

# The Relationship Between Grit and Academic Performance in High School Students in Tangerang during Distance Learning

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## ABSTRACT

This research was conducted to know and test the relationship between grit and academic performance. Grit is the perseverance in maintaining a goal that is full of challenges and interests to achieve a long-term goal. Grit has two dimensions, consistency of interest and perseverance of effort. Meanwhile, academic performance is the result of efforts that someone has exerted in the learning process. For maximum results, it takes perseverance in learning process. The purpose of this study is to see the relationship between grit and academic performance in high school students during distance learning. The study participants were 352 students consisting of 115 boys and 237 girls from seven schools in Tangerang. The measuring instrument used to measure grit was 12 item - Grit Scale developed by Duckworth (2007). Meanwhile, academic performance was measured using GPA. Spearman Rho was used for statistical analysis used because the data were not normally distributed. The results show that there is no relationship between grit and academic performance with a value of  $r = 0.005$  and  $p = 0.933 > 0.005$ . The results of the per-dimensional relationship test showed that the consistency of interest had no relationship with a value of  $r = 0.097$  and  $p = 0.068 > 0.05$ . Meanwhile, for the perseverance of effort dimension, there is a relationship with a value of  $r = -0.111$  and  $p = 0.037 < 0.05$ . This shows that perseverance can maintain an effort in achieving goals in high school students.

**Keywords:** *grit, academic performance, high school students, adolescent*

## 1. INTRODUCTION

At the beginning of 2020, a worldwide Corona virus Disease (COVID-19) pandemic occurred. According to the World Health Organization (WHO), corona virus disease is an infectious disease caused by the recently discovered corona virus. Since the occurrence of the corona virus, the whole world has decided to undergo lockdown in order to break the chain of Covid-19, including Indonesia. The Indonesian government has implemented Large-Scale Social Restrictions (PSBB) which is regulated by Government Regulation of the Republic of Indonesia number 21 of 2020. One of the main implementation of this regulation is for study and work to be carried out online at home.

Since the implementation of the PSBB system, all learning activities have been carried out online at home. Harnani (2020) in the Jakarta Religious Education and Training Center (BDK) of the Indonesian Ministry of Religion explained that the online learning system is learning that is carried out without physical meeting between students and teachers, but online using the internet network, and several applications such as whatsapp, zoom, microsoft teams, google meets, and others.

Distance learning brings new challenges in the learning process, one of which is the limitations of communication and socialization between students [1]. Survey data

conducted by the United Nations Children's Fund (UNICEF) regarding distance learning, from 3,839 respondents, 38% experienced a lack of guidance from teachers. According to Nikmah, in Kompasiana, students experienced difficulties in distance learning, such as having to work on too many assignments and online-given materials that are harder to understand. This causes a decrease in student learning outcomes [2]. Learning outcomes can affect a person's interest in continuing their education to college.

Through high school education, students can progress to higher education and careers. High school education prepares students to be able to continue to college [3]. Learning outcomes can be seen from the assessment. In the Guide to Assessment by Educators and Education Units for High Schools (2016), assessment is the process of collecting and processing information obtained to measure the achievement of student learning outcomes. Several factors that can improve learning achievement include study habits, self-efficacy, the achievement of orientation goals, parental support, and grit [4]–[7]. To obtain maximum learning outcomes, it takes perseverance and enthusiasm in the learning process. Students who possess high effort and enthusiasm in achieving goals are students who are consistent in their interests in achieving goals. Thus, persistence in effort, high enthusiasm, and consistent interest in achieving goals is known as grit [8]. Grit is

persistence in maintaining a goal that is full of challenges and a consistent interest in achieving a long-term goal. Grit has two dimensions, the consistency of interest and perseverance of effort [6]. The consistency of interest can be seen from the extent to which individuals can focus on achieving goals in the long term. Consistency of interest is a predictor of career change in adulthood [9]. The second dimension is effort perseverance. Effort perseverance can be a predictor in terms of learning achievement which is seen from the GPA [9]. Effort perseverance can also be seen from individuals who can accept challenges and difficulties in maintaining efforts to achieve long-term goals [10].

