

MINDSET AND GRIT AS THE PREDICTOR OF ACADEMIC SUCCESS

Nurul Hidayah Mohamad Farok*, Norashikin Mahmud

School of Human Resource Development and Psychology, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

*Corresponding author: hidayahfarok@gmail.com

Received: 9 May 2020

Received in revised form: 31 May 2020

Accepted: 31 May 2020

Published : 15 June 2020

Abstract

Students' worldview about their intelligence and passion towards learning is one of the biggest influence towards students' academic success. Therefore, the purpose of this study is to investigate the influence of mindset and grit on the academic success among accounting students at Azman Hashim International Business School (AHIBS), Universiti Teknologi Malaysia (UTM). This study uses quantitative approach that utilized questionnaires as the method to gather data. A total of 113 respondents from the accounting program were selected via simple random sampling. In this study, mindset was measured by the Implicit Theories of Intelligence Scale (ITIS), grit by the Short Grit scale (Grit-S) and academic success by Cumulative Grade Point Average (CGPA). Data obtained from the questionnaires was analysed using Multiple Linear Regression analysis. The result of this study showed that fixed mindset and growth mindset were found to be significant in predicting accounting students' academic success (CGPA). However, this study found that grit was not a significant influence on the accounting students' academic success (CGPA). Therefore, the findings of this study would benefit future researcher for further research regarding this topic.

Keywords: Growth mindset, fixed mindset, grit, CGPA,

© 2020 Penerbit UTM Press. All rights reserved

■ 1.0 INTRODUCTION

In the year 2006, psychologist Carol Dweck introduced the idea of mindset to the world. It is an idea that categorizes every single individual into either fixed mindset category or the opposite of it which is growth mindset. The concept by Dweck state that individuals differ based on their own implicit beliefs regarding the origin of their ability to carry out daily tasks (Dweck, 2006). In simpler word, mindset refers to people own beliefs about their true self that guide mostly every part of life. Dweck (2006), suggests that student every academic success in school is not the direct result of their intelligence, however, it is how the student view intelligence that influence the result of their academic success.

Thus, a person who assumes origin of abilities as an innate or static traits that cannot be improve and developed in any meaningful way are what classified as "fixed mindset" category or an entity theory of intelligence (Hogan, 2013). Thus, individuals with a static mindset believed and indulged with the idea that individual achievement are the result of pure talent and intelligent which only certain lucky one were born with. People with fixed concept will ignored the fact that

achievement academically and from other aspect of life came along naturally to people who exert years of continuous effort, consistent hard work, persistence, resilience, learning, training, and commitment.

Growth mindset, on the other hand, is a category reflects best on individuals who strongly believe that their shortcomings or failure originate from their natural ability but, it can be developed, polished, and enhanced through continuous effort and a thorough learning process (Hogan, 2013). Therefore, this type of person does not believe in the idea of failure. People are able and willing to work strenuously, persistence through challenges, and viewed failure and mistake not as an evident of unintelligence act or episode, but, as a platform to improve themselves for further development and continuous growth (Hogan, 2013). These people assume failure as a golden opportunity to exercise their existing abilities for their own benefits. People with this type of mentality, always seize every opportunity that is available and provided to them in order to develop themselves towards becoming a better person, even when individual may face many challenges along the journey to success (P'Pool, 2012).

Grit, is another variable that act as a key contribution to the students' academic success in school (Duckworth, 2016; Duckworth, Peterson, Matthews, & Kelly, 2007). Grit is defined as tendency to sustain interest in and effort toward a very long-term goals (Duckworth *et al.*, 2007). Lucas, Gratch, Cheng, and Marsella (2015), suggest that gritty individual tend to persist in every endeavours related to their important and personal life objectives such as, performing well in class (e.g., GPA), on other academic tasks (e.g., National Spelling Bee), graduating from school, performing well at work, remaining married and employed by the employer. Duckworth *et al.* (2007), proposed the idea of grit as one of the main determinant for outstanding achievement. Grit consists of a combination of passion and perseverance for an important objectives. The idea behind grit is that it can be fostered and grow if a person view it as a malleable attribute that can be developed and changed through consistent effort.

Previous findings have shown that the relationship between mindset and grit and academic success are still ambiguous and inconsistent (Dante, Cyrell, & Frank, 2017; Ivcevic & Brackett, 2014; Romero, Master, Paunesku, Dweck, & Gross, 2014; Strayhorn, 2014). Given the importance of the relationship between mindset and grit towards student academic success, this research aims to further explore this topic to understand the influence of mindset and grit on students' academic success.

