

Grit And Academic Achievement: Is It Related?

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ABSTRACT

The objective of the study is to understand the relationship between Grit and Academic Achievement among high school students. Level of Schooling and Gender were also assessed. Through simple random sampling, 200 students were selected from two private schools in Chennai. They completed the Short Grit Scale (Duckworth & Quinn, 2009). Pearson product moment correlation was used to analyze the data and the result revealed that grit composite score and consistency of Interests was not correlated with academic achievement. However, the perseverance of efforts showed significant correlation with academic achievement. Level of schooling and Gender was assessed using the t-test. Analyses showed that there was no significant difference between gender and level of schooling among high school students on grit.

Keywords: *Grit, Academic Achievement, High school students*

Education in India is provided by both private sector and public sector. Pre-primary education (2 to 6 years), primary education (6 to 14 years), secondary education (14 to 16 years) and higher secondary education (16 to 18 years) are the levels of schooling. School board conducts 10th and 12th level board exams. High school students (9th to 12th classes) face a lot of stress. Grade 10 examination marks are used for 11th-grade admission and it determines whether students will get to specialize in his/ her choice of educational stream. 12th-grade marks are considered for higher education. So parents and teachers pressurize the students to score good marks in order to get admission in good Universities. Negative thought about exam outcome and studying all night before the exam are some of the sources of stress which high school students face (Rani, 2017). The education system is focused towards long study hours which leave no scope for leisure activities and socialization (Nagle & Sharma, 2018). The student's self-worth is decided by academic achievement and not on the basis of individual quality (Varma, 1988). Many types of research have shown that cognitive assessment alone won't predict academic achievement. Non-cognitive factors like grit play an important role than IQ or talent because it provides strength to face difficulties and stay in course without any distractions (Duckworth, Peterson, Matthews, & Kelly, 2007).

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Grit

Grit is “perseverance and passion for long term goal” (Duckworth et al., 2007). Perseverance is a characteristic that motivates individuals not to give up when they face problems and challenges whereas passion for long-term goals motivates them to sustain their efforts that are needed to succeed in their goal. Grit entails working with great effort and determination toward challenges, maintaining effort and interest despite adversity and failures. Achievement of hard goals requires not only talent but also the focused goal over time without any distractions (Duckworth et al., 2007). Gritty individuals work hard in order to perform consistently and have control over their fate. They believe that they can change the outcome by working strenuously and possess a growth mindset. Grit was found to be a significant predictor of life satisfaction (Singh & Jha, 2008). Grit was inversely correlated with intelligence and this explains that intelligent people may not consistently perform well for a long time (Duckworth & Quinn, 2009).

Need for the study

Indian education system focuses more on cognitive abilities. Student suicide has been a major issue in schools and colleges in India. This type of education system doesn't teach the necessary skills for the students to have a healthy and meaningful life. Countries like the UK consider and teach non-cognitive factors for the students beyond measuring the test scores. Grit is vital to individual academic achievement, happiness and life satisfaction (Khan & Khan, 2007). It protects thoughts against death, suicidal thoughts, or suicidal plans (Kleiman, Adams, Kashdan, & Riskind, 2013). So the aim of the current study is to understand the role of Grit on Academic Achievement so that relevant measures can be taken in order to foster grit among students. Also, there has been limited research done in Indian context related to grit on school students.

REVIEW OF LITERATURE

Numerous studies have stated the importance of non-cognitive skills in academics and successful life outcomes. Indian education mainly focuses on cognitive abilities and neglects the importance of non-cognitive factors like grit. The review of literature focuses on the variables – Grit and Academic Achievement.

Grit and Academic achievement

Through web-based survey, participants completed the Grit scale (Duckworth et al., 2009), demographic survey, previous academic achievement (SAT score) and Academic Performance (1st year cumulative GPA). Hierarchical multiple regression revealed that Gender, race, previous achievement was the significant predictor of academic performance. Chang (2014) found that overall Grit composite score was not a significant predictor of academic performance; however, perseverance subscale predicted the first year GPA.

Duckworth et al. (2007) studied the relationship between Grit and Academic Achievement among 139 undergraduate psychology students from a University in the United States. Website address and e-mail invitation were given to participants where they were asked to complete the Grit Scale (Duckworth et al., 2007) and they reported their SAT score, current GPA (Grade point average), Gender and expected a year of graduation. The study revealed that Grit score was associated with a higher GPA and lower SAT scores.

