

## Grit among college students: social or personal?

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### ABSTRACT

Grit, the personal characteristic of perseverance and passion for long-term goals, plays a vital role in college students' success and well-being. This study aimed to investigate the contribution of optimism (a personal factor) and college mattering (a social factor), as well as their underlying mechanism on grit among college students. Data was collected from 186 participants from Selangor, Malaysia, who voluntarily responded to the college mattering scale (CMS), life orientation test-revised (LOT-R), and grit scale (Grit-S) Scale. The Bootstrap method with 5,000 resamples at a 95% confidence interval was employed for analysis. Our findings suggested that while college mattering and optimism did not significantly predict grit when controlling for each other, both social and personal factors are similarly important in predicting the development of grit, and that any intervention program or module to improve the students' grit must encompass both social development and the improvement of social dynamics in the academic institutions.

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## 1. INTRODUCTION

The thorough understanding of psychological constructs is crucial for the development of effective interventions and support systems within various contexts. Neglecting the investigation of certain variables and their underlying factors may hinder our comprehension of important psychological processes, potentially impeding the design of targeted interventions to enhance individual well-being and success. In this regard, the recent studies conducted on the interplay between grit, mattering, and optimism in the college setting warrants further exploration and examination. Grit, a construct encompassing perseverance and passion for long-term goals, has been reported as a predictor of success and well-being across different domains of life [1] including higher education [2]. The link between grit and various positive outcomes, such as academic achievement, career success, and psychological well-being, has been well-documented [3]. It is still debatable, however, that the development of grit among individuals is mainly predicted by personal factors [4] or social factors [1]. The conclusion of this debate is imperative as when the personal factor is considered as the main predictor of grit, it would be challenging to design any intervention to improve grit among individuals [5]; on the other hand, more possible intervention methods can be suggested when social factors are reported to be the dominant predictors of grit [6]. One of the personal factors that can be credited as the predictor of grit is optimism [7]. It has also been found that students with higher grit have better coping mechanisms and better adaptability to the stressors that they face [8], with lower levels increasing the risk of psychological distress and decreasing their overall mental well-being [9].

## 2. LITERATURE

### 2.1. Personal factor: optimism and self-determination theory

Characterized by a positive outlook on life and future expectations [10], optimism, has been linked to numerous psychological and physical health benefits, and more often than not, studies reported its interconnectivity with grit in predicting positive outcome in various settings [7], [11], [4], [12]. It can be summarized that optimistic individuals tend to have better coping mechanisms, higher levels of self-esteem, and greater psychological well-being. Overall, grit has a strong relationship to resilience and helps students maintain that positive outlook to the future which then becomes a buffer against psychological disorders. Although optimism has been investigated in various contexts, including higher education, it leaves a gap for us to fill whether this personal characteristic contributes to grit without the involvement of any social factor. Furthermore, empirical studies have consistently demonstrated the positive relationship between optimism and grit among college students [13]. For instance, a study by Sharma *et al.* [14] explored the association among dispositional optimism, grit, and self-esteem in a sample of college student. The study revealed that students with higher levels of dispositional optimism were more likely to demonstrate greater levels of grit, indicating their sustained effort, passion, and perseverance towards their academic pursuits. Similar report was also delivered earlier by Cabras and Mondo [7] by stating that optimism significantly predicted the development of grit, mediated by self-esteem. The interaction of grit and optimism also contributed significantly to academic performance [15], or in other words, students with higher optimism and grit have advantage over students with lower levels of the two variables.

