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Grit and Self-Efficacy Among Adolescents: A Correlational Study

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Abstract

Self-efficacy refers to an individual's belief in their capacity to accomplish specific tasks successfully, while grit represents the sustained passion and perseverance toward long-term goals. The present study aimed to examine the correlation between self-efficacy and grit among adolescents from different academic backgrounds, namely Engineering students, NEET repeaters, and undergraduate students in Science and Arts. Data were collected from a sample of 60 students (15 from each group), aged between 18 and 20 years, using the 12-item Grit Scale and the 10-item General Self-Efficacy Scale. Results revealed that NEET repeaters exhibited higher levels of grit and self-efficacy compared to other groups, possibly due to their strong motivation to achieve academic goals. Furthermore, a significant positive correlation was found between grit and self-efficacy. These findings highlight the importance of these psychological attributes in fostering perseverance and success among adolescents across academic disciplines.

Keywords. Grit, Self-Efficacy, Adolescents, Academic Streams, Motivation

1 Introduction

Grit and self-efficacy are two vital psychological constructs that have received considerable attention in recent years due to their role in predicting success and persistence across diverse domains of life. Grit, as defined by Duckworth et al. (2007), is the capacity to sustain consistent effort and maintain long-term interest in goals, despite obstacles or setbacks. It reflects not only perseverance but also passion for achieving objectives that may take years of dedication. Students with higher levels of grit are more likely to remain focused, overcome difficulties, and continue striving toward their academic and career aspirations. In this sense, grit has emerged as a powerful predictor of academic achievement and long-term personal success. Self-efficacy, a concept introduced by Bandura (1997), refers to an individual's belief in their ability to succeed in specific situations or accomplish tasks. Unlike general self-confidence, self-efficacy is task-specific and directly influences how people think, feel, and act. Students with strong self-efficacy are more willing to engage in difficult tasks, persist longer when facing challenges, and recover more quickly from setbacks. As a result, self- efficacy is considered one of the most influential determinants of academic motivation, resilience, and performance.

Both grit and self-efficacy are central to the educational context, especially during adolescence, which is a crucial developmental stage characterized by identity formation, academic transitions, and heightened exposure to social and emotional challenges. Adolescents often face demanding academic environments, peer pressures, and uncertainties regarding future career paths. Grit allows individuals to stick to their long-term goals, whereas self-efficacy empowers them to believe in their abilities to manage academic

work and life obstacles. Together, these constructs serve as protective psychological resources that promote well-being and achievement. Existing research highlights the interconnectedness of grit and self-efficacy. Duckworth and Quinn (2009) reported that adolescents with higher grit tend to hold stronger self-efficacy beliefs, suggesting that perseverance in long-term goals is supported by confidence in one's abilities. Similarly, Wesche et al. (2017) indicated grit can mediate the relationship between self-efficacy and achievement, meaning that self-belief not only predicts success but also fosters the development of perseverance. These findings indicate that the two constructs are mutually reinforcing and jointly influence academic persistence and outcomes.

In the Indian educational context, where students are frequently challenged by competitive examinations, societal expectations, and diverse academic streams, the importance of grit and self-efficacy becomes even more pronounced. Students preparing for high-stakes examinations such as NEET often undergo multiple attempts, requiring sustained perseverance and self-belief. On the other hand, students in Engineering, Science, and Arts programs also encounter significant academic demands that test their resilience and confidence. Investigating the relationship between grit and self-efficacy in this context can provide valuable insights into how adolescents navigate academic challenges, gender dynamics, and disciplinary differences. Thus, the present study seeks to explore gender differences, academic stream variations, and the relationship between grit and self-efficacy among adolescents, with the aim of contributing to a deeper understanding of these constructs and their role in academic achievement.

