

The Effect of Locus of Control on Academic Grit in Final Year Students

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Abstract

Academic grit is a characteristic needed by final year students in order to be able to face all the demands in their lectures. However, preliminary studies and several previous studies show that the academic grit level of students in Indonesia tends to be moderate to low. The purpose of this research is to determine the effect of locus of control on academic grit in final year students. Respondents of this study namely 201 final year students of the faculty of psychology, *Universitas Negeri Makassar (UNM)* who were in 9, 11, and 13 semesters. Measuring instrument used is the locus of control scale and the academic grit scale. This study used a quantitative methods. Sampling technique used was simple random sampling technique. The data collection technique used was a scale type questionnaire. The data analysis technique used was multiple linear regression analysis. The results showed that there was a positive influence of internal locus of control on academic grit ($\beta = 1,568$, $p = 0,000$; $p < 0,05$). There is a negative influence of external locus of control on academic grit ($\beta = -0,476$, $p = 0,018$; $p < 0,05$). Internal locus of control and external locus of control contributed 54.3% to academic grit. This research can be a source of information in designing interventions to improve academic grit by considering the locus of control possessed by students.

Keywords: academic grit, final year students, locus of control

INTRODUCTION

Higher education requires the entire academic community to learn by understanding and deepening knowledge. The dynamic and changing situation in tertiary institutions poses greater challenges in student life. Students are required to master the material being taught and expand the material provided with books or supporting journals (Setiawaty et al., 2019). Students must deal with a new social environment and face demands to begin preparing themselves to determine their career. In addition, students are also required to be able to complete their studies on time with good grades and apply their knowledge in the workplace.

It is imperative for students to have a strong willingness to work hard, dedication, and high commitment to achieve their desired results. Without putting in the effort to study hard, they will face difficulties in attaining good academic achievements. (Nugraheni, 2018). Students in tertiary institutions are required to apply a proactive learning pattern, namely finding and expanding lecture material, completing lecture material, discussing and actively participating on campus and off campus. The demands that students have are even wider because students are at the age of 18-25 years or in the early adult phase. Where in this phase there are various developmental tasks that must be fulfilled including those related to making broad decisions about careers, values, friendships and life partners and lifestyle (Santrock, 2011).

Preliminary studies using a survey of 30 final year students at Makassar State University showed several obstacles from final year students included 12 people (40%) said they lost enthusiasm when they encountered difficulties, 12 people (40%) had difficulty staying focused on working on their thesis, 8 people (26.7%) said they were confused where to start working on their thesis, 3 people (10%) felt pressured because they felt left behind and pressed for time and 2 people (6.67%) felt less motivated because there was no deadline for thesis submission.

Students in fulfilling all the demands and developmental tasks must have various characteristics such as strong will, independent, diligent and able to share their study time. In addition, it also requires a strong determination on the part of students. When unable to do this, students will experience obstacles in completing lectures (Setiawaty et al., 2019).

The courage or ability of an individual to face the fear of failure and persevere in the face of challenges to achieve goals is known as grit (Maddi et al., 2012). Grit is also defined as the capacity to sustain motivation and increase effort in pursuit of a goal (Silvia et al., 2013). Grit is related to working hard through challenges and maintaining effort and interest regardless of the failures, difficulties, and setbacks experienced (Winarto et al., 2019).

Grit is the term used to describe a person's courage and ability to confront the fear of failure and persevere in the face of challenges in order to achieve their goals (Maddi et al., 2012). It is also defined as the capacity to sustain motivation and increase effort in pursuit of a goal (Silvia et al., 2013). Grit encompasses the idea of working hard through difficulties and maintaining effort and interest despite experiencing failures, obstacles, and setbacks (Winarto et al., 2019).

Grit in education is called academic grit. Academic grit is a trait possessed by students in the form of having determination, resilience, and a strong focus on achieving long-term goals in education (Clark & Malecki, 2019). Students who have academic grit do their best to overcome the difficulties they face. They have resilience in working on various lecture demands and can focus on achieving their academic goals.

Research at the Muhammadiyah University of Lampung on 62 students showed that 6.5% of students had very low grit levels, 24.7% of students had low grit levels, 38.7% of students had medium grit levels, 22.6% of students had high grit levels and 4.8% of students have very high grit levels (Septania et al., 2018). Research on 51 students of the X Nursing Academy in Aru Islands Regency showed that 86.3% of students have grit in the low category and 13.7% in the high category (Izaach, 2017). Research on 164 final year students of the Faculty of Psychology, Makassar State University showed that 32 students (19.512%) were in the high grit category, 97 people (59.146%) were in the medium grit category, and 35 people (21.341%) were in the low grit category (Jamaluddin, 2021).