■ 2.0 LITERATURE REVIEW

Students' idea and view relating to the origin of intelligence or abilities and success in school has been found to be more important than cognitive factors. According to Dweck (2008), students' successes in school can be improved if they believe that intelligence can develop and grow through consistent effort and persistent (Jones, Byrd, & Lusk, 2009). Therefore, growth mindset helps student to understand that there is no border or limit to intelligence in order to succeed academically. Study shows that students with growth belief mostly succeed academically compared to their peers as they would not approach a problem as difficult but as an opportunity to developed their skill and thus, promoting the process of learning (Hochanadel & Finamore, 2015). Research conducted on school students found that students who beliefs

intelligence as a malleable quality work extra hour and harder which in turn, increase grade and outperformed their peers (Blackwell, Trzesniewski, & Dweck, 2007; Jones *et al.*, 2009).

On the other hand, fixed mindset influence academic success negatively as people with fixed mindset believe that if they do not possess a certain ability then it is of no use to make an effort to achieve their goal (Dweck, Walton, & Cohen, 2014). Study shows that students with fixed mindset cannot reach their full potential as an individual even when they are capable because they would avoid challenging task when dealing with problems due to fear of failure (Jones *et al.*, 2009). A longitudinal study findings indicate that students with fixed belief were less likely to welcome and embrace new challenges that could reveal their shortcomings and thus do not have any improvement in their grades compare to those with growth mindset (Blackwell *et al.*, 2007).

Academic success does not come easily as it requires a sustained effort over time on a difficult task. Study shows that grit is an important predictor of staying and succeeding at schools. According to Duckworth (2016), gritty individual emphasizes the importance of perseverance in the pursuit towards their long-term goals. Finding of study conducted among black males student suggest that grit is positively related to academic success as grittier black males students obtained higher college grades compare to their less gritty peers (Strayhorn, 2014).

Dweck (2006) and Duckworth (2016) work and idea has clearly shows that mindset and grit is a type of resilience which seems to be more important than that of natural abilities and intelligence (Fitzgerald & Laurian-Fitzgerald, 2016). For example, a research divided students into three groups and each were given a set of IQ test problems in which one group were praised for intelligence, the other praised for effort and another praised for a non-specific reasons, results showed student who were praised for effort endorsed in growth mindset and perform better in the third set of IQ tests compare to other two groups (Dweck *et al.*, 2014). Likewise, scientific study also supports this with the recent finding, where it is found that the mechanism of the human brain demonstrate that it is not a static organism, rather, it changes continually like muscle when it is used to fulfill its full potential (P'Pool, 2012; Phillips-Martinez, 2017). Study shows that students with a growth mindset displayed greater activation of brain part associated with deep semantic processing (Dweck *et al.*, 2014). Sousa (2011), states intelligence is indeed changeable because findings showed that the more we work with a problem the more brain cells grow due to the tiny connection made between nerve cells in the brain called neurons which formed network.

Moreover, in term of previous research findings, evidence shows existing inconsistent finding regarding mindset and grit and how it indirectly influences academic success in some research. For example, in a cross-sectional study aims to examines how the implicit theory of intelligence affect the academic and emotional outcomes among 115 middle-school students at a Suburban public school found that student who viewed intelligence as malleable traits earned better grades, and this effect remained constant over a period of time (Romero *et al.*, 2014). However, another cross-sectional study among a sample of 105 African American high school students, result showed growth mindset were not significantly correlated to academic achievement within this sample of students (Dante *et al.*, 2017). On the other hand, a survey research to tests the importance of a non-cognitive trait, grit, in predicting grades for a sample of Black males attending a predominantly White

institution among 140 Black male students at a public research university located in the southeastern region of USA, grit is shown to have positively related to college grades for Black males (Strayhorn, 2014). Conversely, another cross-sectional study to examines grits as the determinant of academic outcome among 213 students at a private high school in New England, result showed that grit was not a significant independent predictor of school outcomes among the samples (Ivcevic & Brackett, 2014).

