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## Grit on Students in Indonesia

**Fatin Rohmah Nur Wahidah**

Universitas Muhammadiyah Purwokerto  
fatinrohmahwahidah@ump.ac.id

**Herdian**

Universitas Muhammadiyah Purwokerto  
herdian@ump.ac.id

**Abstract.** Grit becomes an aspect that is no less important for students. In Indonesia, the study of grit began to be widely conducted in the field of education. Studies on grit still need to be developed to enrich the literature and discussion, especially the great benefits for students. This research aims to describe about grit students in Indonesia and to enrich the findings and literature about it. This research used quantitative approach. Participants in this study were Indonesian students, aged 16-23 years (418 high school students and 408 college students). The instrument used the Grit Scale for Children and Adult (GSCA) from Sturman and Zappala-Piemme (2017) consisting of 12 items ( $\alpha = 0.744$ ). Data analysis uses SPSS 26 to help to perform a descriptive analysis of demographics and t-tests. The results of this study showed the level of a grit of students in Indonesia is in the moderate category. This study also showed no significant grit differences neither based on gender nor by grade level of students.

**Keywords.** Grit, Indonesia, students.

### 1. Introduction

The idea that sustained effort and focused interest make important contributions to success, has been discussed in the psychological literature for more than a century by Galton in 1892. Talent is not sufficient for great achievements. On the other hand, the most superior people are presented with a combination of abilities between 'passion' and 'capacity for hard work' (Angela L. Duckworth & Eskreis-Winkler, 2015). Duckworth's research supports Galton's opinion which was later known as grit. The term was popularized by Duckworth and is defined as the ability to hold on to one thing for a long period until he masters it (Hanford, 2013).

Grit is referred to as a character that consistently predicts success because grit specifically talks about one's persistence and passion or desire to achieve goals (A Duckworth, 2018; Angela L. Duckworth et al., 2007). From some studies that Angela Duckworth (2016) conducted on various samples and fields, he concluded that people who are successful or excel in any field have the determination and strength to survive. The people who were grit will pursue something interesting and important to them, even if it is boring, frustrating, or painful. They never give up and stay passionate about it.

Duckworth underlined that there are two important aspects of grit, namely passion and persistence. Both are the building blocks of grit. Many previous studies have used the Grit-O Scale to measure grit (Datu, 2017; Jin, 2017; Kelly, 2014; Suzuki, 2015; L. Wang, 2018).

The study of grit measurement was also carried out by Sturman & Zappala-Piemme (2017) in an educational setting. By studying the Grit-O Scale, they found several items in the measure that were judged to be unsuitable for a young student population. Besides, they also disagree with the previous definition of persistence which involves the dimension of consistency of interest because it is considered less related to collectivist culture (Schmidt et al., 2018; B. Wang, 2018; Datu, 2016; Jin, 2017; Suzuki, 2015). The interest that changes from year to year according to them does not indicate the weakness of one's grit. A person's wide and fickle interests are not a problem, as long as he or she can stay focused on what he is doing or aiming for. In other words, grit is more related to perseverance of effort than the consistency of interest in a collectivist culture. Therefore, Sturman & Zappala-Piemme (2017) revised the Grit-O Scale gauge without involving a dimension of consistency of interest.

The measuring instrument made by Sturman & Zappala-Piemme (2017) is named Grit Scale for Children and Adult (GSCA). When tested, GSCA was positively correlated with the Grit-O Scale. That is, both of these measuring instruments can be used to measure grit. The GSCA item consists of twelve items that focus on the perseverance aspect of the effort, without involving the consistency aspect of interest. GSCA is made using sentences that are easier to understand and are made especially for students ranging from elementary education to higher education (Sturman & Zappala-Piemme, 2017). Sturman & Zappala-Piemme (2017) define grit as a focused effort to achieve the success of a task despite having to face various obstacles and the ability to overcome those obstacles. It can be concluded that grit emphasizes more on aspects of efforts that are maintained over a long period, although in the process experienced obstacles.

The concept of grit is said to be similar to resilience. Both are concepts that both explain a person's ability to survive in difficult situations (Stoffel, 2018). When compared, grit involves an element of purpose and describes the commitment of the business for a long time. While resilience does not involve such elements and generally puts more emphasis on a person's ability to bounce back from negative experiences or suppress them (Stoffel, 2018), which tends to be temporary. In other words, resilience is an inherent attribute or part of grit. Both are trait personalities that are equally needed in keeping students' well-being (Stoffel, 2018; Zeng et al., 2016). A persistent student will be better able to achieve his goals and meet his needs or satisfaction so that he has higher well-being (Jin, 2017).