Another study on 273 students at Syarif Hidayatullah State Islamic University Jakarta categorized grit based on its aspects and the results obtained were the aspect of consistency of interest, namely 15.4% of students had low interest consistency, 70.7% of students had moderate interest consistency and 13.9% of students have high interest consistency. Another aspect is persistence in trying, namely 23.8% of students have low persistence, 65.2% of students have medium persistence and 11% of students have high persistence (Zulkifli, 2018). Research on 354 students at Semarang State University showed that 65.6% of students were in the medium grit category, 23.2% of students were in the high grit category and 11.2% of students were in the low grit category (Mas'udah, 2019).

Based on a survey conducted by researchers from March 25 to April 7 2022 with 30 final year students at Makassar State University, the results obtained were 27 students (90%) stated that they give up on college goals that take a long time to achieve, 21 people (70%) stated that they easily give up when they encounter difficulties, 16 people (53%) stated that they often set goals but then pursue other goals, 10 people (33%) stated that they had difficulty staying focused on tasks whose work/completion takes time time and 12 people (40%) stated that they could not leave other activities they liked to complete the demands of lectures.

Putri (2017) concluded that students who have high academic grit are able to withstand all the demands and obstacles that are given and are able to deal with pressure. Students with high grit are able to complete their studies on time (Duckworth, 2022). Academic grit is a very important and needed competency in life (Aprilolita, 2020). However, the preliminary studies that have been conducted as well as several previous studies show that the condition of academic grit among students in Indonesia is in the medium category and tends to be low.

Low academic grit makes a person tend not to be diligent at work, easily give up when experiencing failure and even stop trying (Suzuki et al., 2015). A person with low academic grit is unable to maintain their interest and has difficulty surviving lectures, especially when they encounter challenges and distractions in their lectures (Caesari et al., 2013). In addition, someone with low academic grit is also less able to endure working on a large number of courses and feels unable to concentrate on taking long hours of lectures. This makes them often give up or are unable to survive to achieve their goal to graduate (Winarto et al., 2019). Someone with low academic grit is more likely to fail and finish their studies later than someone with high academic grit (Duckworth, 2022).

Academic grit is influenced by how a person perceives situations or events that occur in his life. The same situation can cause different reactions for each individual. This difference is called locus of control (LoC). LoC is what a person believes about the source of his behavior (Arifah et al., 2018). Locus of control is also interpreted as an individual's

ability to see the relationship between the effort made and the results obtained (Satyaninrum, 2014).

LoC is an individual's control center which is also known as the direction of individual attribution regarding various events that occur in his life, whether determined by his own abilities such as skills, potential and effort or determined by the authority of others, fate, opportunity or luck, which will lead to patterns of behavior certain (Laili & Shofiah, 2013). Locus of control includes internal and external locus of control (Satyaninrum, 2014).

Individuals who have the belief that they are in control of what happens in their life have an internal locus of control. Conversely, individuals who consider the environment and people around them to be in control of what happens to them have an external locus of control (Salazar et al., 2008). Students with an external LoC tend to be less effortful, less persistent, inactive, and resigned to fate or destiny. This resulted in a decrease in the activity and quality of student learning activities. Students with internal LoC will try to be persistent and diligent, because they feel and believe that what is obtained is their own effort and hard work which is manifested in their work, abilities and skills (Mardiani et al., 2021).

Çelik & Sarıçam (2018) found that there is a relationship between locus of control and academic grit. Where the higher the internal locus of control one has, the higher one's academic grit will be. Conversely, the higher the external locus of control, the lower the academic grit of a person. In another sense, the level of academic grit for someone who has an internal locus of control is higher than the level of academic grit for someone who has an external locus of control. Locus of Control (LoC) is one of the factors that influences an individual's level of academic grit. Therefore, the researcher aims to further examine the effect of locus of control on academic grit in final year students..

METHOD

The independent variables in this study are internal LoC (X_1) and external LoC (X_2). Internal Locus of Control (LoC) is a student's belief that the things that influence his failure and success in education are due to his own efforts or abilities so that students can control them themselves. External Locus of Control (LoC) is the student's belief that the things that influence their failure and success in education are due to things outside themselves such as other people, fate or luck so that responsibility for their actions is beyond their control. The dependent variable in this study is academic grit (Y), namely the tendency of students to pursue long-term goals in the field of education with determination, resilience and strong focus.

