

The Multifaceted Role of Grit in Everyday Life: A Systematic Review

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Since the inception of the construct of Grit by Duckworth and her colleagues, there has been an increased and renewed interest in learning how we can hone and develop this trait as it has shown to be correlated to a variety of constructs, including performance, achievement, happiness, well-being, job satisfaction, etc. The present study uses the method of Systematic analysis to examine where we stand in our understanding of this construct and what can be significant directions to further our assessment of grit and its relationship with various other psychological and behavioral correlates. This study analyses twenty-two research articles to understand the effect and role of grit in an individual's life.

Keywords: Grit, Systematic analysis, Role of Grit.

Accomplishing anything significant depends on willpower, although success in one's long-term goals also requires both passion and perseverance (Duckworth, 2016) and this is what has come to be known as Grit. Achievement and Well-being have been the areas of interest for many researchers since a long time. However, it was only recently that a shift from the study of cognitive variables to non-cognitive variables occurred in understanding performance and success. Cognitive factors refer to characteristics of the person that affect performance and learning (Danili and Reid, 2006). These factors serve to modulate performance such that it may improve or decline. These factors involve cognitive functions like attention, memory, and reasoning. A shift from overestimating the importance of IQ occurred when it was observed that people with comparatively lower IQs were able to attain equal or in some cases even higher levels of success (Duckworth, Peterson, Matthews & Kelly, 2007). And thus, the center of study became a variety of non-cognitive factors. The term noncognitive is used here to refer to variables relating to adjustment,

motivation and perception, and can be assessed efficiently in a variety of ways, and incorporated into any admissions process (Sedlacek, 2004, 2011). Another such factor which was seen predicting professional and academic success was Grit (Epstein & Krasner, 2013; Duckworth, Peterson, Matthews & Kelly, 2007) and it is the core of our present work. With further research, it became more evident that Grit is not only associated with academic or professional achievement but also plays a crucial role in psychological well-being (Lee, Reasoner & Lee, 2021), engagement (Hodge et al, 2017), retention and completion of a course (Duckworth et al, 2007), self-control (Kannangara et al, 2018) etc. As William James put it, most individuals make use of only a small part of their resources, whereas a few exceptional individuals push themselves to their limit. In order to better understand the reasons behind these differences in individual performance in the presence of equal access to resources and comparable cognitive traits, we examine the role of grit further.

Grit

Grit is defined as passion and perseverance for very long-term goals (Duckworth, 2007). Theoretically, Grit is divided into two components a) consistency of interest and b) perseverance of effort over time (Bowman et al., 2015). 'Consistency of Interest' refers to steady and consistent maintenance of interest of an individual for a goal over a long duration and the second component 'Perseverance of effort' refers to tendency of an individual to put their time and energy consistently into a long-term goal. Essentially, Grit is time, efforts and interest consistently invested towards a goal sustaining any monotony and plateaus in progress. Grit is a component of personality traits and forms an individual's character. It is considered to be a part of the larger conscientiousness traits from the Big five personality traits (Duckworth & Quinn, 2009). One can easily confuse grit with similar constructs such as resilience and need for achievement, however, there are stark differences between all. For example, Duckworth explains Grit as "not just having resilience in the face of failures, but also having deep commitments that you remain loyal to over many years". Grit is also not the same as need for achievement. As McClelland (1961) has pointed out, that achievement is the drive to accomplish manageable goals that is marked with the feature of immediate opinion about a performance. Grit entails working strenuously toward challenges, maintaining effort and interest over years despite failure, adversity, and plateaus in progress. When others give up due to disappointment or boredom and believe that it is time to change trajectory and cut losses, the gritty individual stays the course. They approach achievement as a marathon rather than a sprint; thus, their advantage is stamina not speed.

Accomplishing anything significant depends on willpower, although success in

one's long-term goals also requires both passion and perseverance (Duckworth, 2016). It has been observed that grit does not always develop consistently; that is, people may develop a good work ethic first without having long-term goals. And then over time get grittier, following their habit of being perseverant. This tendency may explain why perseverance appears to be a better predictor of performance than passion, and thus criticism of the construct (Crede et al., 2017). By understanding the role of grit and it's relationship with other correlates, we can chalk out a path for development of studies in the area to further our theoretical knowledge and application areas.