Grit is an aspect of personality that can predict achievement in school [11]. Someone with high grit will be more successful at work compared to someone with low grit [12]. Grit is often investigated as a factor related to goal attainment [13]. In recent years, grit can be an important predictor of life success and achievement in school [11].

Academic performance is a learning process carried out by students in an effort to produce some changes in fields such as knowledge, understanding, application, analytical power, synthesis, and evaluation. Learning achievement is also an important indicator in measuring success during the teaching and learning process [14]. According to Nurhidayah, learning achievement is the result that has been achieved by someone in the learning process [15]. The results of previous studies show that grit indirectly affects learning achievement, because grit acts as a mediator [4]. One study found a significant positive correlation at 0.05 between the Grit-S scores and the students' annual GPA [16]. Another study, after regression analysis, found that grit consistency of interest significantly predicted academic achievement, amounting to 3% in student academic scores, while grit perseverance of effort predicted 9% of student learning achievement [17]. Other research results show that achievement of learning scores is only related to Grit-PE [18]. However, one study found that grit does not significantly predict academic performance [19].

There are inconsistencies in previous studies. This compelled the researcher to investigate this further. This type of research usually includes university student respondents, however not many studies have examined high school students and none of which was conducted in the context of remote learning. Therefore, the researcher wishes to examine the relationship between grit and academic performance in high school students in long distance learning conditions.

In accordance with the description above, the researcher formulates the problem in this study, that is, whether there is a relationship between grit and academic performance

among high school students undergoing long distance learning.

## 2. METHODS

### Research Design and Respondents

This study uses a non-probability sampling technique, specifically purposive sampling. This involves selecting participants based on certain criteria [20].

The instrument used to measure grit is a 12-item grit scale developed by Duckworth in 2007. This measuring instrument measures two dimensions of grit, namely consistency of interest with 6 negative items and perseverance of effort with 6 positive items. Meanwhile, academic performance was measured through GPA. This study involved 352 participants. The description of the respondents is divided into gender, age, grade, school, and report card grades. More details can be seen in table 1.

Table 1. Overview of Respondents

Respondents Cl		N (352)	Percentage (%)
Age	15 years	103	29.3
	16 years	137	38.9
	17 years	112	31.8
Gender	Male	115	32.7
	Female	237	67.3
Grade	Grade 10	132	37.5
	Grade 11	112	31.8
	Grade 12	108	30.7
School	School A	21	6.0
	School B	38	10.8
	School C	40	11.4
	School D	57	16.2
	School E	81	23.0
	School F	77	21.9

School G	38	10.8
Average GPA 91-100	1	0.3
82-90	169	48.0
73-81	138	39.2
Under 72	44	12.5

### 3. RESULT AND DISCUSSION

The grit measurement was carried out using a 12-item grit scale. The instrument uses a Likert scale with five choices from 1-5, with hypothetical mean of 3. If the empirical mean is greater than the hypothetical mean, it indicates a high value of the variable or dimension, and vice versa. Table 2 shows the overview of participants' Grit.

Table 2. Overview of Grit based on dimensions

Dimensions	N	Min	Max	Mean	Std. Deviation
Consistency of Interest	352	1	5	3.1413	0.64639
Performance of Effort	352	2	5	3.6598	0.65524
Total Grit	352	2.5	4.5	3.4006	0.39771

Academic performance is measured using the average value of the last report card. Based on the data obtained, the resulting mean value is 2.64, which refers to the 82-90 group. The Minimum Completeness Criteria Standard (KKM) from the seven schools is 72.

Table 3. Overview of Academic Performance

Variable	N	Min	Max	Mean	Std. Deviation
Academic Performance	352	1	4	2.64	0.698

Normality test was used to determine whether the data is normally distributed or not. The distribution is considered normal if each p value is > 0.05. Based on the results of the normality test, the data showed that both variables had a p value of 0.000 < 0.05. Thus, it can be concluded that both variables are not normally distributed. In this study, Spearman Rho technique was used to test the relationship between grit and academic performance. The data shows that grit does not have a significant relationship with

learning achievement with a value of  $r = 0.005$  and  $p = 0.933 > 0.05$ .

