

Exploring the Relationships Between Grit, Self-Efficacy, and Academic Stress in Indonesian Islamic Boarding High School Students

Novia Eka Pratiwi¹, Herdian^{2✉}, Tri Na'imah³, Fatin Rormah Nur Wahidah⁴

^{1,3,4}Psychology Faculty, Universitas Muhammadiyah Purwokerto, Indonesia

²School of psychology, Nanjing Normal University, China

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ABSTRACT

This research employs a quantitative approach to investigate the relationships among Age, Grit, Self Efficacy, and Academic Stress. The study ensures ethical compliance by obtaining participants' informed consent and employing offline data collection through structured questionnaires. A diverse sample is drawn from the Student of Islamic Boarding senior high School Banyumas, Indonesia, using the simple random sampling method. A total of 115 participants, predominantly female (69.6%), with a mean age of 17 years (40.0%), contributed to the study. The Student-Life-Stress Inventory (SSI) Scale, Grit-S Scale, and General Self-Efficacy Scale are used to measure the variables. Results reveal no significant differences between sex groups regarding Grit, Academic Stress, and Self Efficacy scores (all p -values > 0.05). The correlation matrix underscores non-significant associations between variables, emphasizing the absence of strong linear relationships. These findings highlight the need for an in-depth exploration of additional factors influencing academic stress experiences and call for more comprehensive research designs to unravel the intricate dynamics shaping student well-being.

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1. Introduction

Education is an effort to realize character values in students. Education is also one of the planned actions or conscious efforts to develop the skills and potential possessed by someone who can later be useful for his life (Sujana, 2019). Education is a system that must be carried out in an integrated manner with other existing systems to create predetermined goals, namely to improve the quality of life of people in all fields (Nabila, 2021). The function of education is an effort made to eliminate all causes of suffering passed by the Indonesian people from backwardness and ignorance, with education also people can develop all their abilities and knowledge (Haerullah & Elhami 2020). One of the educational systems of education in Indonesia, namely Islamic boarding schools, is the first education, as well as the oldest education in Indonesia based on Islam (Abdurrahman, 2020). The Walisongo era of Islamic boarding schools has an important point in the spread of Islam in the archipelago, especially the island of Java. In the 15-16th centuries, the religion of Islam was spread by the walisongo, one of whom was Maulana Malik Ibrahim. In addition to spreading Islam on the island of Java, Maulana Malik Ibrahim also founded a boarding school (Irfa'asyat, 2021).

Islamic boarding schools are led by a kyai who is the founder of the pesantren and can also be his successor or heir who has a good leadership spirit and has commendable morals so that later he can become an example for the community (Krisdiyanto et al., 2019). The education system in Islamic boarding schools not only teaches Islamic religious education, but over time and following the community's needs, Islamic boarding schools also teach general subjects because along with the rapid development of education (Junaidi, 2016).

²*Herdian. School of psychology, Nanjing Normal University, China
E-mail address: herdian@ump.ac.id

Islamic boarding school education programs are usually in the form of dormitories under the leadership of a kyai and assisted by Teacher who live 24 hours with the students. Santri are taught the values of simplicity, independence, cooperation, patience and sincerity, and following the purpose of the pesantren, namely to grow students with an Islamic spirit and noble character (Syafe'i, 2017).

The problem with students that often occurs is that it is difficult to adapt to living in a dormitory because they are not used to living away from their parents and have difficulty adapting to the demands of the Islamic boarding school. binding and the rules also have sanctions for students who can't follow the rules, students who can't follow the rules often experience stress (Syafe'i, 2017).

The problem of academic stress also occurs in students in Islamic boarding schools who have to participate in various activities together with other people, so these conditions make Islamic boarding schools so thick. The students must adapt to various cultures and conditions. Especially for students in their teens, of course they will experience many problems in their lives while living at the Islamic boarding school which will stress them out due to the demands that apply (Roihanah, 2022).

Academic stress is the pressure that a person feels due to high academic demands and competition. Academic stress arises because there are subjects that are considered difficult, giving rise to fear of the teachers who teach (Barseli et al, 2017). Many assignments mark academic stressors, competition with other students, failure, lack of money, poor communication between fellow students and teachers, noisy environment, semester system, and lack of learning resources (Ifani, 2022).