Another issue to be address in this study is to identify the factors affecting accounting students' academic success. According to previous study by Almunais and Alfraih (2014) and Ong and Savoni (2017), there are many other factors that plays an important role in affecting the academic success among accounting students at University. Previous studies have shown that factors such as high school major, participation in class discussion, engaging in peer interaction and study behaviour has the strongest effect on accounting students' academic success (Almunais & Alfraih, 2014; Ong & Savoni, 2017). In addition, a study conducted by Ravenscroft, Waymire, and West (2012) found that mindset is not a significant predictor of academic achievement among the accounting students while there is no research on grit among accounting students. Therefore, mindset and grit has not been shown as one of the determinants of academic success among the accounting students. However, research conducted on student from different area of study has proven that mindset and grit as the some of the non-cognitive variable that has the strongest impact on students' academic success (Blackwell *et al.*, 2007; Claro, Paunesku, & Dweck, 2016; Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011; Duckworth *et al.*, 2007; Eskreis-Winkler, Shulman, Beal, & Duckworth, 2014; Reraki, Celik, & Saricam, 2015; Romero *et al.*, 2014; Strayhorn, 2014; West, Kraft, Finn, Martin, Duckworth, Gabrieli, & Gabrieli, 2016).

Since the findings were inconsistent and insufficient, more study about this topic should be conducted in order to get a better understanding about the influence of growth and fixed mindset and grit towards academic success.

■ 3.0 METHODOLOGY

A cross sectional study was conducted on 113 Accounting students from Universiti Teknologi Malaysia (UTM). Participants were given two weeks to complete the questionnaires and were asked to return the completed questionnaire to the designated contact person. Participation in this study is voluntary.

The questionnaire consisted of three parts measuring mindset, grit and demographic background. Respondents were required to provide their demographic information in terms of gender, age, races, year of study, education level before enter UTM, and respondents' CGPA to measure respondent's level of academic success. Mindset was assessed using the Implicit Theories of Intelligence Scale (ITIS) which was developed by Hong, Chiu, Dweck, Lin, and Wan (1999). Implicit Theories of Intelligence Scale consisted of two dimensions namely entity and incremental. Each dimension consisted of four items. Respondents rated their mindset on a response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Short Grit scale (Grit-S) developed by Duckworth and Quinn (2009), were used to measure grit among the respondents. Short Grit scale

consists of two dimensions including perseverance of effort and consistency of interest. The Short Grit scale consisted of eight items, which require the respondents to select from a five points scale ranging from 1 (not like me at all) to 5 (very much like me).

Data analysis

Descriptive analyses such as percentages, means and standard deviations were used to calculate the level of CGPA, mindset and grit. Multiple-linear regression was used to analyse the influence of mindset and grit on academic success.

4.0 RESEARCH FINDINGS

Descriptive analyses

Majority of the respondents is female (76.1%), Malay (73.5%) and between the ages group of 21-23 years old (69.9%). The findings showed that majority of the respondents have growth mindset (79.6%), while 75.2% have moderate level of grit. In addition, majority of the respondents (76.1%) received good pass in their academic category ($3.00 < \text{CGPA} < 3.66$).

The effects of mindset and grit on academic success

The multiple regression model with all three predictors produced $R^2 = .186$, $F(2, 110) = 12.602$, $p < .001$. As can be seen in Table 1, the fixed mindset had significant negative regression weights, indicating students with fixed mindset were expected to have lower CGPA. On the other hand, growth mindset had significant positive influence on CGPA, indicating those respondents who have growth mindset were expected to have higher CGPA. Grit did not contribute to the multiple regression model.

Table 1: The influence of mindset and grit on academic success

Variable	β	t	sig
Fixed Mindset	-.298	-4.893	.000
Growth Mindset	.149	4.904	.000
Grit	.060	1.103	.272
R		.432	
R²		.186	
F		12.602	

■ 5.0 DISCUSSIONS AND RECOMMENDATIONS

The findings showed that fixed mindset has a negative significant influence on the academic success among accounting students in UTM. Therefore, the findings are consistent with many previous study which indicates that fixed believe negatively influence academic outcomes of students (Blackwell *et al.*, 2007; Claro *et al.*, 2016; Jain, Apple, & Ellis, 2015; Polirstok, 2017; Romero *et al.*, 2014; West *et al.*, 2016; Zhang, Kuusisto, & Tirri, 2017). According to Dweck (2015), students with fixed believe are afraid of failures as it would make they seem incapable, thus, they are unwilling to embark on a difficult and challenging tasks. Instead of trying, these individual prefer and rather to carry out tasks which have higher successful rate and goal that are easily attainable (P'Pool, 2012). Therefore, fixed belief will hinders student's ability to have better academic outcome because they do not bother to put in those extra effort which in turn could result them having a much better achievement academically.

