

## Conference Paper

# The Relationship Between Hardiness and Academic Stress in XII Grade Students of X Senior High School

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## Abstract.

This study aims to examine the relationship between hardiness and academic stress during the completion of the final project in XIIth grade in students of X Senior High School. This study is based on the phenomenon of academic stress in students. One of the factors that can affect a student's academic stress level is hardiness. This study uses quantitative research techniques with correlational descriptive methods. The study was conducted on the XIIth grade students of X Senior High School in Malang, a total of 62 students. In this study, descriptive analysis was used to reveal a description of hardiness and academic stress that has been tested in general. Data collection used a modification of the Educational Stress Scale for Adolescents (ESSA) (15 items,  $r = .736$ ) and a modification of The Dispositional Resilience (Hardiness) Scale (HARDY) (27 items,  $r = .701$ ). To test the hypothesis a correlation test using Pearson Product Moment correlation was used. The results of the correlation test that had been carried out using the Product Moment correlation, got a significance value of  $.147$  which is greater than the significance of  $.05$  or a  $\text{sig} > .05$ . These results show that  $H_0 = \text{accepted}$  which means there is no correlation between the hardiness variable and the academic stress variable.

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## 1. Introduction

Education is one of the important things for human life. Education is a continuous practice consisting of a deliberately structured learning process aimed at realizing goals that are consciously derived from a certain conception of a 'good' thing [1]. Education plays an important role for each individual. The results of research from [2] states that there are several roles of education for each individual which education gives us knowledge about the world around us and transforms it into something better. Education also helps us build opinions and have a point of view on things in life. Education also makes us able to interpret various things, among other things.

Education itself can be obtained by individuals formally, non-formally as well as informally. School is one example of a formal education model. According to the APA

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Dictionary of Psychology [3] a school is a place or institution where people receive instruction. There are several levels of formal education that a person can take but it depends on their desire and intention to pursue further education. The formal education level starts from early childhood education to university. In school activities, there is an order in its implementation, including in getting an education such as assignments.

The assignments given by teachers to their students can be in the form of tasks that are done at school or tasks that are done at home. The assignments assigned by the teachers have a lot of positive impact. One of the positive impacts of giving assignments is evidenced by research conducted by [4] which found that the use of assignment methods at Bestobe State Elementary School in learning mathematics two-dimentional figure material is very beneficial for improving mathematics learning outcomes of grade VI students. The task that must also be done by the students is to do the final project. Examples of several final projects are final exams, scientific papers, theses, dissertations, essays, and so on. However, the large number of assignments can have a negative impact on the students. One of the negative impacts of giving too many assignments is academic stress. Academic stress is the mental pressure that students feel that is associated with some anticipated frustration related to their perceived academic failure or even the unawareness of the possibility of such failure [5].

The researchers had the opportunity to interview one of the teachers who also doubled as a counselor at the Charis Christian School on January 18, 2022. The interview was conducted find out about the impact of giving Scientific Paper as the final project. He said that the provision of the Scientific Paper as the final project had both positive and negative impact. The positive impact is that students are able to develop writing skills and research a phenomenon. This can be a provision for students in the future when continuing their education to the next level. However, there is also a negative impact, namely students feel pressured and stressed by the existence of assignments from school, exams, and the final project of Scientific Papers that take place together at one time. This negative impact is more pronounced during this pandemic due to limited communication with teachers and assistants when conducting guidance.

The latest data from Reasearch.com [6] shows the stress that students have regarding finals and midterm exams is the main source of stress for 31% of US students from other burdens. Meanwhile 36.5% of United States students point to stress as the biggest reason why their academic performance has declined negatively over the past 12 months For American high school students, 61% of teens admitted to feeling a lot of pressure to get good grades.

There are also studies that show students' academic stress levels in several regions in Indonesia. The first research came from [7] who examined the Level of Academic Stress of Students at Padang City Public High School. From this study, it was found that the percentage of students' academic stress levels at Padang City public high school was at a moderate level, which was in the range of 71.8%, which through these results showed that students were in a state of academic stress but they were still able to manage it. Another recent study came from [8] where the study was carried out to find out about the academic stress level of public high school students in Sidoarjo. The results of the study also showed that the highest percentage of students' academic stress levels was at 68.2% level. Through these results, it can be concluded that the average level of student academic stress is in the moderate category which means that online learning during the Covid19 pandemic has an impact on students' academic stress.