Objective:

- To develop an understanding of existing literature on Grit and it's relationship with other psychological and behavioral correlates.

Method

Design

The present study used a step-wise approach to understand the role of grit and it's relationship with other psychological and behavioral co-relates. For this purpose, firstly, research papers were retrieved from various credible and reputed sources including Taylor and Francis, Sage Publications, Wiley Online Library, PubMed, Jstor, APA, Research Gate, Springer, Routledge etc. Only those journals were taken into account whose Impact Factor was 1 and above (range 1-27). The keywords used for searching the relevant articles included 'Grit', 'Perseverance', 'Relationship of Grit', 'Grit and well-being' etc. These keywords were used in order to retrieve texts which talked about grit and the variables which have been studied in relation to or as an outcome of grit. This exercise yielded a total of fifty research articles. Each article was carefully read and reviewed and the research papers which did not serve the purpose, were

dropped from the study. This process yielded a total of twenty-two articles. The articles which qualified for this step had talked about grit or the role of grit and its relationship with other variables. These twenty-two research articles were then subjected to Systematic Review. The steps of selection are also represented in Figure 1.

Systematic-Review is a critical qualitative approach wherein information is combined to find answers of well-defined questions. It is a review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyze

data from the studies that are included in the review (Collab, 2003). It is unlike Narrative reviews, which attempts to summarize or synthesize what has been written on a particular topic but does not seek generalization or cumulative knowledge from what is reviewed (Davies, 2000; Green et al, 2006). Systematic reviews are characterized by being methodical, comprehensive, transparent, and replicable (Siddaway, Wood and Hedges, 2019). It is different from Meta-analyses, which involves using statistical techniques to synthesize the data from several studies into a single quantitative estimate or summary effect size (Petticrew & Roberts, 2006).