Moreover, the theoretical framework of self-determination theory (SDT) coined by Ryan and Deci [16] provides a valuable lens for understanding the link between optimism and grit [17], [18]. SDT posits that individuals have inherent psychological needs for autonomy, competence, and relatedness. Optimism, as a personal factor, aligns with the need for autonomy as it reflects a positive outlook on one's ability to navigate and control future events. This sense of perceived control and agency contributes to an individual's motivation and determination to pursue long-term goals, thereby fostering the development of grit. In the context of our study, optimistic college students possess an inherent drive for autonomy, which fosters their grit in navigating the challenges of their academic endeavors. SDT and the aforementioned past studies affirm the substantial role of optimism in cultivating grit, aligning seamlessly with our study's objectives. It is also reasonable to expect that optimistic students, driven by their positive worldview, demonstrate heightened passion for their long-term goals and unwavering perseverance in their pursuit. Their optimistic outlook empowers them with the belief that their aspirations are achievable as long as they persistently pursue them. Understanding the multifaceted development of grit requires a comprehensive examination of the interplay between personal and social factors. While personal factors like optimism undoubtedly contribute to grit, social factors, such as positive support, guidance, and the sense that one matters to their immediate society play a pivotal role in shaping individuals' experiences and influencing their grit development [19]. In the context of college students, it is important that they highly rely upon the support from their educational institution as well; their perception that their institutions support their wellbeing and success play significant role in shaping and retaining their general mental health [20], [21], as well as their academic resilience and grit [22]. The perception that one matters to their educational institutions, classmates, and educators refers to a variable called societal mattering [23], or contextually can be addressed as college mattering or university mattering interchangeably.

### 2.2. Social factor: college mattering and social control theory

Categorized as a societal mattering, college mattering, defined as the subjective perception of importance and significance within the college environment, is a construct that encompasses a sense of belonging, social integration, and perceived support from peers, faculty, and the institution [23]. It is crucial for students' well-being and academic success, as it provides a foundation for engagement, motivation, and a positive college experience. The importance of college mattering in developing the students' grit can be explained by the social control theory (SCT), which was originally coined by Hirschi in 1969 [24], which posits that individuals are naturally inclined toward deviant behavior unless they are effectively bonded to society through social controls. However, in our context, SCT is used to explain how college students who are surrounded by other students with positive worldview and study in institutions that are helpful and support them to achieve their long-term goals in their own pace, would likely to have more stable mental health situation, such as less anxiety and depression [25], as well as higher levels of academic efficacy and resilience [26]. Moreover, individuals who believe that their social environment is supportive tend to develop the sense that they matter to their peers and their colleges and in turn, feel empowered. This sense of empowerment would positively contribute to their grit would protect them from burnout [27] and give them the grit they need to stay on track [28]. In other words, students who believe that they are considered significant by their peers, educators, or other education stakeholders around them would likely to develop more stable mental health, and higher academic self-efficacy that prepares them to face further challenges [29].

The aforementioned factors represent larger categories of elements; optimism represents the personal factors and college mattering the social factors. This study was conducted for two different objectives; first, to identify whether optimism or college mattering is the strongest predictor of grit, and second, to obtain better understanding on the possible interaction between the two predictors in contributing to the development of academic grit among university or college students. By understanding the dominant predictor of grit, educational institutions can develop targeted intervention modules that address the specific needs and challenges faced by college students. Such interventions can empower students to overcome obstacles, persist in their academic pursuits, and ultimately thrive in their challenging academic journey.

### **3. METHOD**

#### **3.1. Participants**

A sample of 181 students aged between 18 and 49 ( $M=21.24$ ,  $SD=3.74$ ), who were currently pursuing tertiary education at the pre-university, university, or post-graduate level volunteered to take part in this study. Estimated sample size of 180 was determined using G\*Power, 0.15 effect size, 0.80 Power, and 0.05 alpha level. The participants were recruited via purposive sampling with the inclusion criteria of being 18 years of age and above, are not diagnosed with psychological illness, and study in Malaysian higher education institutions during the time of data collection. A link to access the study was broadcasted and shared on our social media accounts (Instagram and Facebook), as well as through WhatsApp where the link was distributed to various group chats within the messenger app. Participants could access the link and complete the study on a voluntary basis, and voluntarily share the link with others who may fit the criteria of this study. A demographic questionnaire contained questions asking participants to indicate their age, gender, education level, and whether they had any diagnosed psychological illnesses was included to ensure the compliance of the inclusion criteria.