There are several kinds of responses to academic stress including thoughts, behaviors, body reactions and feelings [9]. Every human being can be different in dealing with everything that can cause problems and stress in everyday life. Likewise with the students who are undergoing education at school. Each type of person's personality can also help them in dealing with their problems, one of which is in academic stress.

There are several personality types that are very easy to get into problems if they face things that can cause stress, but on the other hand there are also personality types that have high ability and endurance in dealing with things that cause stress. This personality type is called the hardiness. Hardiness emerges as a pattern of attitudes and strategies that together facilitate the change of stressful states from potential disasters to growth opportunities [10].

The relationship between hardiness and academic stress is supported by several studies including research conducted by Putri and Sawitri on the relationship between hardiness and academic stress in level II cadets of the Semarang Merchant Marine Polytechnic (PIP Semarang). In the study, the results were found that there was a negative and significant relationship between hardiness and academic stress in level II cadets of the Semarang Merchant Marine Polytechnic (PIP Semarang). Someone who has hardiness personality, they will tend to have more ability and high endurance in dealing with things that cause stress.

Based on the above problems and exposure to the phenomena that occur, the researchers are interested in conducting research with the theme of hardiness and academic stress in XII grade students of Senior High School. The difference between the previous study and this study is the focus of stress on the subject's academic stress and the criteria of the subject under study. In the previous study academic stress with

the subject is a cadet while this study focused on academic stress in XII grade students of Senior High School.

## 2. Literature Review

According to [5] academic stress is a mental stress that students feel that is associated with some anticipated frustration related to their perceived academic failure or even the unconsciousness of the possibility of such failure. In particular, hardiness emerges as a pattern of attitudes and strategies that together facilitate the change of stressful states from potential disasters to growth opportunities [10]. There are several aspects of the hardiness including control (they believe that they are capable of controlling and influencing events in their experience), commitment (they have the ability to feel deeply involved or able to commit to activities in their lives), and challenges (they are easy to anticipate any changes that are transformed into exciting challenges for self-development even more) [11].

Students at school can experience academic stress if they are unable to deal with the problems that cause stress in them. The personality of the individual can lead them in dealing with anything that can be a problem for them. One of the personality types that can help a person in dealing with things that can trigger stress is the hardiness type.

## 3. Method

The research design used is a correlational research design. This study analyzes the relationship between tough personality as an independent variable (X) and academic stress as a dependent variable (Y) in grade 12 of X Senior High School. The population in this study were students of grade 12 in a high school in the city of Malang. The research sample is 62 students which is the total of the sample. The subject is a grade 12 student because at that level students get a lot of task demands including the final project. In this study, researchers used a questionnaire as a data collection tool. The researcher modifies the scale by translating and modifying words that are not in accordance with the research context. Sun et al.'s Educational Stress Scale for Adolescents (ESSA) was created in 2011 and Paul Bartone's The Dispositional Resilience (Hardiness) Scale (HARDY) was created in 1989.

The first scale is the Educational Stress Scale for Adolescents (ESSA), which consists of 15 test items from a total of 32 items. The Likert scale used in this instrument uses 5

answer options, namely 1 = Strongly Disagree to 5 = Strongly Agree. The second scale is The Dispositional Resilience (Hardiness) Scale (HARDY) which consists of 27 test items from a total of 60 using a Likert scale for answer choices 1 = Very incompatible to 4 = Very compatible and includes favorable and unfavorable questions.

The type of validity that the researcher uses is construct validity. The validity test is used by researchers using Pearson's Product Moment. The validity test was carried out through the results of the instrument trial that had been carried out by the researcher. The researcher conducted a test of the instrument to 30 students of SMA Negeri 2 Malang. From the results of the ESSA scale validity test, there are 15 valid items. Meanwhile, from the results of the HARDY scale validity test that has been carried out, there are 27 valid items.

Researchers used internal consistency reliability using the Alpha Cronbach technique. Based on the results of the reliability test that has been carried out on the ESSA scale which consists of 15 items, the researcher gets a reliability coefficient of .736. Based on the results of the reliability test that has been carried out on the HARDY scale which consists of 27 items, the researcher gets a reliability coefficient of .701. The reliability coefficient category of these results is in the high category.

In this study, descriptive analysis was used to reveal a description of tough personality and academic stress which had been analyzed using descriptive analysis techniques (mean, percentage). To test the hypothesis, a correlation test was used using Pearson's Product Moment correlation to find out whether there was a significant relationship between tough personality and academic stress. The assumption test used by the researcher includes the correlation test, normality test, and linearity test.

