 3	30	28.8
	Grade 4	12	11.5
Major	Management	89	85.6
	Humanities and social Sciences	7	6.7
	Other	8	7.7

3.2 Operational Definitions and Measurement

To ensure the validity of the measurement tool used in this study, the measurement tools whose validity had already been secured in previous research was used. Each question uses a 5-point Likert scale. The operational definition measurement tools for each variable are summarized as follows.

Stress mindset is defined as an individual's perception of stress [8]. Stress mindset includes stress-enhancing mindset and a stress-debilitating mindset. To measure stress mindset, this study referred to the measurement tools of [46-47] and created a questionnaire with 10 questions presented in previous studies regarding positive and negative mindsets about stress. Measurement items included, for example, "Stress is good," "Stress is helpful for production," and "Stress is helpful for vitality."

Academic stress is defined as anxiety and stress arising from school life and education [48]. The measurement tool for academic stress was [47], which consists of a total of 11 questions. The sample items included "I have been restless or nervous because of my studies," "Study is a burden to me," and "I tend not to have time to do other activities because of my studies." etc. were included.

Resilience is defined as an individual's ability to resist negative outcomes associated with stressful and traumatic events [50]. Resilience also refers to the degree to which one can overcome hardships or stressful situations. To measure resilience, this study used the measurement tool of [51] and created a survey with a total of 12 questions. Measurement items include, for example, "I actively look for ways to overcome the challenges," "I encounter I look for creative ways to alter difficult situation," "I tend to bounce back after illness or hardship."

Positive mental health is defined as a positive approach toward one's health status as perceived by the individual. The measurement tool for positive mental health was used by [52], which consists of a total of 10 questions. The sample items included "I am often carefree and in good spirits," "I enjoy my life," and "All in all, I am satisfied with my life."

Future anxiety was appropriately applied to students as a measure of individual anxiety about the future. To measure future anxiety, measurement tool consisting of a total of 18 questions was used [24].

Measurement items include, for example, “I tend to feel afraid when I think about the future,” “I am afraid of planning for the future,” and “I am afraid that I will not be able to overcome difficulties in the future.” Figure 1 below is the research model.

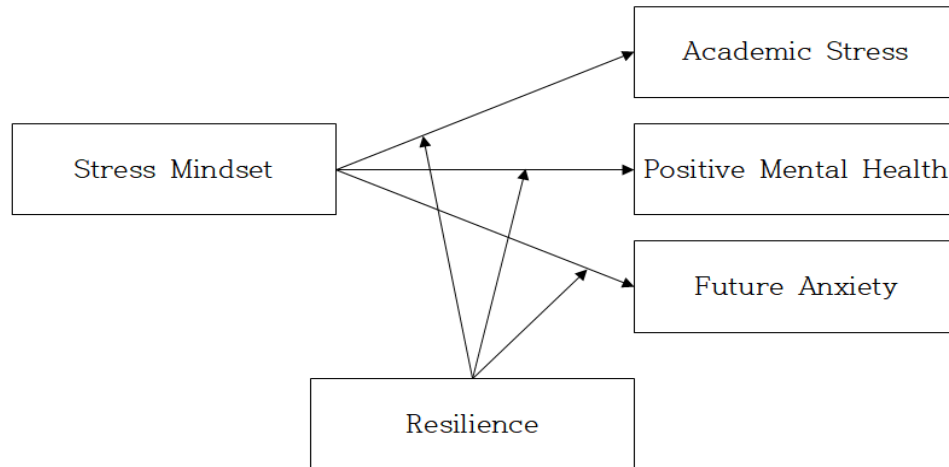


Figure 1. Research Model

4. Results

4.1 Exploratory Factor Analysis

In this study, it consisted of 10 questions about positive stress mindset, 11 questions about academic stress, 12 questions about resilience, 10 questions about positive mental health, and 18 questions about future anxiety. First, to ensure the validity of the measurement tool, exploratory factor analysis was conducted. As a result of the analysis, the factor loading value of future anxiety was .477 ~ .834 for factor 1, the factor loading value of positive mental health was .578 ~ .795 for factor 2, and the factor loading value of academic stress was .505 ~ . Factor 3 was confirmed to be 834, the factor loading value of Stress Mindset was confirmed to be Factor 4, ranging from .666 to .834, and the factor loading value of Resilience was confirmed to be Factor 5, ranging from .180 to .735. Additionally, the KMO value was .714, showing a significant result at sig=.000. Therefore, the validity of the measurement tool used in this study was validity. Table 2 below shows the results of exploratory factor analysis.