The population in this study were final year student of the psychology faculty at Makassar State University. The sample was selected using simple random sampling with the subject criteria being active students of the psychology faculty of Makassar State University who were in semesters 9, 11 and 13. Samples were selected by recording the names of the subjects and then randomly drawing names. Names that appear were asked for their willingness to become subjects in the study. Data collection was carried out from 12 August 2022 to 12 September 2022 with 201 research subjects.

The data collection technique used was a scale type questionnaire. Statements on this scale were provided with answers in the form of a Likert scale with favorable and unfavorable statement alternatives. This scale consists of five categories of answers, namely very appropriate (SS), appropriate (S), neutral (N), not appropriate (TS), and very inappropriate (STS). In the favorable item, the weight given to each SS answer choice

was given a score of 5, S was given a score of 4, N was given a score of 3, TS was given a score of 2, and STS was given a score of 1. In the unfavorable item, the weight given to each SS answer choice was given a score of 1, S was given a score of 2, N was given a score of 3, TS was given a score of 4, and STS was given a score of 5 (Azwar, 2019). This study uses a locus of control scale compiled by researchers based on the dimensions put forward by Rotter (1966) and an academic grit scale based on aspects of Clark & Malecki (Clark & Malecki, 2019).

The Locus of Control (LoC) scale used in this study was compiled based on the dimensions of locus of control from Rotter (1966), namely internal LoC and external LoC. The LoC scale consists of 23 items with content validity coefficients starting from 0.8125 to 1. The LoC scale trials were conducted on 147 respondents showing that of the 23 items there were nine items that had a correlation coefficient value of $p < 0.40$ so that there were nine items that were dropped, namely items 1, 5, 6, 7, 11, 13, 14, 18, and 22. Based on the data processing results of the LoC scale trial, 14 items were obtained, namely 8 internal dimensions and 6 external dimensions. The reliability for the internal LoC is 0.889. While the reliability for external LoC is 0.823.

The academic grit scale used is based on aspects of academic grit from Clark & Malecki (2019), namely determination, resilience and focus. The academic grit scale consists of 26 items with a content validity coefficient starting from 0.75 to 1. The academic grit scale trials show that out of 26 items one item is dropped, namely item 19. Based on data processing the results of the academic grit scale trials obtained 25 items with reliability of 0.934.

Data were analyzed using multiple linear regression analysis techniques. This analysis was carried out after the requirements for analysis testing, namely normality, multicollinearity, heteroscedasticity, and linearity tests were fulfilled. The normality test is carried out with a P-Plot graph (Yamin et al., 2011). The multicollinearity test is known by taking into account the tolerance and VIF values (Priyatno, 2010). Heteroscedasticity testing is done by making scatterplots. The linearity test in this study used the test for linearity method.

Tests carried out on multiple linear regression analysis, namely the F test and t test. The F test is used to determine the effect of independent variables on the dependent variable together. The t test is to determine the effect of the independent variables on the dependent variable partially (Siregar, 2013).

FINDINGS AND DISCUSSION

Respondents in this study were 201 final year students of the Faculty of Psychology UNM, namely from semester 9 there were 108 respondents, semester 11 were 66 respondents, and semester 13 were 27 respondents.

Table 1. Categorization Direction Orientation Locus of Control

Z Score	Frequency	Percentage (%)	Category
Z int $\geq 0,50$ dan Z ext < 0	51	25,37	Internal
Z ext $\geq 0,50$ dan Z int < 0	44	21,89	External
Does Not Include Both Criteria	106	52,73	Unclassified
Amount	201	100	

Table 1 shows that there are 51 respondents (25.37%) who have an internal LoC orientation, 44 respondents (21.89%) who have an external LoC orientation, and 106 respondents (54.73%) who have a LoC orientation unclassified. This means that most of

the final year students of the Faculty of Psychology UNM who are the research respondents have an unclassified LoC. However, when comparing the two dimensions of LoC, namely internal and external, the direction of greater orientation is internal LoC.

Rotter in (Feist & Feist, 2009) asserts that LoC is not static but can also change. Individuals with an internal LoC orientation can shift to an external LoC orientation, and vice versa. This change is influenced by the situational and environmental factors in which individuals live and engage in activities. Azwar (2019) suggested that in the theoretical population distribution, the probability of obtaining a z score greater than 0.50 is only 39% of the research respondents. This indicates that those who meet this criterion indeed possess the characteristics related to the specific control direction. Therefore, in this study, the respondents are predominantly characterized by an unclassified or indeterminate LoC.

