



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

*International Journal of Current Research*  
Vol. 10, Issue, 09, pp.73250-73252, September, 2018

DOI: <https://doi.org/10.24941/ijcr.32187.09.2018>

**INTERNATIONAL JOURNAL  
OF CURRENT RESEARCH**

## RESEARCH ARTICLE

# SUCCESS WITHOUT GRIT: AN EXPLORATORY STUDY OF INDIVIDUALS WITH LOW GRIT SCORES AND HIGH ACADEMIC PERFORMANCE

<sup>1,\*</sup>E. Gregory Holdan, <sup>2</sup>Allen R. Lias, <sup>3</sup>R. John Locke, <sup>4</sup>Heather H. Elfen and <sup>5</sup>Armand A. Buzzelli

<sup>1</sup>Robert Morris University, Departments of Mathematics and Education

<sup>2</sup>Robert Morris University, Department of Mathematics

<sup>3</sup>Robert Morris University, Student Activities and Leadership Development

<sup>4</sup>Robert Morris University, Department of Mathematics

<sup>5</sup>Robert Morris University, Campus Student Recreation

### ARTICLE INFO

#### Article History:

Received 14<sup>th</sup> June, 2018

Received in revised form

07<sup>th</sup> July, 2018

Accepted 20<sup>th</sup> August, 2018

Published online 30<sup>th</sup> September, 2018

#### Key Words:

Grit, Performance and Grit,  
Higher Education.

### ABSTRACT

This paper investigates the relationship between Angela Duckworth's (Duckworth, Peterson, Matthews, and Kelly, 2007) concept of grit and academic performance in mathematics, with attention to the performance of students with low grit scores. Research thus far has been inconclusive about the relationship between grit and performance, but the authors of this paper noticed that students with the lowest grit scores seemed to be generally high performers, and so they conducted a simple action research study to investigate. Results indicated that students with the lowest grit scores performed as well as students with high grit scores. The authors attempt to describe these students who have low grit, yet demonstrate high academic performance.

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**Citation:** E. Gregory Holdan., Allen R. Lias, R. John Locke., Heather H. Elfen and Armand A. Buzzelli, 2018. "Success Without Grit: An Exploratory Study of Individuals with Low Grit Scores and High Academic Performance", *International Journal of Current Research*, 10, (09), 73250-73252.

## INTRODUCTION

The term "grit" was prominently thrust into academic vernacular over the past decade, thanks in large part to groundbreaking research on academic grit conducted by University of Pennsylvania psychologist, Dr. Angela Duckworth and her colleagues. In 2013, Duckworth was awarded with the MacArthur Fellowship, often referred to as a "genius grant," for her work that included the establishment of a psychometric scale using a self-report questionnaire that measured grit, defined as "perseverance and passion for long-term goals" (Duckworth *et al.*, 2007). The study reported that grit had little correlation with intelligence, but grittier individuals had attained higher levels of education than less gritty individuals of the same age, grittier individuals made fewer career changes than less gritty peers of the same age, and that grittier individuals had both higher retention rates, and GPAs in higher education. As the media and discourse from educators began to look towards grit as the answer for students in low income and underperforming school districts, a debate has ensued on its value.

*\*Corresponding author: Gregory Holdan, E.,*  
Robert Morris University, Departments of Mathematics and Education.

As Ris (2015) explains: To its champions, the concept of grit offers a solution to the intractable low performance. In these schools: help the kids get grittier, and they can claw their way out of poverty (Tough, 2011; Tough, 2012; Rock Center, 2012; Lipman, 2013). To its skeptics, grit is at best an empty buzzword, at worst a Social Darwinist explanation for why poor communities remain poor - one that blames the victims of entrenched poverty, racism, or inferior schooling for character flaws that caused their own disadvantage (Shapiro, 2013; Thomas, 2013; Anderson, 2014; Isquith, 2014; Nogura and Kundu, 2014; Ravitch, 2014a; Snyder, 2014; Ravitch, 2015; p. 2). While the idea of grit being a learned skill that can help improve student and professional outcomes may be empowering and help ease the burden of blame off of teachers, the other side of that argument may lead to abandonment. "When poor children appear in this discourse, they are not the problem but rather the romanticized solution. Their status as such is inherently problematic; it does not simply legitimate hardship, it celebrates it" (Ris, 2015). The individual responsibility that comes with focusing on grit also tends to give parents and teachers of children in elite circles an excuse for their children's negative behaviors and shortcomings. The authors of this mixed-methods action research study not only sought to determine the impact grit had on the academic