Grit becomes an aspect that is no less important for students. Grit students will succeed because they strive to face challenges and maintain efforts to achieve their goals. On the other hand, students who are not persistent will not succeed because they stop trying when facing problems or difficulties (Angela Lee Duckworth & Quinn, 2009; Hodge et al., 2018; Siddiqui, 2019). The existence of grit makes students always try to overcome academic difficulties and problems in school. Grit students become more diligent, optimistic, always have good expectations, think constructively, strive for challenges, and continue to strive to achieve their life goals or needs.

In Indonesia, the study of grit began to be widely conducted in the field of education, both to lecturers (Arifin & Puteri, 2019), college students (Chrisantiana & Sembiring, 2017; Izaach, 2017; Purba & Djaling, 2019; Sudarji & Juniarti, 2020; Vivekananda, 2018), and high school students (Anindita, 2019; Arpinda, 2019; Hirani, 2019; Kristianto, 2017; Rosalina, 2016; Wahidah & Royanto, 2019; Yobel, 2018). Nevertheless, the findings of the study on grit still need to be developed to enrich the literature and discussion, especially the great benefits for students. This research aims to enrich the findings and literature on grit in students in Indonesia

## 2. Method

### 2.1. Participants

Participants in this study were Indonesian students, aged 16-23 years or equivalent to students who attended high school and college level. Male and female, comes from urban and rural areas in Indonesia. The total number of participants was 826; 418 high school students and 408 college students.

### 2.2. Instrument

The instrument used in this study is grit scale, namely the Grit Scale for Children and Adult (GSCA) from Sturman and Zappala-Piemme (2017) consisting of 12 items. It contains seven favorable items (example: "I keep working on my work until it's done") and five unfavorable (example: "I don't always really try"). GSCA generates a single score through charging on the Likert scale of 6 points (point 1 = Strongly disagree, up to point 6 = Strongly agree). The minimum score that can be obtained is 12 and the maximum score that can be obtained is 72. GSCA has alpha coefficients of 0.84, and 0.78 for test-retest reliability (Sturman & Zappala-Piemme, 2017). This study used GSCA measuring instruments that Wahidah & Royanto (2019) in Indonesian. The alpha coefficient of this measuring instrument is 0.744. The overall item in the gauge has a corrected item-correlation score ranging from 0.247 to 0.512. That is, this measuring instrument is reliable and the items are valid to measure grit because the alpha coefficient has more than 0.7 and the correlation coefficient of the item is more than 0.2 (Kaplan & Saccuzzo, 2017).

### 2.3. Procedures

After obtaining approval from the research ethics review, questionnaires were prepared to be distributed to participants. Participants were randomly invited to fill out questionnaires voluntarily. After filling out the informed consent sheet and demographic data, respondents filled out an online questionnaire. The results of the questionnaire are then processed and analyzed.

### 2.4. Data Analysis

Data analysis uses SPSS 26 to help to perform a descriptive analysis of demographics and t-tests related to variables and demographics. T-tests are used to compare the average of two groups that are not paired or unrelated (Gravetter & Wallnau, 2009).

## 3. Result

Below are the results of descriptive statistics (n= 826).

**Table 1. Frequencies for age**

Age	Frequency	Percent	Valid Percent	Cumulative Percent
16	59	7.14	7.14	7.14
17	307	37.17	37.17	44.31
18	96	11.62	11.62	55.93
19	47	5.69	5.69	61.62
20	45	5.45	5.45	67.07

**Table 1. Frequencies for age**

Age	Frequency	Percent	Valid Percent	Cumulative Percent
21	171	20.70	20.70	87.77
22	97	11.74	11.74	99.52
23	4	0.48	0.48	100.00
Total	826	100.00		

Based on age, the participants of this study were at most 17 years old as many as 307 participants (37.17%). Then following the age of 21 years as many as 171 participants (20.70%). At least 23 years old were 4 participants (0.48%).

**Table 2. Frequencies for gender**

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	244	29.50	29.50	29.50
Female	582	70.50	70.50	100.00
Total	826	100.00		

Based on dark type, female participants were more (70.50%) compared to male (29.50), which is 582 compared to 244 participants.

**Table 3. Frequencies for Grit's category**

Categories	Frequency	Percent	Valid Percent	Cumulative Percent
Low	116	14.0	14.0	14.0
Medium	545	66.0	66.0	80.0
High	165	20.0	20.0	100.0
Total	826	100.00		

The score of grit partisan is divided into three groups, namely low, medium, and high. As a result, participants in the medium category dominated the distribution of 545 participants (66%). Next was the participants with a high category of 165 participants (20%). Lastly, the low category was 116 participants (14%). For more details see the sum of each category and demographic data, described in the following crosstabulation calculation table.