Academic stress What students experience has an impact on their mental and physical health and their ability to do school work effectively (Roihanah, 2022). Symptoms of academic stress are divided into two types, namely biological symptoms characterized by physical symptoms. Physical symptoms of stress experienced by individuals include headaches, insomnia, digestive disorders, eating disorders, skin disorders, and excessive sweating. The second symptom is psychosocial, psychosocial stress is divided into three parts, namely cognitive, emotional, and behavioral (Ifani, 2022).

The factors that affect academic stress are divided into 2, namely internal factors and external factors (Barseli et al., 2017), The internal factor of academic stress is grit (persistence) (Wahyunianti&Asri 2022), self-efficacy (Saputro, 2021), self-regulation (Ifani, 2022), self concept (Rahayu, 2018), mindfulness (Maulinda & Rahayu 2021), (Rahayu et al., 2019), emotional intelligence, spiritual (Andaiyani et al., 2020), trust (Husnar & Sania, 2017), adjustment (Saniskoro & Akmal, 2017). External factors that cause academic stress are parents' social support (Primalita, 2021), School well-being (Ferdiyanto & Muhid 2020), parents' expectations are too high (Barseli et al., 2017).

Grit according to Duckworth et al. (2009), grit was defined as persistence and passion for long-term goals, demonstrating that grit can predict achievement in challenging performance beyond talent. Grit is a personality factor in describing differences in individual ability to achieve academic success (Muhibbin & Wulandari 2021).

Individuals with high grit will continue to strive for anything and will always put forward the goals they have chosen, individuals who have persistence will stick with what is their long-term goal when they achieve that hope. Two important things about grit are consistency of interest (passion) and persistence of effort (Perseverance).

Another factor that influences academic stress is self-efficacy. According to Bandura (1982), self-efficacy refers to the belief that an individual is able to finish a task entrusted to her. Draft, Which created by Bandura emphasizes role Study, experience social And each other determine personality development. *Self-efficacy* influences thinking, reacting, feeling, And making decisions (Sa'idah & Laksmiawati, 2017).

Based on this description, it can be concluded that students at Islamic boarding schools experience problems that can interfere with the learning process and disrupt the psychological condition of the students themselves. So based on this description, this research aims to examine the relationship between grit, self-efficacy and academic stress of the Student of Islamic Boarding Senior High School Banyumas, Indonesia.

2. Method

This study employed a quantitative approach to analyze the relationships between all variables. Before data collection, we ensured that each participants had provided consent by following the established informed consent procedures. Data collection was conducted offline using the questionnaire, allowing respondents to complete the structured questionnaire conveniently. We adopted the simple random sampling method for sample selection, ensuring that each subgroup within the population was appropriately represented in our sample.

Participants

Participants were recruited from Students of Islamic Boarding Senior High School Banyumas, Indonesia. We used a simple random sampling technique to determine respondents in this study. The participants were asked for their consent before participating in the study. A total of 115 students participated in this study. Sample determination using simple random sampling. The participants of this study were dominated by women (69,6 %) rather than men (37%). The age of participants was dominated by 17 years (40.0%).

Measurement

Academic stress is measured by the Student-Life-Stress Inventory (SSI) Scale by Gadzella (1994). The scale consists of 24 items. using academic stress namely physiological, cognitive, behavioral, emotional. aspect. consists of 24 items where each item is assessed with a 5-point Likert scale (1 = "Strongly disagree", 2 = "Disagree", 3 = "Disagree or disagree", 4 = "Agree", 5 = "Strongly agree"). The value of the reliability coefficient on the independence scale is Cronbach's alpha of $\alpha = 0.897$.

Grit is measured by the *Grit-S Scale* by Duckworth et.al, (2009). The scale consists of 8 items. using grit namely *Perseverence of Effort* and *Consistency of Interests* aspect. consists of 8 items where each item is assessed with a 5-point Likert scale (1 = "Strongly disagree", 2 = "Disagree", 3 = "Disagree or disagree", 4 = "Agree", 5 = "Strongly agree"). The value of the reliability coefficient on the independence scale is Cronbach's alpha of $\alpha = 0.829$.