2 Review of Literature

Duckworth and Quinn (2009) found a positive correlation between grit and self-efficacy in adolescents, demonstrating that individuals with higher levels of grit were more confident in their ability to succeed. In academic settings, this relationship was especially prominent, as students with greater grit and self-efficacy displayed enhanced persistence and performance. Similarly, Wesche et al. (2017) reported that grit partially mediated the relationship between self-efficacy and academic achievement, suggesting that self-belief not only influences persistence but also contributes to the development of grit. These findings emphasize that adolescents who possess both attributes are more likely to persevere in demanding academic environments and achieve long-term goals. The meta-analysis of grit studies conducted by Credé, Tynan, and Harms (2017) made the case that grit has a substantial correlation with academic achievement, especially through its perseverance dimension.. They further suggested that while passion is important, the consistent effort aspect of grit plays a stronger role in predicting achievement. Their findings underscore the value of grit as a complementary trait to self-efficacy in determining success in academic pursuits.

Richardson, Abraham, and Bond (2012) conducted a systematic review of psychological factors influencing university students' performance and found self-efficacy to be one of the most powerful predictors of academic achievement. The review highlighted that self-efficacy not only promotes effective study strategies and motivation but also works in tandem with traits like grit to enhance resilience and persistence in challenging contexts.

3. Method

3.1 Objectives

- To examine gender differences in self-efficacy and grit.
- To explore variations in grit and self-efficacy across different academic streams.

- To analyze the relationship between self-efficacy and grit among adolescents.

3.2 Hypothesis

- **H1**: There is no significant difference in self-efficacy between male and female adolescents.
- **H2**: There is no significant difference in grit between male and female adolescents.
- **H3**: There is no significant difference in grit and self-efficacy across academic streams.
- **H4**: There is no significant correlation between grit and self-efficacy

3.3 Sample

The population consisted of adolescent students who were enrolled in undergraduate courses and preparing for competitive examinations in India. The sample consists of 60 participants, including 15 NEET repeaters, 15 Engineering students, 15 B.Sc. students, and 15 B.A. students, who were recruited from institutions such as Christ College, Irinjalakuda; TKM College, Kollam; and Xylem, Calicut. Diverse representation across academic backgrounds was guaranteed by including both male and female pupils between the ages of 18 and 20.

3.4 Data and Sources of Data

Primary data was collected using a structured Google Form. Participants completed the questionnaire voluntarily after providing informed consent, and the confidentiality of their responses was ensured. This investigation has been conducted with the acquisition of primary data. A structured Google Form was employed to capture the data for the study, which was distributed to a select group of adolescent students. The study encompassed students from a diverse array of academic disciplines, such as Engineering, BSc, and BA courses, as well as NEET repeaters. Both male and female participants were included. Prior to data collection, informed consent was obtained and responses were meticulously kept confidential. This ensured the ethical research practices and reliability of the data collected from a well- represented sample of the target population.

3.5 Instruments Used

Standardized psychological instruments were implemented in the current investigation to evaluate the variables of self-efficacy and perseverance in adolescents. The 12-Item Grit Scale, which was devised by Duckworth, Peterson, Matthews, and Kelly (2007), was employed to evaluate grit. The perseverance and passion of an individual in achieving long- term objectives are assessed by this scale. The instrument consists of 12 items that are rated on a Likert-type scale, which offers insights into two critical dimensions: persistence of effort and consistency of interests. It is widely recognized as a reliable measure for evaluating the propensity to maintain sustained commitment to challenging objectives and has been extensively validated. In order to assess self-efficacy, the study implemented the General Self-Efficacy Scale (GSE), which was devised by Schwarzer and Jerusalem (1995). This instrument comprises ten components and is intended for individuals who are twelve years of age or older. The scale evaluates an individual's perceived ability to confront challenging circumstances and surmount obstacles. It is regarded as a highly reliable and valid measure of self-efficacy and has been extensively employed in psychological research across cultures. The target variables are measured with accuracy, credibility, and relevance, as both instruments employed in this study are standardized, reliable, and extensively validated. Their utilization in this investigation enhances the validity of the results and establishes a solid methodological basis for investigating the correlation between self-efficacy and tenacity in adolescents.

4. Data Analysis

SPSS (Version 25.0) was employed to analyze the data collected for the study. The results were effectively

interpreted through the application of a combination of descriptive and inferential statistical techniques. The central tendency and variability of the data were summarized using descriptive statistics, which included the calculation of mean and standard deviation (SD). Inferential analysis was conducted to investigate group differences using independent t-tests, while one-way ANOVA was implemented when necessary. Additionally, correlational analysis was implemented to examine the correlation between self-efficacy and tenacity. The dataset's patterns, differences, and associations were comprehensively comprehended by these methods when combined.