## 4. Result and Discussion

### 4.1. Descriptive Analysis

TABLE 1: Results of Descriptive Analysis of Academic Stress Variables and Hardiness.

	N	Min	Max	Mean	Std. Deviation
Academic Stress	62	21	55	40.56	5.650
Hardiness	62	65	92	78.02	6.889

The results of the descriptive analysis test that has been carried out on 2 scales, get the following results which have been described in full in table 1. Descriptive analysis was carried out using empirical norms.

TABLE 2: Categorization of Academic Stress Scale Scores.

Classification	Interval	Frequency	Percentage
<b>Very High</b>	$61 \leq X$	-	-
<b>High</b>	$46 < X \leq 60$	10	16%
<b>Moderate</b>	$31 < X \leq 45$	51	82%
<b>Low</b>	$16 < X \leq 30$	1	2%
<b>Very Low</b>	$X \leq 15$	-	-
<b>Total</b>		62	100%

Table 2 is the result of the categorization of academic stress variables and is divided into 5 categories. There are 82% of students have sufficient academic stress, namely a number of 51 respondents.

TABLE 3: Categorization of Hardiness Scale Scores.

Classification	Interval	Frequency	Percentage
<b>Very High</b>	$82 \leq X$	19	31%
<b>High</b>	$55 < X \leq 81$	43	69%
<b>Low</b>	$28 < X \leq 54$	-	-
<b>Very Low</b>	$X \leq 27$	-	-
<b>Total</b>		62	100%

Meanwhile in Table 3 the categorization of the Hardiness variable is divided into 4 categories. There are results that 69% of students have a tough personality classified as high as 43 respondents.

#### 4.1.1. Assumption Test

##### 1. Normality Test

The analytical technique used to test normality is to use the Kolmogorov-Smirnov test with a

significance level of .05. From the results obtained from the Kolmogorov-Smirnov normality test

through the table above, it shows that the significance level obtained is .200 or sig > .05. Through

these results it can be concluded that the data from the two variables, namely hardness (X) and

work stress (Y) are normally distributed.

##### 1. Linearity Test

Linearity test is carried out to estimate the nature of the variable relationship whether it is linear or not. The analytical technique used to test linearity is to use a test for linearity with a significance level of 0.05. From the results of the linearity test that has been carried out, the researchers get results that show a significance level of .419 or sig > .05. Through these results, it can be concluded that the data from the two variables, namely Hardiness (X) and work stress (Y) are linear.

### iii. Hypothesis Test

The analytical technique used to test the hypothesis in this study is the product moment correlation with a significance level of .05.

TABLE 4: Pearson Product Moment Hypothesis Test Results.

X	Y	significance (p)	Description	Decision
Hardiness	Academic Stress	.147	Sig > .05	H <sub>0</sub> accepted =

Based on the table above, it can be seen that the significance value is greater than .05 or sig > .05, which is a significance value of .147 with a correlation coefficient of .186. which from these results indicate that the hypothesis that has been determined by the researcher is rejected. The rejected hypothesis indicates that there is no significant relationship between hardiness variable (X) and the academic stress variable (Y).

## 4.2. Hardiness in XII grade students of X Senior High School

Based on the results of the descriptive analysis that has been carried out, there are the following results which 69% of students have a relatively high hardiness. The hardiness that individuals have can help them in dealing with problems that will occur or are happening in their lives. Individuals who have a hardiness personality believe in their ability to transform life experiences into interesting and meaningful things [12]. According to [13] stated that there is a coping style that mediates between resilience and coping behavior. Hardy people have more effective coping style (that is, more focused on the task and less on the emotions they feel), and it shows more effective coping behaviors. Hardiness can also help students in dealing with every single thing that will be a problem for them. Hardiness is important for students because students as teenagers have quite complex problems. Students are faced with life challenges that are quite complicated because they prepare themselves to become physically and spiritually healthy individuals and prepare themselves for the next chapter of life which

is adulthood. In this study, some students who have high personalities can be helped in solving problems.

### 4.3. Academic Stress on XII grade students of X Senior High School

Based on the results of the descriptive analysis that has been carried out, there are results of 82% of students having moderate academic stress. In carrying out education students can feel many things including pressures and challenges in learning. But in [14] argue that not all students who face challenges in school react negatively. For students who react negatively to challenges they can feel stress. There are several types of stress or pressure that can be felt by individuals. One of the stresses that can be felt by individuals is academic stress. According to [5] defines academic stress as the mental stress that students feel that is associated with some anticipated frustration related to their perceived academic failure or even the unawareness of the possibility of such failure.