#### **3.2. Measures**

The life orientation test-revised (LOT-R) with 10 items was used to measure participants' optimism levels [30] whereby a higher total score indicated higher optimism. It had a 5-point Likert scale with 0 being "Strongly Disagree" and 5 being "Strongly Agree". The Cronbach's alpha of this scale is 0.725 in our present study. The college mattering inventory (CMI) comprised of 29 items was used to measure participants' mattering level in the education institution [31] where a higher total score indicated higher mattering, in. The scale contained 6 subscales measuring the different aspects of mattering one would have in their education institution namely, general college mattering, mattering versus marginality, mattering to counsellors (or advisors), mattering to instructors (or lecturers), mattering to students, and participants' perception of their value. The CMI used a 5-point Likert scale system with 1 being "Not at all" and 5 being "Very Much". Items 1, 5, 8, 11, 13, 14, 15, 16, 17, and 16 are reverse scored. The Cronbach's alpha of this scale is 0.860 in our present study. The short grit scale (Grit-S) contained 8 items measuring grit levels [32] where higher average scores indicated higher grit levels. The scale used a 5-point Likert rating system with 1 being "Not like me at all" and 5 being "Very much like me". The Cronbach's alpha of this scale is 0.684 in our study. Google Forms was also chosen as the platform to collect participants' responses as the platform has existing features that helped ease data collection. It is also a platform that is widely used and known by many users, hence making it user-friendly to most higher education students of today.

#### **3.3. Procedure**

Participants voluntarily accessed the study link from our team's social media accounts or WhatsApp messages. Participants would then be able to read through and complete the consent form voluntarily by clicking on a checkbox in the Google Form. Once they have indicated their consent, they were directed to the demographic form in which they would indicate their age, gender, and level of tertiary education. Next, participants proceeded to complete the LOT-R, CMI, and Grit-S in this order. After completion, participants were shown a thank you message and a prompt to share the study link with anyone they may know who fit the criteria. The participants reported that the scales did not take more than 30 minutes to complete.

#### **3.4. Analysis**

The collected data was analyzed by using bootstrap method with 5,000 sample at 95% confidence interval. This method is used as bootstrap method is a robust method [33] that does not require any assumption test (such as normality and homoscedasticity) as it randomly resample the original dataset with replacement, performing regression analysis on each bootstrap sample, calculating the residuals, and repeating the process multiple times (in our context, 5000 times). By creating such a large number of bootstrap samples and analyzing the distribution of the estimated coefficients, the bootstrap method provides robust estimates of the regression

coefficients and allows for the construction of reliable confidence intervals, which is in our context, is 95%. It is considered a robust test because it accounts for potential limitations in sample size, captures the variability in the data, and provides a more accurate assessment of the relationship between predictors and the outcome in multiple regression analysis.

#### 4. RESULTS AND DISCUSSION

The following Table 1 depicts the results of our bootstrap analysis for regression coefficient of optimism and college mattering on grit among our participants. Table 1 depicted the results of the bootstrap analysis in two models, namely Model 1, where the predictors are the constant (variables which are not included in this current study) as well as the model of optimism and college mattering, and Model 2, where the predictors are the constant, as well as optimism and college mattering when the other focal predictor is controlled for. The following subsections discuss the interpretation of the table in a more detailed manner.

Table 1. Bootstrap for coefficients

| Model        | B      | Bias   | Std. Error | Sig. (2-Tailed) | Bootstrap <sup>a</sup> 95% confidence interval |        |
|--------------|--------|--------|------------|-----------------|------------------------------------------------|--------|
|              |        |        |            |                 | Lower                                          | Upper  |
| 1 (Constant) | 19.887 | -0.023 | 2.173      | 0.000           | 15.648                                         | 24.240 |
| Model Opt    | 0.224  | 0.000  | 0.078      | 0.008           | 0.068                                          | 0.372  |
| 2 (Constant) | 15.197 | -0.241 | 2.936      | 0.000           | 9.020                                          | 20.477 |
| Opt          | 0.161  | -0.002 | 0.089      | 0.076           | -0.015                                         | 0.333  |
| C-Mat        | 0.068  | 0.003  | 0.036      | 0.060           | 0.005                                          | 0.143  |