5. Result and Discussion

Table 1 : Mean, SD and t-value of self efficacy among participants based on gender

Variables	Gender	Mean	SD	df	t value
	Male(N=25)	28.9200	4.25167		
Self Efficacy	Female (N=25)			58	0.914
		27.8286	4.76807		

To investigate gender disparities in self-efficacy among the participants, an independent samples t-test was implemented. The sample consisted of 25 male and 25 female adolescents. In terms of gender, the mean self-efficacy score for males was 28.92 (SD = 4.25), while it was 27.83 (SD = 4.77) for females. According to the calculated t-value of 0.914, the difference between the two means was not statistically significant at the 0.05 level, with 58 degrees of freedom. These results indicate that there is no significant gender disparity in self- efficacy among the adolescents under investigation. Although the male group exhibited a slightly higher mean score, the disparity is negligible and is more likely due to chance than a genuine effect. As a result, the null hypothesis is accepted, indicating that the self-efficacy levels of both male and female adolescents in this sample are comparable. Klassen and Klassen (2018) found that gender does not substantially influence self-efficacy among students; rather, contextual and academic experiences have a more significant impact. This result is consistent with their findings. Schunk and DiBenedetto (2016) similarly underscored that self-efficacy is acquired through social influences and mastery experiences, rather than inherent gender differences. These studies further support the assertion that adolescents of both genders are equally capable of cultivating robust self-efficacy when they are afforded comparable learning opportunities and environments.

Table 2 : Mean, SD and t-value of Grit among participants based on gender

Variables	Gender	Mean	SD	df	t value
Grit	Male (N=25)	36.0400	6.65507	58	0.29
	FEMALE (N=25)	36.5143	5.97235		

An independent samples *t*-test was also conducted to examine gender differences in grit. Males (M = 36.04, SD = 6.65) and females (M = 36.51, SD = 5.97) reported nearly identical grit scores. The calculated *t*-value (0.29, df = 58) confirmed that the difference was not statistically significant ($p > 0.05$). This indicates that grit levels among adolescents are not influenced by gender. This outcome aligns with the findings of Credé, Tynan, and Harms (2017), who, in a meta-analysis, demonstrated that grit does not vary significantly across gender groups. Furthermore, Eskreis-Winkler et al. (2014) found that grit predicts perseverance and long-term success across contexts—such as education, military training, and workplaces—independently of gender.

Table 3: One-way ANOVA of Self-Efficacy and Grit across Academic Streams

Variable	Source of Variation	Sum of Squares	df	Mean Square	F
Self-Efficacy	Between Groups	26.58	3	8.86	0.41
	Within Groups	1197.60	56	21.39	
	Total	1224.18	59		
Grit	Between Groups	297.38	3	99.13	2.80*
	Within Groups	1981.60	56	35.39	
	Total	2278.98	59		

A one-way ANOVA was implemented to investigate differences in self-efficacy and fortitude among students from four academic streams: Engineering, Science, Arts, and NEET repeaters. $F(3,56) = 0.41$, $p > 0.05$, the ANOVA did not find any significant differences in self-efficacy among the four groups. Similar levels of self-efficacy were reported by adolescents, regardless of their academic stream. This result is in accordance with Richardson, Abraham, and Bond (2012), who emphasized that self-efficacy functions as a comprehensive predictor of academic success across a variety of educational disciplines. This suggests that one's perceived ability to succeed may not be significantly influenced by just their academic background. Conversely, significant disparities in grit levels were observed among the four academic groups ($F(3,56) = 2.80$, $p < 0.05$). Post-hoc comparisons revealed that NEET repeaters demonstrated higher fortitude scores than students in the Arts, Science, and Engineering disciplines. Students who are preparing for highly competitive entrance examinations exhibit a greater degree of perseverance and passion for long-term objectives, which is likely a result of the sustained effort and resilience necessary to achieve success in these exams. This finding is underscored by theresults. These findings have been supported by Eskreis-Winkler et al. (2014), who have shown that fortitude is a robust predictor of persistence and retention in challenging contexts, including competitive academic environments and military training. In a similar vein, Duckworth et al. (2007) underscored the importance of fortitude in the pursuit of long-term objectives, particularly when the journey to success is challenging and extended. In India, where entrance examinations such as NEET are highly competitive, students may cultivate a greater sense of fortitude as they engage in rigorous preparation and overcome obstacles on a regular basis.