Table 2. Exploratory Factor Analysis

	Component				
	1	2	3	4	5
Stress Mindset1	-.068	.323	.027	.730	.078
Stress Mindset 2	.008	.200	-.038	.770	.038
Stress Mindset 3	-.067	.038	.118	.674	.402
Stress Mindset 4	-.103	-.115	.029	.716	.251
Stress Mindset 5	-.049	-.045	-.113	.666	.282

Stress Mindset 6	.104	.132	-.028	.834	-.035
Stress Mindset 7	-.037	.291	-.026	.721	-.177
Stress Mindset 8	.101	.178	-.004	.794	-.166
Stress Mindset 9	-.026	-.154	-.019	.791	.124
Stress Mindset 10	-.135	-.168	.048	.747	.212
Academic Stress 1	.306	-.229	.620	.189	.109
Academic Stress 2	.234	-.159	.810	.054	.018
Academic Stress 3	.157	-.357	.734	.008	.034
Academic Stress 4	.021	.001	.843	-.057	-.112
Academic Stress 5	.185	-.267	.505	.214	-.075
Academic Stress 6	.237	-.104	.746	.011	-.059
Academic Stress 7	.349	-.321	.554	.082	.060
Academic Stress 8	.147	.006	.813	-.037	-.252
Academic Stress 9	.065	-.131	.610	-.094	.085
Academic Stress 10	.099	.057	.798	-.162	-.061
Academic Stress 11	.081	-.206	.671	-.014	.040
Resilience 1	-.125	.177	-.031	-.184	.568
Resilience 2	-.122	.026	.076	.029	.696
Resilience 3	-.214	.413	.048	.177	.639
Resilience 4	-.203	.163	-.099	.169	.753
Resilience 5	-.047	.208	-.191	.268	.628
Resilience 6	-.256	.208	-.093	.209	.561
Resilience 7	-.081	.379	-.031	.171	.550
Resilience 8	-.155	.358	.006	.157	.574
Resilience 9	-.044	.159	-.002	-.007	.647
Resilience 10	.018	.133	.001	.124	.735
Resilience 11	-.136	.167	-.021	.029	.636
Resilience 12	-.148	.594	-.233	.110	.180
Positive Mental Health 1	-.168	.578	-.015	-.007	.355
Positive Mental Health 2	-.273	.633	-.144	-.022	.343
Positive Mental Health 3	-.205	.674	-.130	.123	.214
Positive Mental Health 4	-.127	.673	-.019	.095	.322
Positive Mental Health 5	-.173	.775	-.209	.050	.142
Positive Mental Health 6	.076	.582	-.317	.149	.023
Positive Mental Health 7	-.112	.738	-.325	.021	.143
Positive Mental Health 8	-.179	.725	-.103	.082	.265
Positive Mental Health 9	-.153	.795	-.202	.075	.178
Positive Mental Health 10	-.085	.777	-.034	-.043	.191
Future Anxiety 1	.628	-.253	.032	.136	.030
Future Anxiety 2	.754	-.256	.112	.039	.071
Future Anxiety 3	.748	.019	.056	-.014	-.219

Future Anxiety 4	.809	-.065	.128	-.037	-.220
Future Anxiety 5	.803	-.118	.119	-.004	-.249
Future Anxiety 6	.707	-.243	.204	-.061	-.173
Future Anxiety 7	.768	-.128	.114	.023	-.224
Future Anxiety 8	.745	-.273	.181	-.082	-.047
Future Anxiety 9	.477	-.122	.412	.009	-.133
Future Anxiety 10	.580	-.275	.241	.100	.098
Future Anxiety 11	.578	.044	.129	.006	.189
Future Anxiety 12	.801	-.016	.147	-.071	-.042
Future Anxiety 13	.750	-.358	.149	-.015	.018
Future Anxiety 14	.470	.015	.080	.122	-.253
Future Anxiety 15	.720	.041	.032	-.141	-.244
Future Anxiety 16	.712	-.266	.088	-.141	-.134
Future Anxiety 17	.834	-.151	.100	-.072	-.166
Future Anxiety 18	.707	.146	.080	-.137	-.175
Eigen value	10.035	7.333	6.475	6.181	6.150
% of Variance	16.451	12.022	10.615	10.132	10.083
Cumulative %	16.451	28.473	39.088	49.220	59.303
KMO=.714(sig=.000)					

4.2 Descriptive Statistics, Reliability, Correlation Analysis

Next, descriptive statistics, reliability, and correlation analysis were conducted. Descriptive statistics include the means and standard deviations value of variables. As a result of descriptive statistics analysis, the mean value of stress mindset was 2.359, standard deviation was .893, the mean value of academic stress was 2.836, standard deviation was .824, the mean value of resilience was 3.610, standard deviation was .631, and positive spirit. The mean value of health was 3.500 and the standard deviation was .775, and the mean value of future anxiety was 2.879 and the standard deviation was .844. Reliability was confirmed through the value of Cronbach's Alpha. Specifically, the reliability value of stress mindset was .916, that of academic stress was .917, that of resilience was .894, that of positive mental health was .925, and that of future anxiety was .949. It is significant when the reliability value is above 0.7. According to the results of this study, reliability was secured with the reliability of all variables being over 0.7.