Based on 5000 bootstrap samples

Model 1: the estimated coefficient of the constant is 19.887, with a bias of -0.023. The standard error is 2.173, and the two-tailed significance is statistically significant at  $p < 0.001$ . The 95% confidence interval for the constant ranges from 15.648 to 24.240. The estimated coefficient of the interaction model of optimism is 0.224, with no bias indicated (bias=0). The standard error is 0.000, indicating a highly precise estimate. The two-tailed significance is 0.078, which is not statistically significant at the conventional threshold of  $p < 0.05$ . The 95% confidence interval for the optimism coefficient spans from 0.008 to 0.372. In Model 2, the estimated coefficient of the constant is 15.197, with a bias of -0.241. The standard error is 2.936, and the two-tailed significance is statistically significant at  $p < 0.001$ . The 95% confidence interval for the constant ranges from 9.020 to 20.477. On the other hand, the estimated coefficient of optimism when controlling for college mattering is 0.161, with a bias of -0.002. The standard error is 0.089, and the two-tailed significance is 0.089, indicating no statistical significance at the conventional threshold. The 95% confidence interval for the optimism coefficient spans from 0.076 to 0.333. On the other hand, the estimated coefficient of college mattering is 0.068, with a bias of 0.003. The standard error is 0.036, and the two-tailed significance is statistically significant at  $p = 0.036$ . The 95% confidence interval for the TOTCMT coefficient ranges from 0.005 to 0.143.

In summary, based on the information in Table 1, we can observe that individually, neither optimism nor college mattering) shows statistically significant effect on predicting grit when controlling for the other variables in their respective models. This suggests that when considering these variables in isolation, their individual effects on grit are not statistically significant. However, the table also shown that the model of college mattering and optimism significantly predict grit when they existed together; having mentioned that, the significance of the constant indicates that there is a meaningful and statistically significant starting point or baseline value for the dependent variable, even when all other predictors in the model are set to zero or not included. In other words, it suggests that there are factors beyond the predictors in the model that influence the dependent variable.

#### 5. CONCLUSION

The result of our study confirmed that both social and personal factors are required in the development of grit among college students, and they significantly predict positive development of grit when they exist together. Nevertheless, our study indicated that these factors (represented by college mattering and optimism) are not the significant predictor of grip on their own, they need to exist together and be supported by other predictors to significantly predict grit. In conclusion, grit is an important virtue for the college students, and the development of grit requires the combination of both personal quality and the quality of social dynamics among the students. Our findings are not in line with the previous studies that reported the significance of

optimism in predicting grit neither are with other studies that reported the significance of societal mattering. Our findings suggested that the theory of social control might be able to explain the development of grit when individuals possess certain levels of optimism in their personality. In other words, being around students with grit and believing that one matters to their academic institutions would not help students to develop higher perseverance and resilience to achieve long term goals without them having positive outlook and efficacy that they are capable of perform well. The study's limitation pertains to the absence of measurements for additional personal elements, including perceived parenting styles, academic self-efficacy, perfectionism, and competitiveness. Similarly, other social factors, such as perceived social support and social comparison tendency, were not measured. Consequently, future research is recommended to encompass these variables and explore their potential interactions. Additionally, it is suggested that intervention modules aimed at enhancing grit in students should encompass both personal development and improvements in the social environment. This suggestion is based on the study's findings, which indicate that the simultaneous presence of societal mattering and optimism, supported by other factors, significantly predicts positive enhancements in students' grit levels.