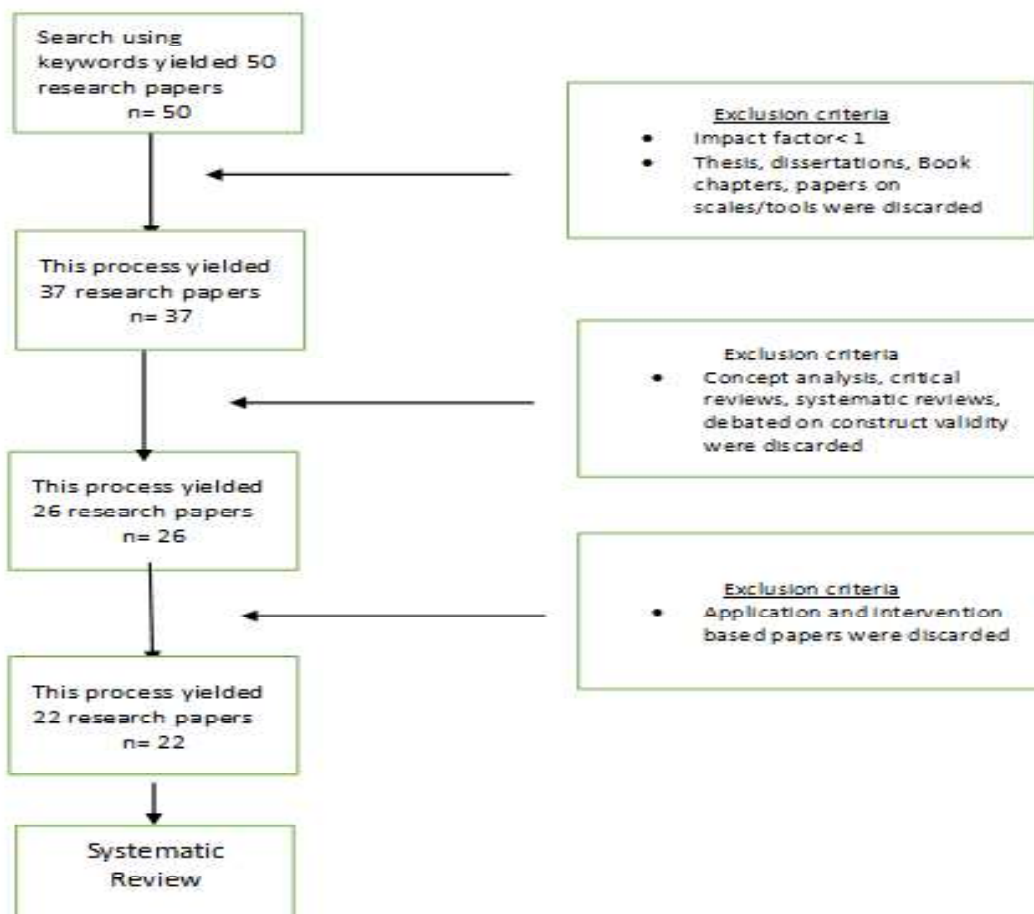


Figure 1. Schematic representation of the process of selecting data for Systematic analysis

In the present study, this process of Systematic Review yielded three major areas in which the role of grit could be observed - Academics and Profession, Self and Personality, Well-being & Demographics. Each category assessed the role of grit in the respective facet of an individual's life and thus led to a comprehensive view of the inevitable role of grit and indirectly emphasized on the importance of development of grit.

Results

This section presents the findings of the Systematic Review under four themes, namely Academics & Profession, Self & Personality, Well-being and Demographics. Each section consists of findings from various researchers pertaining to the said theme in order to better categorize and understand

the available research pertaining to Grit in an organized manner for better sense-making of the plane we stand at in terms of our progress in understanding grit, and it's a role in holistic human development.

Academics and Profession

The first theme- Academics and Profession, discusses the variables pertaining to one's academic life (e.g., academic performance, academic resilience, academic productivity, pursuit of postgraduate training, etc.) and professional life (job satisfaction, job performance, job retention, self-employment, etc.). As depicted in Table 1, grit has been reported to be significantly correlated to many factors of importance in academic and professional life. This is also one of the oldest and most extensively researched domains in the study of grit.

Table 1. Factors associated with Grit in Academic and Professional domains

Sr.No	Variable studied in relation to Grit	Researchers	Sample in the study	Findings
1.	Academic Resilience (self-belief, persistence & anxiety)	Mohan & Kaur (2021)	A total of 120 school students (60 males and 60 females) belonging to private schools of Chandigarh, Ludhiana and Phagwara were recruited.	Grit has significant positive corr. with self-belief & persistence and significant negative corr. with anxiety
2.	Academic Performance	Duckworth et al (2007)	The sample consisted of 139 undergraduate students from the University of Pennsylvania.	Grit scores were positively associated with higher Grade Point Average (GPA).
		Holdan et al (2018)	124 undergraduate mathematics students.	Grit scores were unrelated to academic performance.
		Jachimowicz et al (2018)	248 participants from a private university were sampled for the study.	Perseverance and passion (components of grit) predicts higher GPA score.
3.	Completion of Training/ Retention in a program	Duckworth et al (2007)	This sample was constituted by 1218 freshman cadets who entered the US Military Academy.	Higher grit score predicts higher rate of retention through training.
		Kraft, C.R. and Duckworth, A.L.	The sample was of 154 school teachers. 51% were in their	Teachers with higher grit completed their teaching year