Correlation analysis was conducted to determine the correlation between variables, and the results are summarized as follows. There was a significant positive correlation between stress mindset and resilience ($r=.321$, $p<.01$). However, the relationship between stress mindset and academic stress ($r=-.005$, $p>.05$), positive mental health ($r=-.183$, $p>.05$), and future anxiety ($r=-.103$, $p>.05$) are found to be insignificant. Academic stress was found to have a significant negative correlation with resilience ($r=-.213$, $p<.01$) and positive mental health ($r=-.417$, $p<.01$). And academic stress was found to have a significant positive correlation with future anxiety ($r=.424$, $p<.01$). Additionally, resilience was found to have a significant positive correlation with positive mental health ($r=.603$, $p<.01$) and a significant negative correlation with future anxiety ($r=-.386$, $p<.01$). It appeared that there was a relationship. Lastly, positive mental health was found to have a significant negative correlation with future anxiety ($r=-.399$, $p<.01$). The following and Table 3 show the descriptive statistics, reliability, and correlation analysis results.

Table 3. Descriptive Statistics, Reliability, and Correlation Analysis

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1			-									
2			-.198*	-								
3			.142	.542**	-							
4			.052	.204**	.479**	-						
5			-.053	.103	.078	-.078	-					
6	2.359	.893	.047	.111	.127	-.031	.115	(.916)				
7	2.836	.824	.321**	-.015	.191	.207*	-.186	-.005	(.917)			
8	3.610	.631	-.054	.144	.098	.136	-.012	.321**	-.213*	(.894)		
9	3.500	.775	-.082	.148	.024	-.214*	.164	.183	-.417**	.603**	(.925)	
10	2.879	.844	-.030	-.134	-.216*	-.114	-.128	-.103	.424**	-.386**	-.399**	(.949)

1=Gender, 2=Age, 3=Grade, 4=Major dummy(1), 5=Major dummy(2), 6=Stress Mindsed, 7=Academic Stress, 8=Resilience, 9=Positive Mental Health, 10=Future Anxiety, ()=Cronbach's Alpha

** $p < .01$ * $p < .05$

4.3 Regression Analysis

Lastly, regression analysis was conducted to verify the hypotheses established in this study. First, Hypothesis 1 established that a positive stress mindset would have a negative effect on academic stress. Regarding the significance of hypothesis testing, the significance of the correlation between stress mindset and academic stress was first confirmed. However, it was confirmed that the correlation between stress mindset and academic stress ($r = -.005$, $p > .05$) was not significant. Therefore, Hypothesis 1 was rejected.

Next, Hypothesis 2 established that resilience would moderate the relationship between stress mindset and stress. In Table 4, the interaction between stress mindset and resilience (Beta=1.479, $p < .05$) was found to be significant. Specifically, resilience was found to positively moderate the relationship between stress mindset and resilience.

Table 4. The Moderating Effect of Resilience in the Relationship between Stress Mindset and Academic Stress

	Dependent Variable: Academic Stress					
	Beta	<i>t</i>	Beta	<i>t</i>	Beta	<i>t</i>
Stress Mindset	-.005	-.053	.071	.689	-1.139*	-2.248
Resilience			-.236*	-2.303	-.754*	-3.207
Stress Mindset × Resilience					1.479*	2.435

(Interaction)			
R^2	.000	.050	.103
ΔR^2	-	.050	.053
F	.003	2.654	3.832*

** $p < .01$ * $p < .05$

Figure 2 below is a graph of the moderating effect of resilience in the relationship between stress mindset and academic stress. This explains that the impact of a high level of stress mindset on academic stress becomes greater when the level of resilience is higher. Therefore, it showed a positive moderating effect of resilience.

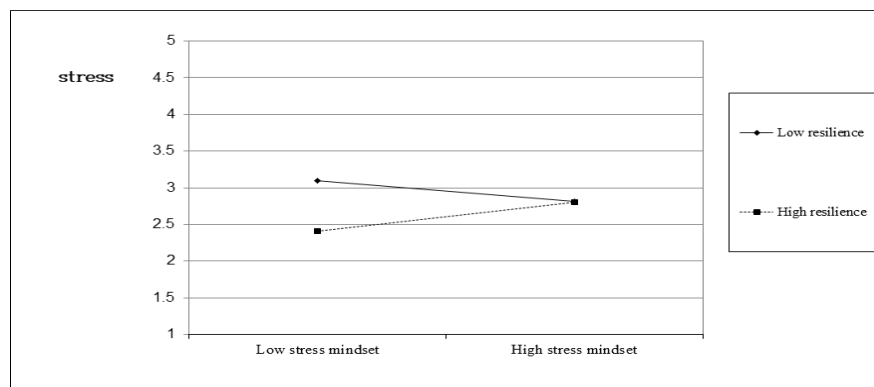


Figure 2. Graph of the Moderating Effect of Resilience in the Relationship between Stress Mindset and Academic Stress

Next, Hypothesis 3 established that resilience would moderate the relationship between stress mindset and future anxiety. Looking at Table 5, the interaction between stress mindset and resilience (Beta=.595, $p > .05$) was not found to be significant. Therefore, Hypothesis 3 was rejected.