**Table 4. Crosstabulation for Status**

Categories		Status		Total
		College student	High school student	
Categories	Low	59	57	116
	Medium	256	289	545
	High	93	72	165
Total		408	418	826

From tabulation data, based on student or student status, it is known that almost balanced the number of students and students who fall into the low category. For the medium category, the number of students is more than students who have grit in the medium category. At the high level, more high school students have grit in the high category than college students.

**Table 5. Crosstabulation for Age**

		Age								Total
		16	17	18	19	20	21	22	23	
Categories	Low	12	37	11	12	9	20	15	0	116
	Medium	44	216	62	21	27	121	51	3	545
	High	3	54	23	14	9	30	31	1	165
Total		59	307	96	47	45	171	97	4	826

From tabulation data, it is known that in the low category, dominated by the age of 17 years. In the medium category, it is also dominated by participants aged 17 years. Similarly, the high category, dominated by participants aged 17 years.

**Table 6. Crosstabulation for Gender**

		Gender		Total
		Male	Female	
Categories	Low	30	86	116
	Medium	157	388	545
	High	57	108	165
Total		244	582	826

By gender, the low category is dominated by females. The medium category is dominated by females. Likewise in the high category, dominated by females.

**Table 7. Behavior Grit Distribution on GSCA Item**

	Behavior on items	Strongly disagree	Disagree	Somewhat disagree	Somewhat agreeable	Agree	Strongly agree
1	Earnest in trying.	3	24	44	65	167	115
2	Finish what started.	0	2	26	93	235	62
3	Want to give the best results.	10	13	18	24	160	193
4	Work on the task until it's done.	0	7	51	100	194	66
5	Trying to achieve what you want.	2	6	14	63	196	137
6	Pay attention to the work as best as possible.	7	107	141	80	75	8
7	Do not stop trying despite the problems of life.	11	56	91	55	135	70
8	Whatever happens, it'll be fine.	6	17	39	90	180	86
9	Pay attention to what he does to make sure he's doing well.	0	3	18	79	221	97

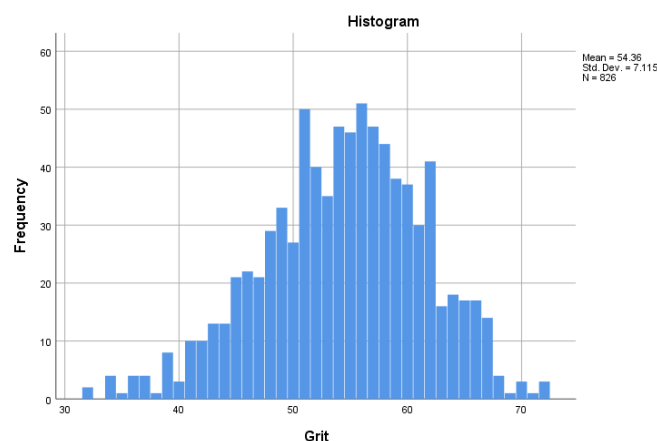


10	Care about the work done.	2	18	91	91	152	64
11	Never give up, even when things get tough.	4	9	44	106	171	84
12	Able to go through difficult times without any problems.	5	47	85	140	122	19

In the table above, the behavior of the grit items is explained. From the distribution of grit behavior raised by participants, generally expressed approval with the behavior. In behaviors that are strongly approved by the majority of participants is behavior 'desiring to give the best results'. However, this is somewhat counterintuitive to the somewhat disapproved behavior of 'paying attention to the best possible work'. That is, someone who has the desire to give the best results, does not necessarily pay attention to his work as best as possible. This could be an interesting find. It is natural that everyone has a desire for the best results, but it turns out that not everyone is able to pay attention to his work as best as possible.

#### Normality test.

Normality tests are conducted to determine the distribution of research data. Normality test results showed (figure 1 and table 8) that the data was not distributed normally based on graphs and normality tests Kolmogorov-Smirnov and Shapiro Wilk, so t-test calculations using bootstrap.



*Figure 1. Test of Normality*

**Table 8. Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Grit	.055	826	.000	.991	826	.000

a. Lilliefors Significance Correction

### T-Test

The following are the results of the t-test using bootstrap.

**Table 9. T-test results**

	t	P value	
Gender (male and female)	0,062	p>0,005	by gender is insignificant
Class level (high school students and college students)	0,428	p>0,005	by class level is insignificant

Based on the table 9, it can be concluded from the description on the table, that there is no significant grit difference based on male and female gender as well as the class level of high school students and college students.

### Correlation

The following are the results of a correlation test using Pearson correlation to look at grit and age relationships. Spearman's correlation is also used to look at grit and gender relationships.

**Table 10. Correlation Results**

	Grit	p-value
Age	0,124	p>0,005
Gender	0,71	p>0,005

As an additional result, correlation is done using Pearson correlation for age and spearman correlation for gender. Correlation results showed no significant association between grit and age, nor grit and gender.