		(2014)	second year of teaching as opposed to 49%, who were in their first year.	while others resigned
4.	Self-employment	Wolfe and Patel (2016)	13210 participants from 8 countries including Armenia, Bolivia, Georgia, Ghana, Kenya, Laos, Sri Lanka, Vietnam & Yunnan province in China.	Grit is a significant predictor in the choice of self-employment cross-culturally.
5.	Pursuit of postgraduate training	Palisoc et al (2017)	98 students of Pharmacy programme were sampled.	Higher Grit scores also were strongly associated with attaining a postgraduate training position.
6.	Goal attainment	Holdan et al (2018)	124 undergraduate mathematics students.	Grit may not be a predictor of short-term academic success.
		Duckworth et al (2007)	4 independent studies comprising of adults (N= 2235), Ivy League undergraduates (N= 138), 2 classes of US Military Academy (N= 1,218 and N= 1,308), and National Spelling Bee participants (N=175).	Grit is positively correlated with long-term goal achievement
7.	Academic productivity	Hodge et al (2018)	A sample of 395 university students from across Australia.	Grit is positively related with academic productivity and engagement mediates their relationship.
8.	Job Performance	Kraft, C.R. and Duckworth, A.L. (2014)	A total of 307 school teachers were sampled for this study.	Teachers with higher grit scores outperformed their colleagues.
		Jachimowicz et al (2018)	The sample consisted of 422 employees of a technology company located in a Spanish speaking country.	Perseverance and passion (components of grit) predicts higher performance.
9.	Job satisfaction	Danner, Lechner, and Rammstedt (2019)	A sample of 30,141 respondents from 20 countries including Austria, Belgium, Chile, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, Portugal, Spain, and Sweden (age range 16-70yrs) was recruited for this study.	Grit had incremental associations with job satisfaction in some countries.

Self and Personality

Self and Personality constitute the core of an individual, and thus, the role of grit on one's self, identity formation, identity development, and on one's self-control, self-efficacy becomes important to study. Research evidence is inconclusive to determine whether grit is a genetic trait or is

developed through social and environmental interactions (Duckworth et al., 2014), but we have some empirical evidence suggesting the importance of the construct of grit in an individual's everyday life through developing qualities like resilience, self-control, etc. Table 2, presented below, depicts these findings in a cohesive manner.

Table 2. Factors associated with Grit in the domain of Self & Personality

Sr.No	Variable studied in relation to Grit	Researchers	Sample in the study	Findings
1.	Self-control	Kannangara et al (2018)	A total of 440 students were recruited from a university in England.	Higher grit correlated with higher self-control
2.	Resilience	Kannangara et al (2018)	A total of 340 students were recruited from the University of Bolton, England.	Grit and resilience were negatively correlated
3.	Self-efficacy	Lastner and Peasley (2022)	Data was collected from 473 salespersons across industries, including advertising, auto parts, business solutions, computer and technology-related sales, insurance, promotional products, telecommunications, and transportation and logistics.	Self-efficacy is predictive of grit.
4.	Identity Development	Weisskirch (2019)	The sample consisted of 232 undergraduate students aged between 18-25yrs.	Findings indicate that grit is associated with identity commitment and identity exploration processes.
5.	Partnership orientation	Shields et al (2017)	The sample included 799 athletes (age range 18-23yrs) who had completed a mean of 6.4yrs in their primary sport.	Partnership orientation predicts higher levels of grit in athletes.

Table 3. Factors associated with Grit in the Well-being domain

Sr.No	Variable studied in relation to Grit	Researchers	Sample in the study	Findings
1.	Psychological Well-being	Salles et al (2016)	The data was collected from 73 residents in general surgery over two consecutive years.	Grit was found to be positively correlated to general psychological well-being and inversely correlated with depression.
		Angad S (2019)	178 college students from Bengaluru (India), age range 18-22.	No significant relationship was found between grit and

2.	Burnout	Walker, Hines & Brecknell (2016)	102 participants (33 core surgical trainees, 49 mid-career trainees in higher surgical training, and 22 consultants) provided data.	mental well-being. Grit had a significant inverse relationship with burnout.
		Brateanu et al (2020)	139 PG students of Internal medicine at Cleveland Clinic were sampled.	Higher Grit significantly reduces the chances of burnout.
3.	Physical, emotional, social functioning	Rhodes and Giovannetti (2021)	185 participants (39 males and 146 females) aged between 55-89 yrs.	Grit is positively related to these variables contributing to a better aging process
4.	General health	Rhodes and Giovannetti (2021)	185 participants (39 males and 146 females) aged between 55 yrs and 89 yrs.	Grit scores are positively related to general health.
5.	Happiness	Weisskirch (2019)	232 undergraduate students (Female = 180, Male = 50) aged between 18-25yrs participated in the study.	Grit has been reported to indirectly affect the happiness levels.
6.	Internet addiction	Maddi et al (2013)	The sample consisted of 425 undergraduates at a public university in California.	Higher levels of grit can provide protection against problematic internet use.