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## REFERENCES

- [1] L. J. Bleed, "The grit-to-graduate: pedagogical Ideas for fostering college persistence, academic success, and career readiness in freshmen through the basic communication course," Doctoral dissertation, Purdue University Graduate School, 2019.
- [2] S. Saifullah and O. Z. Khan, "Relationship between grit and academic resilience among university students," *CARC Res. Soc. Sci.*, vol. 1, no. 1, pp. 11–14, 2022, doi: 10.58329/criss.v1i1.4.
- [3] J. Zhang, L. Liu, and W. Wang, "The moderating role of grit in the relationship between perfectionism and depression among Chinese college students," *Front. Psychol.*, vol. 12, 2021, doi: 10.3389/fpsyg.2021.729089.
- [4] R. and Shah and A. Deshpande, "Relationship between psychological well-being, resilience, grit, and optimism among college students in Mumbai," *J. Psychosoc. Res.*, vol. 17, no. 1, pp. 43–54, 2022, doi: 10.32381/jpr.2022.17.01.5.
- [5] O. Arias et al., "Can grit be taught? Lessons from a nationwide field experiment with middle-school students," *No. dp1878. Cent. Econ. Performance, LSE*, 2022.
- [6] M. Rodriguez, S. Boyer, D. Fleming, and S. Cohen, "Managing the next generation of sales, gen z/millennial cusp: an exploration of grit, entrepreneurship, and loyalty," *J. Business-to-bus. Mark.*, vol. 26, no. 1, pp. 43–55, 2019, doi: 10.1080/1051712X.2019.1565136.
- [7] C. Cabras and M. Mondo, "Coping strategies, optimism, and life satisfaction among first-year university students in Italy: gender and age differences," *High. Educ.*, vol. 75, no. 4, pp. 643–654, 2018, doi: 10.1007/s10734-017-0161-x.
- [8] G. Harpaz, T. Vaizman, and Y. Yaffe, "University students' academic grit and academic achievements predicted by subjective well-being, coping resources, and self-cultivation characteristics," *High. Educ. Q.*, vol. 78, no. 1, pp. 192–211, Jan. 2024, doi: 10.1111/hequ.12455.
- [9] X. Tang, K. Upadyaya, and K. Salmela-Aro, "School burnout and psychosocial problems among adolescents: Grit as a resilience factor," *J. Adolesc.*, vol. 86, no. 1, pp. 77–89, Jan. 2021, doi: 10.1016/j.adolescence.2020.12.002.
- [10] J. Garber, "Optimism: definitions and origins," *Sci. Optimism Hope Res. Essays Honor Martin E.P. Seligman*, vol. 2, pp. 299–314, 2000.
- [11] A. Buckingham and E. J. Richardson, "The relationship between psychological resilience and pain threshold and tolerance: optimism and grit as moderators," *J. Clin. Psychol. Med. Settings*, vol. 28, no. 3, pp. 518–528, 2021, doi: 10.1007/s10880-020-09731-7.
- [12] X. Oriol, R. Miranda, C. Bazán, and E. Benavente, "Distinct routes to understand the relationship between dispositional optimism and life satisfaction: self-control and grit, positive affect, gratitude, and meaning in life," *Front. Psychol.*, vol. 11, p. 907, 2020, doi: 10.3389/fpsyg.2020.00907.
- [13] G. Zamarro, M. Nichols, A. L. Duckworth, and S. K. D'Mello, "Validation of survey effort measures of grit and self-control in a sample of high school students," *PLoS One*, vol. 15, no. 7, p. e0235396, 2020, doi: 10.1371/journal.pone.0235396.
- [14] P. Sharma, K. Uzar, and P. Brelsford, "Self-esteem, grit, and optimism: predictors of depression and anxiety in emerging adults," *J. Coll. Stud. Dev.*, vol. 62, no. 5, pp. 563–574, 2021.
- [15] T. J. Loftus et al., "Performance advantages for grit and optimism," *Am. J. Surg.*, vol. 220, no. 1, pp. 10–18, 2020, doi: 10.1016/j.amjsurg.2020.01.057.
- [16] R. M. Ryan and E. L. Deci, "Self determination theory and the facilitation of intrinsic motivation social development, and well-being," *Am. Psychol.*, vol. 55, no. 1, pp. 1–11, 2000, doi: doi.org/10.1037/0003-066X.55.1.68.
- [17] F. Guay, "Applying self-determination theory to education: regulations types, psychological needs, and autonomy supporting behaviors," *Can. J. Sch. Psychol.*, vol. 37, no. 1, pp. 75–92, Mar. 2022, doi: 10.1177/08295735211055355.
- [18] E. D. Tuckwiller, W. R. Dardick, and E. L. Kutscher, "A mixed-methods investigation of mindset, grit, optimism, and self-determination in adolescents with learning disabilities and differences," *Learn. Disabil. A Multidiscip. J.*, vol. 24, no. 1, pp. 19–32, 2019, doi: 10.18666/ldmj-2019-v24-i1-8849.
- [19] E. D. Harrison, "Relationship among grit, social support, optimism, illness-related distress and psychosocial outcomes in COVID-19 long haulers," Hofstra University ProQuest Dissertations & Theses, 2022.
- [20] K. D. Prihadi, C. Y. S. Wong, E. Y. V. Chong, and K. Y. X. Chong, "Suicidal thoughts among university students: the role of