Table 5. The Moderating Effect of Resilience in the Relationship between Stress Mindset and Future Anxiety

Dependent Variable: Future Anxiety						
	Beta	t	Beta	t	Beta	t
Stress Mindset	-.103	-1.049	.023	.239	-.464	-.945
Resilience			-.393	-4.061**	-.602*	-2.644
Stress Mindset x Resilience					.595	1.012
(Interaction)						
R^2	.011		.150		.158	
ΔR^2	-		.139		.009	
F	1.100		8.878**		6.262*	

** $p < .01$ * $p < .05$

Lastly, Hypothesis 4 established that resilience would moderate the relationship between stress mindset and positive mental health. Looking at Table 6, the interaction between stress mindset and resilience (Beta=.791, $p>.05$) was not found to be significant. Therefore, hypothesis 4 was rejected.

Table 6. The Moderating Effect of Resilience in the Relationship between Stress Mindset and Positive Mental Health

	Dependent Variable: Positive Mental Health					
	Beta	<i>t</i>	Beta	<i>t</i>	Beta	<i>t</i>
Stress Mindset	.183	1.881	-.012	-.140	-.659	-1.563
Resilience			.606**	7.233	.329	1.683
Stress Mindset x Resilience (Interaction)					.791	1.565
<i>R</i>²	.034		.363		.379	
ΔR^2			.330		.015	
<i>F</i>	3.538		28.816**		20.304**	

5. Conclusion

5.1 Discussion and Implication

Similar to previous research results, stress mindset has a significant effect on academic stress. Stress mindset can be changed from negative to positive through education or stimulation such as online platforms. Therefore, if students are educated to have a positive stress mindset, it will have a more positive impact on academic stress.

The moderating effect of resilience was found in the process of stress mindset affecting stress. This means that for students with positive stress, if their resilience is high, they will perceive less stress. Therefore, the importance of individual resilience was proven to increase the effectiveness of stress mindset.

It was found that resilience did not have a significant moderating effect in the relationship between stress mindset and anxiety. Also, the moderating effect of resilience was not found in the relationship between stress and positive mental health. These results mean that stress mindset is not directly related to anxiety and positive mental health, or does not influence resilience through resilience. Rather than approaching the anxiety about the future perceived by students from a stress perspective, it may be necessary to develop a different strategy. Although anxiety and stress may be significantly related, it has been proven that mindset about stress cannot affect anxiety. Similarly, positive mental health was not directly related to stress mindset. Having a positive stress mindset means that you can influence stress, but not your positive mental health. Therefore, for positive mental health, it is necessary to verify the influence of factors other than stress mindset.

Based on these findings, this study highlights the importance of stress mindset and resilience. It has been shown that a stress mindset affects stress, and that the effect is greater if one is resilient. Therefore, in order to manage students' stress, efforts should be made to develop a positive stress mindset through online platforms. Additionally, a strategy to achieve resilience will need to be established. Through these attempts, students will be able to manage stress, which will have a close relationship with their academic performance and health.

5.2 Limitations and the Direction of Future Research

First, this study showed that stress mindset was not directly related to future anxiety and positive mental health. Therefore, future research should establish new strategies to reduce students' future anxiety and improve positive mental health.

Second, a more diverse sample will be needed to measure various variables such as students' stress mindset. Through this, more in-depth research needs to be conducted.

Third, resilience was adopted as a control variable to increase the effectiveness of stress mindset. However, various other variables may exist. Therefore, future research will need to prove the relevance of more diverse variables.

Fourth, this study focused on the moderating effect of resilience. In future research, it is necessary to examine the moderating effect of self-efficacy [1] in the relationship between stress mindset and academic stress. This study used students' academic stress, positive mental health, and future uncertainty as dependent variables. In addition, school satisfaction will play an important role for students. School satisfaction can improve not only students' performance but also their passion and commitment to learning. Therefore, future research should focus on school satisfaction [53]. Additionally, research will be needed to explore factors that increase students' school satisfaction. For example, it will be necessary to verify the impact on school satisfaction by focusing on the school support system at the school level [54] and learning immersion at the individual student level [55].

Lastly, in relation to students' positive mental health, future research needs to conduct empirical research to explore antecedent variables and verify their influence. For example, in-depth research should be conducted to verify the role and influence of factors such as anxiety and depression [56].

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