Well-being

Grit is one of the non-cognitive factors that emphasizes the effort and consistency of interest for long-term goals and hence affects a plethora of other variables, including well-being, burnout, happiness, and even overall health (as depicted in Table 3). The study of grit has given a new perspective to the field of positive psychology and can have implications in developmental psychology.

Table 4. Factors associated with Grit based on demographics.

Sr.No	Variable studied in relation to Grit	Researchers	Sample in the study	Findings
1.	Gender	Kannagara et al (2018)	A total of 340 students, including 184 females and 141 males, were recruited from the University of Bolton, England.	Females are significantly higher on grit compared to males
		Angad S (2019)	178 college students from Bengaluru (India), age range 18-22.	Indian males scored higher on Grit than females.
		Mohan & Kaur (2021)	A total of 120 school students (60 males and 60 females) belonging to private schools of Chandigarh, Ludhiana and Phagwara were recruited.	No significant gender differences

2.	Level of Education (UG/PG)	Hodge et al (2018)	395 university students (50 males and 345 females) aged between 19-58yrs.	No significant gender differences
		Ursua et al (2020)	A total of 412 enrolled medical students participated in the study.	Grit does not differ significantly by gender.
		Kannangara et al (2018)	A total of 340 students (30 individuals from foundation, 127 students from first year, 65 from second year, and 78 students in their final year of UG, and 24 PG students) were recruited from the University of Bolton, England.	Students in PG courses had significantly higher grit than UG students
3.	Age	Duckworth et al (2007)	1545 participants aged 25yrs and above (range 25-65 plus years).	Older individuals had significantly higher grit than younger individuals
		Kannangara et al (2018);	A total of 340 participants (153 individuals between 18 and 21 years, 83 participants were between 22 and 26 yrs, 28 participants between the age of 27 and 30, and 63 participants 31 and above) were recruited from the University of Bolton, England.	Older individuals had significantly higher grit than younger individuals
		Rhodes and Giovannetti (2021)	185 participants (39 males and 146 females) aged between 55 yrs and 89 yrs.	Grit was reported to be unrelated to age.

Demographics

Demographic variables such as age, gender, and level of education have been factors in grit research, especially in predicting the development of grit as a genetic trait, personality trait, or acquired trait. Table 4 presents the findings related to various demographic variables and grit to further our understanding.

Discussion

The present study aimed at reviewing existing literature on Grit in order to understand the construct of Grit and its relationship with other psychological and behavioral correlates. For this purpose, a Systematic Review was done with twenty-two research articles, which were selected using a step-wise, rigorous process and have in

some form discussed the construct of Grit and its relationship with other psychological and behavioral correlates. The process of Systematic Review yielded four themes under which the relationship of Grit with other correlates can be examined. These four themes are- Academics & Profession; Self & Personality; Well-being and Demographics. Each theme entails a number of different constructs which are further discussed in the proceeding section.

Academic and Professional domains

This domain outlines the relationship of Grit with various constructs related to academics (eg. Academic resilience, performance, pursuit of postgraduate training etc.) and professional lives of individuals (eg. Job performance, job satisfaction etc.). It is of relevance to understand the direction and

strength of the relationship of Grit with this domain as academic and profession related constructs are cross-cultural and exists in the lives of each and every individual and thus the impact of Grit here is not only significant but also widely spread throughout the population.

As per the findings of the study, in the Academic domain, Grit has shown positive correlations with academic resilience, completion or retention in a program, self-employment, pursuit of postgraduate training, long-term goal attainment and academic productivity. It is also to be noted that there is mixed evidence on the relationship of Grit with academic performance. This clearly indicates that on an average, it is safe to report that grit has positive manifestations on academic life of individuals. In the professional domain, Grit is found to have a positive impact on job performance and long-term goal achievement. There is also some evidence to suggest that Grit is positively associated with job satisfaction in some countries (Danner et al, 2019). These findings are indicative of the incremental role of Grit in everyday life.