- matter, state self-esteem and depression level," *Int. J. Eval. Res. Educ.*, vol. 9, no. 3, pp. 494–502, Sep. 2020, doi: 10.11591/ijere.v9i3.20587.
- [21] A. Shannon, G. L. Flett, and J. O. Goldberg, "Feelings of not mattering, perceived stigmatization for seeking help, and help-seeking attitudes among university students," *Int. J. Ment. Health Addict.*, vol. 18, no. 5, pp. 1294–1303, Oct. 2020, doi: 10.1007/s11469-019-00138-6.
- [22] D. J. Almeida, A. M. Byrne, R. M. Smith, and S. Ruiz, "How relevant is grit? The importance of social capital in first-generation college students' academic success," *J. Coll. Student Retent. Res. Theory Pract.*, vol. 23, no. 3, pp. 539–559, 2021, doi: 10.1177/1521025119854688.
- [23] C. J. Schmidt, "Examining the role of interpersonal and societal mattering in the health and wellbeing of rural adolescents," *Dr. Diss.*, vol. 66, pp. 37–39, 2018.
- [24] K. Kempf-Leonard, "The status of hirschi's social control theory after 50 years," *Fifty Years Causes Delinq.*, pp. 161–208, 2020, doi: 10.4324/9780429020438-7.
- [25] K. D. Prihadi, S. Y. Wan, V. Y. Y. Lee, and H. N. Ismail, "Anxiety and depression among university students during the lockdown: their protective and risk factors," *Int. J. Public Heal. Sci.*, vol. 11, no. 1, pp. 327–335, 2022, doi: 10.11591/ijphs.v11i1.21245.
- [26] K. K. F. Moke, C. K. W. Chang, K. Prihadi, and C. L. Goh, "Mediation effect of resilience on the relationship between self-efficacy and competitiveness among university students," *Int. J. Eval. Res. Educ.*, vol. 7, no. 4, p. 279, 2018, doi: 10.11591/ijere.v7i4.15725.
- [27] M. R. Jumar *et al.*, "Grit protects medical students from burnout: a longitudinal study," *BMC Med. Educ.*, vol. 20, no. 1, p. 266, Dec. 2020, doi: 10.1186/s12909-020-02187-1.
- [28] W. Key, J. H. Park, and P. Y. P. Hong, "The significance of grit from social support and health determinants," *Soc. Work Soc. Sci. Rev.*, vol. 20, no. 1, pp. 47–62, 2019, doi: 10.1921/swssr.v20i1.1121.
- [29] M. A. Karaman, A. Chandrika Kumaran, A. Haktanir, and S. Lenz, "Predictors of counselor-in-training students' general self-efficacy," *Mediterr. J. Educ. Res.*, vol. 12, no. 25, pp. 136–149, 2018, doi: 10.29329/mjer.2018.153.8.
- [30] M. F. Scheier, C. S. Carver, and M. W. Bridges, "Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test.," *J. Pers. Soc. Psychol.*, vol. 67, no. 6, pp. 1063–1078, 1994.
- [31] E. Tovar, M. A. Simon, and H. B. Lee, "Development and validation of the college mattering inventory with diverse urban college students," *Meas. Eval. Couns. Dev.*, vol. 42, no. 3, pp. 154–178, Oct. 2009, doi: 10.1177/0748175609344091.
- [32] J. Stoddard, "A review of grit—the power of passion and perseverance," *Journal Character Leadersh. Dev.*, vol. 9, no. 1, pp. 1–3, 2022.
- [33] A. F. Hayes, "Partial, conditional, and moderated moderated mediation: quantification, inference, and interpretation," *Commun. Monogr.*, vol. 85, no. 1, pp. 4–40, 2018, doi: 10.1080/03637751.2017.1352100.

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