Table 4: Correlation coefficient between Grit and Self efficacy

Variables	N	Mean	SD	Grit	Self Efficacy
Grit	60	28.2833	4.55509	1	.407**
Self Efficacy	60	36.3167	6.21505	.407**	1

A Pearson product–moment correlation was employed to investigate the correlation between self-efficacy and tenacity in adolescents. Significant positive correlation between the two variables was identified by the analysis ($r = 0.407$, $p < 0.01$). This suggests that adolescents who reported higher levels of self-efficacy also tended to exhibit higher levels of tenacity. In other words, a higher level of confidence in one's capacity to succeed is linked to a more steadfast and consistent approach to achieving long-term objectives.

Duckworth and Quinn (2009) have also demonstrated a significant association between grit and self-

efficacy in adolescents, particularly in academic contexts where persistence is critical. This finding is consistent with their research. In the same vein, Wesche et al. (2017) discovered that grit can mediate the relationship between self-efficacy and academic accomplishment, indicating that self-belief promotes perseverance over time. This conclusion is also corroborated by Bandura's (1997) theory of self-efficacy, which emphasizes that individuals who are confident in their abilities are more inclined to persist in the face of adversity, thereby exhibiting greater levels of fortitude. These results collectively emphasize the complementary nature of self-efficacy and tenacity in the context of academic success. Grit guarantees the consistent maintenance of effort over the long term, whereas self-efficacy provides the confidence to initiate and sustain effort.

5. Limitations

Small and Uneven Sample Size: The total sample consisted of only 60 participants, with 15 students in each academic stream reduces the generalizability of the findings and may not fully represent the broader adolescent population across India.

Cross-Sectional Design: The study utilized a cross-sectional research design, which captures data at a single point in time which limits the ability to infer causality or examine how grit and self-efficacy may evolve over time or in response to academic experiences.

Self-Report Measures: Both grit and self-efficacy were assessed using self-report questionnaires, which are subject to social desirability bias, overestimation, and inaccuracies in self-perception.

Limited Contextual Factors: The study did not account for other relevant variables such as socio-economic status, parental expectations, academic performance, or mental health, which may influence or mediate the relationship between grit and self-efficacy.

Sample Localization: Participants were drawn from specific institutions within Kerala, which may limit the cultural and educational diversity of the sample. Students from different regions, linguistic backgrounds, or educational boards may exhibit different profiles.

No Longitudinal Follow-up: The study does not explore how grit and self-efficacy interact with academic outcomes (e.g., entrance exam success, college GPA) over time, which could provide stronger evidence of their predictive power.

6 Conclusions

The present study explored the relationship between grit and self-efficacy among adolescents from different academic streams, including NEET repeaters, Engineering students, and undergraduate students in Science and Arts. The findings revealed several key outcomes:

Gender Similarities: Gender differences were not significant at various levels of self-efficacy or grit, indicating that these psychological constructs are not strongly influenced by gender in this adolescent sample.

Academic Stream Differences in Grit: While self-efficacy levels did not differ significantly across academic groups, grit varied meaningfully, with NEET repeaters exhibiting higher levels of perseverance. This suggests that the high- pressure and goal-oriented environment of competitive exam preparation may foster stronger grit.

Positive Correlation Between Grit and Self-Efficacy: A statistically significant positive correlation ($r = .407$, $p < .01$) was found between grit and self-efficacy, supporting existing literature that emphasizes the mutually reinforcing nature of these traits in academic persistence and motivation.

These findings underline the importance of fostering both self-belief and long-term perseverance in adolescents to promote academic success, especially in competitive and high- stakes educational contexts. Educators, counselors, and policymakers should consider integrating programs that enhance self-efficacy and grit through mastery experiences, goal- setting, and resilience training. Future research with larger, more diverse samples and longitudinal designs is recommended to build on these findings and further investigate how these psychological attributes influence academic trajectories and life outcomes among Indian adolescents.

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