Self and Personality

The domain of Self and Personality discusses the relationship of Grit with self-related concepts such as self-control, self-efficacy, identity development and with personality related traits such as resilience and individual vs partnership orientations for task completion. This domain is also especially unique as some researchers argue that Grit in itself is a personality trait belonging to the larger dimension of conscientiousness (Duckworth, 2007) suggesting that it is innate and comparatively stable. It's interaction with the self and other traits thus offers an insight to understanding the manifestation of behavioral aspects of an individual.

The present study found that Grit was positively correlated to higher self-control, suggesting that higher the grit, higher the self-control. Similarly, there was an association between grit and identity related concepts such as identity commitment and identity exploration, however further research is needed in this domain. Interestingly, Grit was found to be predicted by self-efficacy and partnership orientations, suggesting that these traits are conducive to development of grit. Lastly, Grit was also found to be negatively correlated with resilience suggesting higher the amount of grit, lower the levels of resilience.

Well-being

This sub-domain of study in the present study offers a window to the vast world of positive psychology. The term Well-being used here refers to the physical, emotional and psychological components of an individual and essentially promotes the idea of presence of positive emotions and mood, absence of negative emotion, satisfaction with life, fulfilment and positive functioning as given by the Centers for Disease Control and Prevention (CDC). Thus, this domain entails Burnout, functioning, General health, Happiness etc. as its sub-components.

As per the findings of the present study, Grit is inversely related to burnout. This suggests that higher levels of grit significantly reduce the probability of experiencing burnout. Similarly, higher levels of Grit also contribute to an individual's better functioning (Physical, emotional and social) and overall health. Interestingly, higher grit also provides some protection against problematic internet usage. Contrary to all the positive relations of grit with factors enhancing well-being, there appears to be a scope of further investigation for understanding the role of grit in psychological well-being as the research is scant and inconclusive. However, based upon our

findings, it can be safely concluded that grit has a variety of positive impact on an individual's overall well-being.

Demographics

The present study attempted to understand if demographic variables such as age, gender, educational level have any significant impact on the levels of Grit in the samples. The findings of the present study suggest that Gender did not cause a significant difference in the levels of Grit among the samples studied which majorly comprised of school and college students. Essentially, mixed results have been reported when studying the impact of gender on Grit. Contrastingly, for the sub-component of Level of Education, it was found that individuals who were pursuing higher degree had more Grit. This finding is also in sync with the findings of the relationship of Age with grit, where it was found that older individuals had more Grit compared to their younger counterparts. Thus, it can be argued that Grit might have some developmental underpinnings and hence it has been found to increase with age and level of education. In conclusion, the findings of the present study sheds light on the importance of Grit in multiple domains of an individual's life such as academics, profession, well-being and also in the development of self and personality. In our understanding Grit is an important positive psychology variable which aids in the overall betterment of the individual and requires further understanding on the part of researchers.

Directions for Future Research

Given the importance and usefulness of grit as a trait, based upon the present study, the future researchers should attempt to provide a theoretical model of grit with its antecedents and predictors. Extensive cross-cultural studies can also be conducted in order to understand and analyze cultural

differences, if any, in the prevalence of the trait as it can speak amounts about the environmental and social contexts in which grit can be developed in individuals. There is also scope for longitudinal studies to analyze the patterns of grit levels in individual sin different life stages and its impact on various facets of their lives. Psycho-physiological studies can also be undertaken to examine the biology behind grit and similarly, twin studies can be a promising design to understand if the trait is genetic or acquired.

Conclusion

The present study aimed at developing an understanding of existing literature on Grit and its relationship with other psychological and behavioral correlates. For this purpose, twenty-two research articles were selected and systematically analyzed to yield four different domains where the role of grit could be observed- Academics & Profession; Self & Personality; Stress & Well-being and Demographics. The findings suggest that major chunk of work has been done in the domain of Academics and Profession where the relationship of constructs like academic performance, academic resilience, job performance, retention, job satisfaction were examined with grit and it was found that grit has a significant positive correlation with all these variables. Additionally, it was also found that grit positively relates to other psychological variables such as well-being, happiness, resilience, self-efficacy. It is also of interest that grit can be used to predict job retention, decrease chances of burnout and provide protection against internet addiction. Thus, in a nutshell, grit is one of the most important non-cognitive variables that has practical implications for the development and maintenance of a flourishing career and life.

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