On the other hand, findings of this study revealed that growth mindset has a positively significant influence on academic success among accounting students in UTM. This is consistent with many past research findings (Blackwell *et al.*, 2007; Claro *et al.*, 2016; Hochanadel & Finamore, 2015; Jain *et al.*, 2015; Polirstok, 2017; Romero *et al.*, 2014; West *et al.*, 2016; Zhang *et al.*, 2017). People with growth mindset believe that their intelligence and abilities can be developed and changed with continuous effort and individual will willingly engage themselves during learning process which in turn could improve their academic performance (Dweck, 2006). Thus, having growth mindset resulting in students to put in more effort and helps them persist through hardship and challenges which in turn result in them having better academic performance.

However, findings of this study found out that grit has no significant influence towards academic success among accounting students in AHIBS, UTM. This finding was consistent with few past research (Bazelais, Lemay, & Doleck, 2016; Dante *et al.*, 2017; Ivcevic & Brackett, 2014). Grit comprises of two important and interrelated component namely perseverance of effort and consistency of interest is one of the predictor for achievement-related outcomes (Duckworth *et al.*, 2007). Therefore, students with higher level of grit are expected to succeed academically due to their willingness to remain consistent interest and effort over a period of time. In contrast, this study found that accounting students have moderate level of grit but it does not affect their academic achievement. According to Ivcevic and Brackett (2014), grit is important for goal attainment whereby individuals have substantial choice. Therefore, students might only be passionate about a certain particular subject instead of all the subjects which explain why grit sometimes fail to predict the overall academic success among students.

There are some limitations that exist in this study. Thus, there are a few important recommendations to be made for reference by future researcher. This study only focused on accounting students, therefore, findings of this study were unable to be generalized the whole undergraduate students' population. Thus, the researcher would like to suggest that target population for future research can be broaden so that the findings is able to represent larger population. On top of that, a larger sample size could result in a more reliable findings and are able to be generalized to the Malaysian students' populations which could in turn benefits the target population.

6.0 CONCLUSION

It can be concluded that fixed mindset negatively influence students; academic success. While growth mindset positively influences academic success among the accounting students in AHIBS, UTM. However, it was found that grit does not significantly influences accounting student academic success. In conclusion, mindset significantly influence academic success while grit does not.