Bazalais, Lemay, & Doleck (2016) examined whether Grit is associated with Academic Achievement. 156 pre-university science college students completed a Grit scale (Duckworth

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et al., 2007) and cumulative GPA score were used to measure Academic Achievement. The result revealed that there was no correlation between Academic Achievement and Grit.

Palisoc, Matsumoto, Ho, Perry, Tang, & Ip (2017) studied the relationship between Academic Performance, attainment of postgraduate training and Grit in pharmacy students. Grit –S score, Demographic details, pharmacy experience prior to Pharm D Programme and Didactic course work GPA were all collected from third and fourth-year pharmacy students. Also, the attainment of PG training position was also collected. The result revealed that there was no significant correlation between Grit and Academic Success. However gritty students were more likely to pursue PG training.

Grit and Age

Duckworth et al. (2007) collected self-reporting grit-scale data, age and level of education from 1,545 participants through a non-commercial public website. Two Way Analyses was used to analyse the data. Their study revealed that more educated adults had higher grit than less educated adults of similar age. A post-hoc analysis showed that post-college graduates got higher grit compared to other groups when age was controlled. When education was controlled, it was found that grit increased with age.

Grit and Gender

Batres (2011) investigated the relationship between Subjective Happiness, Grit, Meaning, students' attendance, and GPA. Through convenience sampling, 97 participants completed the survey. Result revealed that gender didn't have an effect on Grit, Meaning in life, Happiness, and GPA. There was a significant correlation between Grit, Student attendance and the search for the meaning in life.

Objectives

1. To investigate the relationship between Grit and Academic achievement among high school students.
2. To assess the relationship between dimensions of Grit and Academic Achievement among high school students.
3. To examine if there were a difference in gender and level of schooling in Grit among high school students.

Rationale for hypotheses

Due to the scarcity of studies in Indian population and mixed findings, the following null hypotheses were formulated.

Hypotheses

1. There will be no significant relationship between grit and academic achievement among high school students.
2. There will be no significant relationship between consistency of interests and academic achievement among high school students.
3. There will be no significant relationship between the perseverance of effort and academic achievement among high school students.
4. There will be no significant difference among male and female high school students on grit.
5. There will be no significant difference between higher secondary students and secondary students on grit.

METHODOLOGY

Research Design

Ex post facto research design

Sample

The sample consists of secondary and higher secondary students (100 male and 100 female) from two private schools in Chennai. The students belong to 9th to 12th grade (14 to 18 years). Simple random sampling technique was used in this study.

Tools used:

1. The researcher prepared a Demographic sheet to collect the respondent's details.
2. Short Grit Scale (Duckworth et al., 2009) has 8 items rated on a five-point Likert scale (1= not at all like me to 5= very much like me). Items 1, 3, 5 and 6 are reverse coded which measures the consistency of interests and items 2,4,7,8 measures perseverance of effort. Total score by 8 gives a mean score. A higher score reflects higher grit. The internal reliability was found to be 0.82. It shows good construct and predictive validity. Grit-S is both psychometrically stronger and shorter than the original 12-item Grit Scale (Duckworth et al., 2009).

Procedure

Prior permission was taken from the authors of the various tools to use them for the current study. The researcher explained the aim of the study and took permission from the Principal of 2 private schools in Chennai to collect the data. The researcher randomly selected one section per standard (9th to 12th class). Before administering the test, the researcher assured the students that confidentiality will be maintained and the results will be used only for research purposes. The researcher read out the instructions and clarified the doubts of the students. Test administration was carried out during school hours in the respective classes. The researcher collected the student's report card from the respective class teachers and calculated the mean of core subject marks which was used as a measure of Academic Achievement.

Statistical analysis

1. Pearson's Product Moment Correlation (r) was used to study the relationship between Academic Achievement and Grit.
2. Independent-Samples t-test was used to find the effect of Levels of Schooling and Gender on Grit.