Table 4. Correlation Test between Grit and Learning Achievement

Variables	r	p	Note
Grit and Learning Achievement	0.005	0.933	No Significant relationship

Additional data analysis was also conducted, to test the relationship between grit dimensions and academic performance measured using Spearman Rho. The result shows that academic performance does not have a significant relationship with the consistency of interest dimension with a value of  $r = 0.097$  and  $p = 0.068 > 0.05$ . However, learning achievement is proved to have a significant relationship with perseverance of effort with a value of  $r = -0.111$  and  $p = 0.037 < 0.05$ . Therefore, it can be concluded that effort perseverance plays a part in academic performance while the consistency of interest does not.

Table 5. Correlation Test between Grit Dimensions and Academic Performance

Grit Dimensions	r	p	Note
Consistency of Interest	0.097	0.068	No significant relationship
Perseverance of Effort	-0.111	0.037	There is significant relationship

### Discussion

The empirical mean for grit in general is 3.4006, the empirical mean on the consistency of interest dimension is 3.1413, and the perseverance of effort dimension is 3.6598. Based on the data obtained, it is evident that grit variable in the subject is high considering the empirical mean is greater than the hypothetical mean ( $3.4006 > 3$ ). The mean value of academic performance variable is 2.64, which is within the 82-90 category. The Minimum Completeness Criteria Standard (KKM) of the seven schools is 72. Data analysis shows that the grit variable does not have a significant relationship with student achievement with a value of  $r = 0.005$  and  $p = 0.933 > 0.05$ . Therefore, the

hypothesis is rejected. This is in line with Bazelais (2018) research on grit, mindset, and academic performance of science students. Some studies say that motivational factors such as self-regulation can predict academic performance better than grit.

The results of the correlation test involving grit dimensions in this study showed that the dimensions of perseverance of effort ( $r = -0.111$  and  $p = 0.037 < 0.05$ ) has a relationship with academic performance while the consistency of interest dimension ( $r = 0.097$  and  $p = 0.068 > 0.05$ ) does not. High school students are capable of persisting to improve academic performance.

This is in line with Weisskirch's research which found that the perseverance of effort is related to academic performance [18]. Mason also noted that the perseverance of effort can better predict academic performance [17]. The limitation of this study is that the researchers had difficulties in obtaining permits from the schools. Researchers asked for permission from many schools, from which only seven schools approved it. Another limitation is that high school students have not shown the interest to be consistent in achieving goals, so that high school students do not appear to have grit. Furthermore, the number of participants in each school is not evenly distributed thanks to distance learning, and not all students filled the questionnaire.

#### 4. CONCLUSION AND DISCUSSION

The results of data analysis regarding the relationship between grit and academic performance in high school students concludes that the hypothesis is rejected. The consistency of interest dimension showed that there was no relationship with learning interest either. However, perseverance of effort shows a relationship with learning achievement. This shows that effort perseverance is more familiar to high school students than consistency of interest. Perseverance can maintain an effort in achieving goals.

#### Theoretical Suggestions

This research is expected to contribute theoretically to the field of Educational Psychology. Grit is an important aspect for student education. The earlier students can find out their interests, students can focus their effort and be enthusiastic in maintaining the desired goals. Students can sign up for guidance and counselling to find out more about their desired interests.

#### Practical Suggestions

This topic has not been widely studied in Indonesia. A suggestion for further research is to add other variables, or set grit as a mediator. Then, measuring grit may involve university students, because university students have set their desired interests in achieving goals. In addition, there are several other factors that can affect academic performance, including motivation, intelligence, level of subject difficulty, and many others. Therefore, further research should consider internal and external factors that can affect academic performance. To better describe grit, the study may also involve more subjects.

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