Academic stress is usually felt by individuals who are facing problems in academic terms such as students and college students. Based on the results of descriptive analysis, the academic stress of XII grade students of X Senior High School can be described into 5 main aspects, namely aspects of pressure to learn, worry about grades, sadness, self-expectations and workload which refers to the stress of the burden they get as students.

Every student can feel stress, especially academic stress. Each individual also has a different solution regarding the academic stress they feel. In a study conducted by [15] explained that academic stress still continues to be a problem that affects students' mental health and well-being. The academic stress they experience can also have an impact on themselves, especially on their academic aspects, namely their grades and performance in class. One of the things that can cause academic stress to students is the final project. However, there are a variety of teaching methods that can be used which tend to suppress the growth of academic stress. Another major implication for teachers is that they should try to relieve academic pressure, students are guided by trained supervisors /counselors, and teachers eliminate academic stress-causing factors from the learning environment by taking the necessary steps [5].

#### 4.4. The Relationship between Hardiness and Academic Stress in XII grade students of X Senior High School

Through the results of the research that has been carried out, it can be seen that the results of this study are not in line with previous research conducted by [16] which stated that there is a negative and significant relationship between hardiness and academic stress in level II cadets of the Semarang Merchant Marine Polytechnic (PIP Semarang). There have not been many studies that have yielded results where there is no correlation between the relationship of hardiness and academic stress. However, there is a study conducted by [17] that examines hardiness, stating that there are test results regarding the relationship between Hardiness and stress in disease. The results of testing the main hypothesis showed that hardiness does not reduce the effects of stress on the disease.

The journal also states that if an event is assessed as stressful, personality characteristics may still buffer its effects by facilitating adaptive coping or by inhibiting maladaptive coping. Theoretically people with hardiness use transformational coping which is turning potentially stressful events into opportunities for growth). As a result, they cope in an optimistic and active way. In contrast, low-ability people use regressive coping (avoiding or staying away from potentially stressful situations). It can be concluded that individuals who do not have hardiness can also still avoid stress by using regressive coping strategies. However, it is undeniable that individuals who use regressive coping only temporarily avoid potential stressors.

Individual variations and characteristics that students bring into the academic environment is very important. Individual characteristics such as motivation, coping styles, and personality dispositions all contribute to how we respond to stressors. Not only one, but there are various kinds of individual characteristics that encourage individuals to deal with stressors. It should be noted that hardiness is not related to test scores or intellectual abilities. The effect of hardiness is not only due to superior academic skills, but rather reflects attitudes or ways to face life's challenges [18].

However, there are many factors that cause students to experience academic stress. Hardiness is not enough to keep them from the academic stress they can feel at any time. Entering the transition period from school to college, XII grade students of Senior High School are in the adolescent phase. The findings of a study conducted by Sandler et al [19] showed exposure to stress from childhood and adolescent life in America. The findings of this study suggest that most adolescents have several strategies to adapt

to stressors, but there are important age differences in coping that emerge during adolescence.

Several findings suggest that the types of coping strategies used by adolescents do change with age. Frydenberg and Lewis [19] found that younger adolescents tend to cope with stress by working more and distracting themselves from problems, whereas older adolescents use coping techniques more often than younger adolescents. Older adolescents may use more strategies than younger adolescents because they are more likely to try alternative strategies in their coping skills when the initial coping strategies are ineffective. Reports of increased use of coping strategies with age may reflect changes in cognitive abilities or improved skills in using coping strategies.

Through these coping strategies, students can avoid stress. All individuals can use coping strategies, whether they are individuals who have hardiness or not. In this study, it can be concluded that hardiness does not always have an impact in dealing with stress. The use of coping strategies can help students in dealing with stress, not only for students who have hardy personality but also for all individuals who are in line with Funk's research [16].

## 5. Conclusion

Based on the explanation and discussion above, it can be concluded that: Hardiness of XII grade students in a school in Malang City is in the high category, Academic stress of XII grade students in a school in Malang City is in the medium category and There is no relationship between hardiness and academic stress of XII grade students in a school in Malang City

## 6. Suggestion

In this study, there are limitations in research instrument. These limitations are related to instrument modification which does not go through several stages and instrument translation testing. So that further researchers can use the modification process with several stages in it including the translation stage so as to get items with the appropriate sentences.

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