success of their students, but qualitatively to describe commonalities that they observed in the students who were academically successful while lacking in grit according to Duckworth's psychometric scale. Using participant observation and field notes from multiple sections of introductory mathematics at a small, private, Mid-Atlantic institution, the researchers developed a portrait of a unique subsection of students who are succeeding academically, while not demonstrating high levels of grit by definition.

**Review of Literature:** Grit is defined as the relentless perseverance and passion for long-term goals. It entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress (Duckworth *et al.*, 2007). Gritty individuals have a tendency to treat most achievements as a test of endurance. They are able to remain focused and active on a task for months and potentially years if needed. Studies have been conducted investigating IQ as a primary indicator of achievement (Gottfredson, 1997; Hartigan and Wigdor, 1989). Yet more recently, grit has been found to be a better predictor of achievement than IQ alone in samples of people considered under challenging circumstances, such as cadets at the United States Military Academy at West Point undergoing training (Duckworth *et al.*, 2007). Gritty individuals constantly strive to achieve and continue to push through despite interference and obstacles. Shockingly, across many studies grit continues to emerge as a predictor that is independent of talent for the most part.

Different studies attempt to classify gritty individuals. Duckworth *et al.* (2007) concluded that gritty individuals are generally older, have higher levels of education and made fewer career changes than less gritty peers of the same age. They also found that grit does not significantly vary by gender. Others were able to find that grit is a predictor for psychological well-being (Salles, Cohen, and Mueller, 2014) and happiness (Von Culin, Tsukayama, and Duckworth, 2014). On average, individuals who are gritty are more self-controlled, but the correlation is not perfect (Duckworth and Gross, 2014). Evidence that there is a positive relationship between grit and performance is inconsistent. One study has shown that perseverance of effort is a predictor for self-regulated learning, which is a potential pathway leading to improved academic outcomes and achievements (Wolters and Hussain, 2015). A study focusing on grit as a predictor of first year academic performance suggests creating an environment that strongly encourages and supports perseverance in higher education could lead to an increase in academic outcomes and achievements (Chang, 2014). Yet another study has shown that the effect of grit on student performance is altered by a student's confidence in the subject area, specifically math. Flanagan and Einarson (2017) found that the positive impact of a student's grittiness is strongest for those students with low levels of confidence in math. This is one of the few studies done that has focused on the individual's passion for the subject. Jachimowicz, Wihler and Galinsky (2018) proposed that the inconsistency in much of the research occurs because most of the research has focused on perseverance and has failed to sufficiently incorporate passion. The studies simply have failed to take into account many of the students personal attributes. In an effort to study grit scientifically, Duckworth developed the Grit Scale and later the Grit Short Scale (Grit-S) so that she may quantify, measure, and compare individuals and their abilities.

The Grit Scale is a 2-factor self report scale consisting of twelve items that are all measured on a 5-point likert scale. Those twelve items were then whittled down to eight to form the Grit-S which retained the 2-factor structure and improved psychometric properties (Duckworth and Quinn, 2009). It consists of four items that measure an individual's consistency of interest and four items to measure an individual's perseverance of effort. Validity of the Grit-S scale was tested when participants would answer the questionnaire for themselves, and then nominate one friend and one family member to complete the online informant version. Correlations between results of self-report versions of the Grit-S and scores on the informant versions were significant.  $r = .45, p < .001$  and  $r = .47, p < .001$ , respectively (Duckworth and Quinn, 2009). In the case of the 12-Item Grit Scale the total number of points one scores is divided by twelve, thus producing a number between 1 and 5 with 5 representing very gritty individuals. For purpose of this study we considered individuals to be low scoring if their grit score was below 3.0.