Table 2. Academic Grit Categorization

Interval	Frequency	Percentage (%)	Category
$X < 58,33$	32	15,9	Low
$58,33 \leq X < 91,67$	140	69,7	Medium
$91,67 \leq X$	29	14,4	High
Amount	201	100	

Table 2 shows that there were 32 respondents (15.9%) in the low category, 140 respondents (69.7%) in the medium category, and 29 respondents (14.4%) who had academic grit in the high category. The percentage results show that most of the final year students of the Faculty of Psychology UNM who are the research respondents have academic grit in the medium category.

These results are consistent with the findings of the study conducted by Jamaluddin (2021) who examined grit and academic stress among psychology students at UNM who were working on their theses. The study used a sample of 164 students. The research findings indicated that the level of grit among psychology students working on their theses was categorized as moderate, with 97 respondents (59.146%) falling into this category.

The prerequisite tests in this study included tests for normality, multicollinearity, heteroscedasticity, and linearity which were carried out with the help of SPSS 25 for windows software. The results of the normality test using the P-Plot chart show that the data is spread around the diagonal line and follows the direction of the line. So it is concluded that the data is normally distributed.

The results of the multicollinearity test on the Internal LoC and External LoC variables obtained a tolerance value of 0.539 (tolerance > 0.1) and a VIF value of 1.855 ($VIF < 10$). So, it can be concluded that there are no symptoms of multicollinearity. The heteroscedasticity test using the scatterplot graph method showed that the dots on the graph did not have a clear pattern and spread above and below the number 0. Thus, it was concluded that there were no symptoms of heteroscedasticity.

The linearity test in this study used the test for linearity method. Based on the linearity test between Internal LoC (X_1) and Academic Grit (Y), the sig. linearity 0.303 (> 0.05). So it can be concluded that there is a linear relationship between variables X_1 and Y. The linearity test between External LoC (X_2) and Academic Grit (Y) obtained a sig. linearity 0.066 (> 0.05). So it can be concluded that there is a linear relationship between the variables X_2 and Y.

Hypothesis testing was carried out using multiple linear regression analysis with the help of SPSS 25 for windows software.

Table 3. Hypothesis Test of the Effect of LoC on Academic Grit

Model	Coefficients ^a					Collinearity Statistics	
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Tolerance	VIF
	B	Std. Error	Beta				
	(Constant)	39,073	8,157	4,790	0,000		
1	LoC Internal	1,568	0,163	0,626	9,621	0,000	0,539 1,855
	LoC Eksternal	-0,476	0,200	-0,155	-2,384	0,018	0,539 1,855
a. Dependent Variable: Academic Grit							

The first hypothesis in this study is that there is an influence of internal LoC on academic grit in final year students. Internal LoC has a $t_{count} = 9.621 > 1.972$ ($t_{table} = 1.972$), $sig = 0.000 < 5\%$. Thus, Ha_1 is accepted. This means that the internal LoC variable has a statistically significant effect on the academic grit dependent variable. A positive t value indicates that the variable X_1 has a positive influence on Y.

The second hypothesis in this study is that there is an influence of external LoC on academic grit in final year students. The data in table 3 shows that the external LoC variable has a $t_{count} = -2.384 > 1.972$ ($t_{table} = 1.972$), $sig = 0.018 < 5\%$. So, Ha_2 is accepted. This means that the external LoC independent variable has a statistically significant effect on the academic grit dependent variable. Negative t values indicate that variable X_2 has a negative influence on Y.

Based on Table 3, the multiple regression equation is obtained as follows:

$$Y = 39,073 + 1,568 X_1 - 0,476 X_2$$

Based on the results of the equation it is known:

- Without being influenced by internal LoC (X_1) and external LoC (X_2), the average acquisition of academic grit (Y) is 39.073 assuming other variables remain the same.
- If the internal LoC variable (X_1) increases by one point, while the external LoC (X_2) remains constant, it will cause an increase in academic grit (Y) of 1.568. A positive t value indicates that the variable X_1 has a positive influence on Y.
- If the external LoC variable (X_2) increases by one point, while the internal LoC (X_1) remains constant, it will cause a decrease in academic grit (Y) of 0.476. Negative t values indicate that variable X_2 has a negative influence on Y.

Table 4. Simultaneous Hypothesis Testing Effect of LoC on Academic Grit

Model	ANOVA ^a				
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	29723,194	2	14861,597	119,994	0,000^b
1	Residual	198	123,852		
	Total	200			
a. Dependent Variable: Academic Grit					
b. Predictors: (Constant), LoC Eksternal, LoC Internal					

The third hypothesis in this study is that there is an influence of internal LoC and external LoC together on academic grit in final year students. In the Anova table, the value of $F=119.994 > 3.04$ (F value table $F_{(0.05;2;198)}=3.04$) and $\text{sig}=0.000 < 5\%$. This means that the independent variables Internal LoC and External LoC simultaneously really have a significant effect on the dependent variable academic grit. In other words, the independent variables, namely internal LoC and external LoC, are able to explain the size of the academic grit dependent variable.