Self-efficacy is measured by the *General Self-Efficacy Scale* by Bandura (1982). The scale consists of 10 items. using grit namely *magnitude*, *generality*, *strength* aspect. consists of 10 items where each item is assessed with a 5-point Likert scale (1 = "Strongly disagree", 2 = "Disagree", 3 = "Disagree or disagree", 4 = "Agree", 5 = "Strongly agree"). The value of the reliability coefficient on the independence scale is Cronbach's alpha of $\alpha = 0.771$.

Data Analysis

Data were analyzed by mean and standard deviation were used for general characteristics of samples and the Pearson product moment correlation coefficient was used to grit and self-efficacy to academic stress. All calculations use Jamovi version 2.3.21 for windows.

3. Result and Discussion

The assumptions in this study were tested using tests for normality and multicollinearity conducted with the assistance of jamovi 2.3.21. The purpose of the normality test was to observe and determine the normality of the distribution of subject response data for the variables analyzed in the study. The Shapiro-Wilk normality test for the three variables in this study showed a normal distribution. Looking at the results of the normality test for the "academic stress" variable, it had a value of 0.102, the "grit" variable had a value of 0.070, and the "self-efficacy" variable had a value of 0.058. Thus, it can be concluded that each variable exhibits significant and satisfactory normality. As for the multicollinearity test, the "grit" and "self-efficacy" variables had VIF (Variance Inflation Factor) values of 1.00 and tolerance values of 1.00. Consequently, both variables have VIF values < 10 and tolerance values > 0.10 , indicating that multicollinearity is not present.

In Table 1, the results of the independent samples t-test comparing different variables by sex are presented. The "Statistic" column represents the calculated t-test statistic for each variable, the "df" column indicates the degrees of freedom, the "p" column shows the p-value associated with each t-test, the "Mean Difference" column displays the difference in means between the two groups, and the "SE Difference" column represents the standard error of the mean difference. For the variable "Grit," the t-test statistic is -0.88 with 113 degrees of freedom (df), resulting in a p-value of 0.382. This indicates no significant difference in grit scores between the two sex groups ($p > 0.05$). The mean difference is -0.44, with a standard error of 0.5.

For the variable "Academic Stress," the t-test statistic is 1.64 with 113 degrees of freedom (df), leading to a p-value of 0.103. This suggests no statistically significant difference in academic stress scores between the two sex groups ($p > 0.05$). The mean difference is 1.77, and the standard error of the mean difference is 1.08.

Lastly, for the variable "Self Efficacy," the t-test statistic is 0.27 with 113 degrees of freedom (df), resulting in a p-value of 0.788. This indicates no significant difference in self-efficacy scores between the two sex groups ($p > 0.05$). The mean difference is 0.16, and the standard error of the mean difference is 0.58. Overall, the results suggest no significant differences between the two sex groups in terms of grit, academic stress, and self-efficacy scores based on the p-values (all p-values > 0.05).

Table 1. Independent Samples T-Test in Sex

	Statistic	df	p	Mean difference	SE difference
Grit	-0.88	113	0.382	-0.44	0.5
Academic Stress	1.64	113	0.103	1.77	1.08
Self Efficacy	0.27	113	0.788	0.16	0.58

Table 1 presents a comprehensive correlation matrix, encompassing means, standard deviations (SD), and Pearson correlation coefficients that elucidate the interrelationships among the variables under scrutiny: Age, Grit, Self Efficacy, and Academic Stress. The study participants' mean age is 17.1 years, while the mean scores for Grit, Self Efficacy, and Academic Stress stand at 22.78, 22.57, and 68.97, respectively. These means are accompanied by their corresponding standard deviations, which provide insight into the dispersion of data within each variable. Correlation coefficients unveil patterns in the associations between variables. Weak positive correlations surface between Age and Grit ($r = 0.08$), and Age and Self Efficacy ($r = 0.07$), denoting slight upward trends. Conversely, Age and Academic Stress exhibit a marginal negative correlation ($r = -0.04$), suggesting that older participants may experience slightly reduced academic stress. Grit and Self Efficacy showcase a modest negative correlation ($r = -0.05$), while Grit and Academic Stress, as well as Self Efficacy and Academic Stress, both reveal weak negative correlations ($r = -0.03$ and $r = -0.11$, respectively).