**The Study:** Much of the research done thus far on grit mainly discusses gritty individuals. Little is known about what one can say about less gritty individuals. In a small scale action research study of college students, we looked into exploring the relationship between those with low grit scores and performance as well as their personal attributes. In order to distinguish students as those with low grit scores, we followed the well known 12-Item Grit Scale. From the responses of 124 undergraduate mathematics students in calculus, basic statistics, and general mathematics, we found a relatively weak significant Pearson correlation of  $r = 0.019$  between grit score and final grade in the class. So there appears to be some positive relationship between grit score and performance (as measured by final grade) in that the higher the grit score, the better the achievement. What we were really interested in though were those students who generated the lowest grit score -- what were those student's final grades and what are some noticeable personal attributes as a student. We found that the lowest scoring students (thirteen of them, those with a grit score less than 3.0) scored relatively high on the final course assessment (grade converted to a 4-point scales), with a non-significant Pearson correlation of  $-0.27$ , indicating that the lower the grit score the higher the achievement. See Table 1 below. Also noteworthy from Table 1 is the interesting finding that students who scored low on grit or high on grit on average performed equally well (B+ on a 4-point scale) in the courses. However, the number of students who had a low Grit score is just very small and so though an interesting finding from this data, the idea of low and high scoring Grit performing equally well should be examined more carefully.

**Table 1. The Relationship Between Grit and Grade**

N	Range	Grit M	Grade M*	r	p
13	2<G<=3	2.64	3.3	-0.27	0.42
80	3<G<=4	3.58	2.7	0.17	0.12
31	4<G<=5	4.20	3.3	-0.03	0.85

\*Grade converted to a 4-point scale

**But just who are these students?** Faculty independently generated descriptors for these students: strange, laid back, disengaged, introverted, loner, confident, disinterested, different, goofy, focused, anti-social. Generally these low grit scoring individuals were very quiet in class, kept to themselves for the most part, often dressed or groomed differently from others in

the class, completed assignments regularly, and did not relish volunteering in class yet were clearly paying attention. Some liked to call attention to themselves through dress or grooming, while others were at the total opposite of the spectrum and preferred to be as much “under the radar” as possible. If asked a direct question, they generally had very good thoughtful and often insightful responses. Upon reflection, it seems that these low scoring Grit students were confident enough to answer the survey questions truthfully about themselves.

## Conclusion

The findings of this study are relevant to the body of research exploring college student success and academic performance. Grit is a reliable predictor of long term goal achievement, however the results of this study illustrate that grit may not be a predictor of short term academic success. This study focuses on the value of grit on the final grades of students in a fifteen week mathematics course. Duckworth’s (2013) claim that grit is a better indicator of academic performance than tests of cognitive ability alone is challenged, specifically based on the results of this study. Grit illuminates the tension between tenacity and talent, as well as the importance of clear goal setting.

Highly accomplished students are diligent in the pursuit of their goals (Duckworth, 2013). Gritty students are fully committed to goals, and are capable of withstanding obstacles, setbacks, failures and challenges along the path to achievement. Grit is considered a required trait in order to achieve a long term goal or difficult goal, such as on-schedule graduation. The length of time to complete a goal does not necessarily have to be long in order for a gritty disposition to be beneficial. Adults who completed two year community college programs recorded grit scores higher than students who completed four year degrees (Duckworth, 2016). The results illustrate that it takes a grittier individual to overcome all of the challenges associated with degree completion, through clear goals, relevant feedback and a balance between skills and challenges. It is possible that the grittier students in this study did not hold an ‘A’ in the same goal setting esteem as simply crossing the finish line with a passing grade.

Goals direct much of human behavior. A focus on goal-setting has lead researchers to draw comparisons between grit and self-control. While self-control is closely linked to grit, they are two different traits. Self-control has a short horizon, which corresponds to an immediate goal. Gritty individuals possess a mental toughness and are highly committed to whatever they are doing (Duckworth, 2016). The participants in this study who earned better grades, may have scored low on the grit scale, but possessed a higher amount of self-control related to short term retention. The less gritty students may have simply possessed a higher talent than the students who exhibited more grit. It is also likely that the ‘under the radar’ and ‘quiet’ students possessed a natural giftedness for the mathematics taught in this class. While others in the class may have exhibited higher levels of passion and perseverance toward a good grade, it was the talented students who excelled. Some educators attempt to add grit-boosting initiatives to their curriculum, without any empirical evidence that grit can be taught.

This study states that even if grit can be taught, it may not have a statistically significant impact on and individuals academic performance.

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