Table 5. Simultaneous Contribution of LoC Influence to Academic Grit

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,740 ^a	0,548	0,543	11,129
a. Predictors: (Constant), LoC Eksternal, LoC Internal				
b. Dependent Variable: Acad Grit				

The coefficient of determination (adjusted R square) is used to see the magnitude of the influence of the independent variables on the dependent variable as a whole. The data in the table shows the value of adjusted R square = 0.543 = 54.3%. This means that the independent variable internal LoC and external LoC together affect the dependent variable academic grit by 54.3% and the rest is influenced by other variables not included in this study.

Based on the results of the partial t hypothesis test it was found that the sig. (p) between internal LoC and academic grit is 0.000 (<0.05). While the sig. (p) between external LoC and academic grit is 0.018 (<0.05). So, the first and second hypotheses are accepted. Thus, it can be concluded that there is a partial influence of internal LoC and external LoC on academic grit in final year students of the Faculty of Psychology, UNM.

The results of the hypothesis test obtained from the simultaneous F test show that the coefficient value of the influence of internal LoC and external LoC on academic grit is 0.543 (54.3%) with a significance value of 0.000 ($p < 0.05$), then the third hypothesis is accepted. Thus, it can be concluded that internal LoC and external LoC simultaneously affect academic grit. The resulting influence was 54.3%, while the other 45.7% was influenced by other factors that were not examined in this study. Therefore, it can be concluded that simultaneously internal and external LoC can explain the magnitude of the academic grit variable.

These results indicate that someone who has a high internal LoC tends to have academic grit in a high category as well. Conversely, someone who has a high external LoC tends to have low academic grit. Individuals with an internal LoC can organize and direct their lives and are responsible for the failures and successes they experience, so they tend to be serious, never give up and can prioritize their academic demands despite failure.

The results of this study are in line with research by Çelik & Sarıçam (2018) which shows that there is a positive relationship between locus of control and academic grit, both simultaneously and partially. Individuals with internal LoC have a higher level of academic grit than individuals with external LoC. Similar results were also found by Quing & Baudin (2021), that there is a positive relationship between internal LoC and grit. This means, when the internal LoC increases, the grit level will also increase. Research by Burgoyne et al. (2018) found that internal LoC has a strong correlation with grit.

Individuals with internal LoC when faced with demands, failures or challenges, will make efforts to recognize themselves and try to overcome the problems they

experience. Conversely, individuals with external LoC tend to surrender and make less effort to overcome the problems they experience because they think it is beyond their control. Individuals who have high internal LoC can also have high academic grit. Meanwhile, individuals with external LoC tend to have low academic grit.

Individuals with an internal LoC believe that events in their life are determined by their own efforts and behavior. By having an internal LoC within themselves, individuals can better maintain their interests and businesses even though they encounter various difficulties. This is because individuals think that what happens is within their control. By having an internal LoC within themselves, individuals will actively seek information and try to solve any problems encountered in their life by always referring to how much they know what to do to achieve their goals.

CONCLUSION

Based on the results, it can be concluded that (1) Internal LoC has a positive influence on academic grit. This means, the higher the internal LoC, the higher the academic grit of the final level students of the psychology faculty of UNM. (2) External LoC has a negative influence on academic grit. This means, the higher the external LoC, the lower the academic grit of the final year students of the psychology faculty of UNM. (3) Internal LoC and external LoC simultaneously have an influence of 54.3% on academic grit in final year students of the psychology faculty of UNM. LoC is related to individual beliefs regarding the causes of success and failure that they experience. Individuals with an internal LoC believe that what determines their life is their own efforts and behavior. By having an internal LoC within them, individuals tend to have a high level of grit so that they can defend their interests better despite facing various difficulties. This is because individuals think that what happens is within their control.

Based on the conclusions above, the researcher submits suggestions to several related parties, namely (1) Final year students are advised to know the orientation of their LoC and direct it to internal LoC, so that they can contribute to increasing their academic grit and can be more optimal in the learning process. (2) Higher education institutions, especially the psychology faculty of UNM are advised to find out the level of academic grit students have and make plans to increase academic grit by taking into account the student's LoC. (3) Future researchers are advised to further explore what factors have more influence on academic grit and to make further research in the form of a design to improve academic grit by taking into account LoC.

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