## 4. Discussion

Grit research in education shows that grit predicts academic performance and student grades (Bazalais et al., 2016; A Duckworth, 2018; Zhao et al., 2018). Therefore, grit in students becomes one of the important aspects that need to be known. Grit was also found to be able to predict the graduation of high school students. More persistent students are more likely to graduate from school on time (Eskreis-Winkler, 2014). In addition, grit is known to correlate with the level of education of students. The higher the level of a grit of students, the higher the formal education they take (Angela Duckworth, 2016; Angela L. Duckworth et al., 2007). Unfortunately, in the results of this study, this is not proven. In contrast, the results of this study showed no relationship between age and grit. Different tests conducted based on school level also showed insignificant results. Study from Sigmundsson et al., (2020) showed that gender has differences pattern in grit, mindset, and passion. But the result of this research cannot find the pattern. It can be a limitation of this research.

Concerning adolescents, some study results found that grit can be associated with well-being (Datu, 2016; Disabato, 2016; J. Schmidt, 2017; Wahidah & Royanto, 2019). With well-being, it is expected to be a useful thing that helps teenagers face their crucial times. The existence of grit and well-being relationships will very likely benefit high school students and college students who are in a time of self-discovery and the establishment of a belief system. During this time, youth will construct life experiences into one narrative. Through grit, the youth will



be helped in the process of constructing their experiences (Chang, 2014; Rutberg et al., 2020; F. Schmidt et al., 2018).

The higher the grit that students have, the higher the level of well-being owned. Individuals who are grit, make themselves more committed to goals, and tend to have more positive attitudes and expectations about themselves, life, and the world. Aligning oneself with the goal will also make the individual feel satisfied, happy, and feel more positive affect in his life so that the well-being of the individual becomes increased. A persistent person will be better able to achieve his goals and meet his needs or satisfaction so that he has higher well-being (Akbağ & Ümmet, 2017; Arya & Lal, 2018; Hanford, 2012; Jenkins, 2006; Jin, 2017; Kaili Rimfeld et al., 2016).

Based on previous findings, it can be said that the benefits of grit are not only related to achievement, but also affect satisfaction and happiness (Dweck et al., 2014; Salles, 2017; Vainio, 2016). Grit is considered to be a resource that can protect a person from 'pain' when he finds negative experiences in life. Grit contributes to bringing out a consistent feeling or 'something in the self' that remains stable and coherent (Vainio, 2016) and meaningful perceptions of life (Goodman et al., 2017). Confidence about one's self, the world, and the achievement of goals are so important in the process of self-adjustment and the use of life after a person has had a negative experience. Having confidence in one's ability and persevering in achieving goals, will help a person positively assess events in his or her life. In the end, through grit teenagers will be awake from the displeasure of life and be in a well-being state (Goodman et al., 2017). Grit youth will focus on the future, optimistic, and hopeful, enabling them to go beyond the problems of negative life events they face to achieve their goals. By achieving this goal, it can eventually bring about well-being and improve life satisfaction (Proctor et al., 2009).

According to Duckworth (2016), grit can be grown from within a person through the capacity to practice. One form of grit is the discipline to do things better than yesterday. So, one has to devote himself to practicing with focus so that he has the skills and finally mastered them. Next, have a purpose. One needs to have a purpose, both about himself or about others for him to increase grit. The other thing is hope. Hope will always be there to make someone rise. A persistent person will continue to step up despite facing difficulties or beset by doubts so that he will continue to rise and win. These three things can be a factor that develops a person's grit.

In addition to these three things, grit can also be grown from outside the individual through nurturing, experience, and the formation of grit culture (Angela Duckworth, 2016; Gunderson, 2018; Hodge et al., 2018). In this case, parents can direct and model their children to always work hard and not complain about the challenges faced authoritatively. In addition, individual experiences in difficult conditions (such as challenging extracurricular activities and poverty conditions) can also be an 'arena' of grit training. Grit can also be grown by creating a grit culture with people around, such as at school and playmates. Hanging out with persistent people can increase grit because grit can be contagious and affect other people's grit (Angela L. Duckworth & Eskreis-Winkler, 2015; Eskreis-Winkler, 2014).

## **5. Conclusion**

The results of this study showed the level of a grit of students in Indonesia is in the moderate category. As an additional result, the results of this study showed no significant grit differences based on male and female gender nor by grade level of students. Meanwhile, correlation results showed no significant association between grit and age, nor grit and gender. Given the importance of grit and the magnitude of the benefits of this grit nature, it takes efforts from sharing parties for grit to be improved. This improvement can be done by individuals and groups in schools or communities.

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