RESULTS AND DISCUSSION

Table 1: Correlation coefficient of Grit and Academic Achievement among High school students (N=200)

Variables	Grit	Academic Achievement
Grit	1	0.117 ^{NS}
Academic Achievement	0.117 ^{NS}	1

NS- Not Significant

There is no significant correlation between Grit and Academic Achievement ($r=0.117$, $p>0.05$). It is in accordance with the literature who found that Grit was not correlated with Academic Achievement (Nelson, 2016; Bazelais et al., 2016). It may be because grit may not measure their short term achievement (Holdan, Lias, Locke, Efen, & Buzzelli, 2018).

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Table 2: Correlation coefficient of Consistency of Interests and Academic Achievement among High school students (N=200)

Variables	Consistency of Interests	Academic Achievement
Consistency of Interests	1	0.039 ^{NS}
Academic Achievement	0.039 ^{NS}	1

NS- Not Significant

Academic Achievement and Consistency of Interest is not significantly correlated ($r = 0.039$, $p > 0.05$). This finding is consonant with previous research (Chang, 2014). It may be because perseverance of effort is more relevant in collectivistic culture than the consistency of interest (Datu, Valdez, & King, 2016). Therefore the null hypothesis 2 stating that “There will be no significant relationship between consistency of interests and academic achievement among high school students” is accepted.

Table 3: Correlation coefficient of Perseverance of effort and Academic Achievement among High school students (N=200)

Variables	Perseverance of effort	Academic Achievement
Perseverance of effort	1	0.159*
Academic Achievement	0.159*	1

* $p < 0.05$

Perseverance of effort and Academic Achievement is significantly correlated ($r = 0.159$, $p < 0.05$). This finding is supported by the literature (Lounsbury, Fisher, Levy & Welsh, 2009; Chang, 2014). Therefore the null hypothesis 3 stating that “There will be no significant relationship between the perseverance of effort and academic achievement among high school students” are not accepted.

Table 4: Descriptive statistics and significance of the difference between the means of male and female high school students on Grit (N = 200)

Gender							t
Male			Female				
M	SD	N	M	SD	N		
25.52	4.712	100	26.59	4.911	100	1.572 ^{NS}	

NS – Not Significant

There is no significant difference between Males ($M = 25.52$, $SD = 4.712$) and Females ($M = 26.59$, $SD = 4.911$), with $t = -1.572$, $p > 0.05$. The findings of the present study have also been endorsed by a few researchers who observed no gender difference on grit (Bazelais et al., 2016; Duckworth, 2009; Batres, 2011). Therefore, the null hypothesis 4 stating that “There is no significant relationship between male and female high school students on Grit” is accepted.

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Table 5: Descriptive statistics and significance of the difference between the means obtained by Secondary and Higher secondary students on Grit (N = 200)

Secondary Students		Level of Schooling			Higher Secondary Students		Secondary		t
M	SD	N	M	SD	N	N			
26.37	4.86	100	25.74	4.8	100	100	0.922	NS	

NS – Not Significant

There is no significant difference between Secondary Students (M=26.37, SD=4.86) and Higher Secondary Students (M=25.74, SD=4.8), with $t(198) = 0.922, p > 0.05$. Duckworth (2007) found that grit tends to increase with age which contradicts the present study. It may be because grit may not contribute much for short term success (Holdan et al., 2018). In the future, researchers should consider the older population to find out the significant age difference. Therefore, the null hypothesis 5 stating that “There will be no significant difference between higher secondary students and secondary students on Grit” is accepted.

CONCLUSIONS

1. There is no significant relationship between grit and academic achievement among high school students.
2. There is no significant relationship between consistency of interests and academic achievement among high school students.
3. There is a significant relationship between the perseverance of effort and academic achievement among high school students.
4. There is no significant difference between male and female high school students on grit.
5. There is no significant difference between higher secondary students and secondary students on grit.

IMPLICATIONS

Perseverance of effort is correlated with academic achievement. It helps students to stay focused and live a satisfied life in this pressurized educational system. Grit also helps students to set proper goals, enhance their ability to pursue their passion and reach their highest potential in their life. School counselors and teachers can conduct workshops and intervention programs in order to foster grit among students.

LIMITATIONS

The current study included only high school students in Chennai thus reducing the generalizability of the study.

Suggestions for Future Research

A long-term perspective is needed to understand the effect of Grit i.e., whether students who are gritty are persistent with their goal and career. Other factors like parenting styles and demographic details like socio economic status, region, and parental education can also be included to understand its impact on grit.

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Conflict of Interest

The authors carefully declare this paper to bear not a conflict of interests

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