References

- Almunais, T. A., & Alfraih, M. M. (2014). Deteminants of Accounting Students Performance. *Business Education & Accreditation*, 6(2), 1-9.
- Bazelais, P., Lemay, D. J., & Doleck, T. (2016). How Does Grit Impact College Students' Academic Achievement in Science? *European Journal of Science and Mathematics Education*, 4(1), 33-43.
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit Theories of Intelligence Predict Achievement Across an Adolescent Transition: A Longitudinal Study and an Intervention. *Child Development*, 78(1), 246-263. doi:10.1111/j.1467-8624.2007.00995.x
- Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences*, 113(31), 8664.
- Dante, D. D., Cyrell, C. B. R., & Frank, C. W. (2017). Psychosocial Keys to African American Achievement? Examining the Relationship Between Achievement and Psychosocial Variables in High Achieving African Americans. *Journal of Advanced Academics*, 28(2), 120-140. doi:10.1177/1932202X17701734
- Duckworth, A. L. (2016). *Grit: The power of passion and perseverance*: Scribner New York, NY.
- Duckworth, A. L., Kirby, T. A., Tsukayama, E. T., Berstein, H., & Ericsson, K. A. (2011). Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee. *Social Psychological and Personality Science*, 2(2), 174-181. doi:10.1177/1948550610385872
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, 92(6), 1087-1101. doi:10.1037/0022-3514.92.6.1087
- Duckworth, A. L., & Quinn, P. D. (2009). Development and Validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment*, 91(2), 166-174. doi:10.1080/00223890802634290
- Dweck, C. S. (2006). *Mindset: The New Psychology of Success*: Random House Publishing Group.
- Dweck, C. S. (2008). *Mindsets and math/science achievement*: New York, NY: Carnegie Corp. of New York–Institute for Advanced Study Commission on Mathematics and Science Education.
- Dweck, C. S. (2015). Carol Dweck revisits the growth mindset. *Education Week*, 35(5), 20-24.
- Dweck, C. S., Walton, G. M., & Cohen, G. L. (2014). *Academic Tenacity: Mindsets and Skills that Promote Long-Term Learning*. Seattle, WA: Bill & Melinda Gates Foundation.
- Eskreis-Winkler, L., Shulman, E. P., Beal, S. A., & Duckworth, A. L. (2014). The grit effect: predicting retention in the military, the workplace, school and marriage. *Frontiers in Psychology*, 5, 36. doi:10.3389/fpsyg.2014.00036
- Fitzgerald, C. J., & Laurian-Fitzgerald, S. (2016). Helping students enhance their grit and growth mindsets. *Journal Plus Education*, 14(2), 52-67.
- Hochanadel, A., & Finamore, D. (2015). Fixed And Growth Mindset In Education And How Grit Helps Students Persist In The Face Of Adversity. *Journal of International Education Research*, 11(1), 47-50. doi:10.19030/jier.v11i1.9099
- Hogan, L. M. (2013). *Non-cognitive traits that impact female success in biglaw*. (Doctoral Dissertation), University of Pennsylvania, Philadelphia, Pennsylvania.
- Hong, Y.-y., Chiu, C.-y., Dweck, C. S., Lin, D. M.-S., & Wan, W. (1999). Implicit theories, attributions, and coping: a meaning system approach. *Journal of Personality and Social psychology*, 77(3), 588.
- Ivcevic, Z., & Brackett, M. (2014). Predicting school success: Comparing Conscientiousness, Grit, and Emotion Regulation Ability. *Journal of Research in Personality*, 52, 29-36. doi:<https://doi.org/10.1016/j.jrp.2014.06.005>
- Jain, C., Apple, D., & Ellis, W. (2015). What is Self-Growth? *The International Journal of Process Education*, 7(1), 41-52.
- Jones, B. D., Byrd, C. N., & Lusk, D. (2009). High School Students' Beliefs About Intelligence. *Research in the Schools*, 16(2).
- Lucas, G. M., Gratch, J., Cheng, L., & Marsella, S. (2015). When the going gets tough: Grit predicts costly perseverance. *Journal of Research in Personality*, 59, 15-22. doi:<https://doi.org/10.1016/j.jrp.2015.08.004>
- Ong, A., & Savoni, P. (2017). Predictions of Performance Compared to Actual: A Hard Lesson for First-Year Accounting Students. *Journal of Accounting & Finance*, 17(7), 78-85.
- P'Pool, K. (2012). Using Dweck's Theory of Motivation to Determine How a Student's View of Intelligence Affects Their Overall Academic Achievement.
- Phillips-Martinez, B. (2017). *Grit and Mindset as Predictors of Student Success in a First-Time Online High School Course*. Northwest Nazarene University.

- Polirstok, S. (2017). Strategies to Improve Academic Achievement in Secondary School Students: Perspectives on Grit and Mindset. *SAGE Open*, 7(4), 2158244017745111. doi:10.1177/2158244017745111
- Ravenscroft, S. P., Waymire, T. R., & West, T. D. (2012). Accounting students' metacognition: The association of performance, calibration error, and mindset. *Issues in Accounting Education*, 27(3), 707-732.
- Reraki, M., Celik, I., & Saricam, H. (2015). Grit as a mediator of the relationship between motivation and academic achievement. *Ozean Journal of Social Science*, 8, 19-32.
- Romero, C., Master, A., Paunesku, D., Dweck, C. S., & Gross, J. (2014). Academic and Emotional Functioning in Middle School: The Role of Implicit Theories. *Emotion*, 14(2), 227-234. doi:10.1037/a0035490
- Sousa, D. A. (2011). *How the Brain Learns*: SAGE Publications.
- Strayhorn, T. L. (2014). What Role Does Grit Play in the Academic Success of Black Male Collegians at Predominantly White Institutions? *Journal of African American Studies*, 18(1), 1-10. doi:10.1007/s12111-012-9243-0
- West, M. R., Kraft, M. A., Finn, A. S., Martin, R. E., Duckworth, A. L., Gabrieli, C. F., & Gabrieli, J. D. (2016). Promise and paradox: Measuring students' non-cognitive skills and the impact of schooling. *Educational Evaluation and Policy Analysis*, 38(1), 148-170.
- Zhang, J., Kuusisto, E., & Tirri, K. (2017). How Teachers and Students Mindsets in Learning Have Been Studied: Research Findings on Mindset and Academic Achievement. *Psychology*, 15. doi:10.4236/psych.2017.89089