Table 2. Correlation Matrix

	Mean	SD		1	2	3	4
Age	17.1	0.95	Pearson's r	—			
			p-value	—			
Grit	22.78	2.45	Pearson's r	0.08	—		
			p-value	0.416	—		
Self Efficacy	22.57	2.83	Pearson's r	0.07	-0.05	—	
			p-value	0.453	0.583	—	
Academic Stress	68.97	5.35	Pearson's r	-0.04	-0.03	-0.11	—
			p-value	0.706	0.714	0.236	—

Table 2 presents a correlation matrix with a focus on significance levels. Pearson's correlation coefficients ("Pearson's r") are provided along with their corresponding p-values, which indicate the significance of the observed correlations.

Among the correlations examined, Grit (2) and Self Efficacy (3) show a weak positive correlation with a correlation coefficient of 0.08 and a p-value of 0.416, which is not statistically significant. Similarly, the correlation between Self Efficacy (3) and Academic Stress (4) is weakly negative with a correlation coefficient of -0.05 and a p-value of 0.583, which is not statistically significant. The correlations between Academic Stress (4) and Grit (2), as well as Academic Stress (4) and Self Efficacy (3), both exhibit weak negative correlations of -0.04 and -0.03, respectively, with p-values of 0.706 and 0.714, indicating that these correlations are not statistically significant. The weakest negative correlation exists between Academic Stress (4) and Grit (2) at -0.11, with a p-value of 0.236, which also falls short of statistical significance. These non-significant correlation results suggest that there is no strong evidence of significant linear relationships between the variables under consideration in the current study.

The correlation matrix presented in Table 2 offers valuable insights into the intricate relationships among the variables: Age, Grit, Self Efficacy, and Academic Stress. With a specific focus on the significance levels, the findings suggest nuanced dynamics that require careful consideration. The weak positive correlation between Grit and Self Efficacy ($r = 0.08$, $p = 0.416$) indicates a subtle tendency for individuals with higher levels of grit also to possess slightly elevated self-efficacy beliefs. However, the non-significant p-value underscores the need for caution in interpreting this association. Similarly, the weak negative correlation between Self Efficacy and Academic Stress ($r = -0.05$, $p = 0.583$) suggests a potential pattern where greater self-efficacy might be associated with marginally lower academic stress. Yet, the lack of statistical significance raises questions about the robustness of this connection. Moreover, the non-significant correlations involving Grit and Academic Stress and Self-efficacy and Academic Stress imply that other factors beyond these variables might play pivotal roles in influencing academic stress levels, example; self concept (Rahayu, 2018), mindfulness (Maulinda & Rahayu 2021), emotional intelligence, spiritual (Andaiyani et al., 2020), trust (Husnar & Sania, 2017), adjustment (Saniskoro & Akmal, 2017). External

factors that cause academic stress are parents' social support (Primalita, 2021), School well-being (Ferdiyanto & Muhid 2020), parents' expectations are too high (Barseli et al., 2017). The absence of significant associations may stem from the complex interplay of various internal and external factors that contribute to an individual's experience of academic stress.

Several limitations temper the interpretation of these findings. The study's cross-sectional nature restricts the establishment of causal relationships among the variables. Relying on self-reported data introduces the possibility of response bias and shared method variance. The confined scope of the study, considering only the provided variables, overlooks potential interactions with unexplored variables that could impact the observed relationships. The lack of statistical significance in most correlations raises questions about the reliability of the associations and the need for more comprehensive analyses.

4. Conclusion

To conclude, emphasizing significance, illuminate intriguing but subtle connections among Age, Grit, Self Efficacy, and Academic Stress. The findings suggest that while there are tendencies for certain relationships, these tendencies do not achieve statistical significance. This highlights the intricate nature of academic stress and underscores the importance of a holistic approach when examining its determinants. Moving forward, research should consider employing longitudinal designs, incorporating a broader range of variables, and exploring qualitative methods to understand better the multifaceted dynamics that contribute to academic stress experiences.

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