

## Mediating Role of Self-Efficacy on the Relationship between Grit and Job Placement

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The present study explored the mediating role of self-efficacy on relationship between grit and job placement. The sample of 267 final year undergraduate engineering students consisted 124 males (46.4%) and 143 females (53.6%) aged between 20 - 23 years with a Mean age of 21.32 years and  $SD \pm 0.96$  selected from Salem district of Tamil Nadu state in India. The grit and generalized self-efficacy scales were administrated for data collection. The results showed that self-efficacy correlated positively with grit, perseverance of effort and consistency of interest. The grit, consistency of interest, perseverance of effort and self-efficacy were significantly higher among the job-placed than the job-unplaced undergraduate engineering students. The mediation analysis showed a significant indirect effect of grit on job placement through self-efficacy. The study has practical implications for educational institutions, college faculties, trainers and also has theoretical implications by contributing to the existing literature.

**Keywords:** Grit, Perseverance of effort, Consistency of interest, Self-efficacy, Job placement

In this rapidly changing VUCA world quality formal education and a graduate degree are not enough to get a coveted job. Transition from a structured academic setting to the dynamic world of work can be exhilarating as well as daunting for the undergraduates, as it introduces a fresh array of challenges and opportunities. Adaptation is crucial, necessitating the acquisition of employability skills to thrive in the ever-evolving labour market. Job placement entails matching individuals seeking employment with suitable organizations by aligning their skillsets with the requirements of the job roles. Today, educational institutions facilitate this process by linking students with potential employers, typically during on-campus recruitment drives held in their final year of study. Colleges provide necessary job placement training tailored to meet the skill demands of organizations, thus bridging the gap between formal education and job requirements. Securing a job relies on individuals' efforts

to acquire the skillsets necessary to position themselves as potential candidates.

According to Deciu, (2021) psychological factors such as intelligence, social support, networking behaviour, and personality traits (Caldwell & Burger, 1998) significantly influence the job placement. Emotional intelligence notably impacts interview and job placement success among undergraduate's students (Chia, 2005). In addition to that, college-related factors including faculty support, student training, and community services, also influence job placement (Chavez et al., 2016). Liu et al (2014) concluded that psychological intervention programs assist job seekers in interview preparation and stress management. Staying abreast of industry trends is vital in navigating the evolving job market, and job placement training should focus on equipping candidates with the competencies and skills required for job roles.

## **Grit and job placement**

Grit is a non-cognitive trait that reflects a person's ability to being persistent and maintain long-term interest and effort towards achieving a goal, even when faced with obstacles and setbacks. According to Duckworth et al., (2007) the grit consists of two dimensions i.e., perseverance of effort and consistency of interest. The grit enables an individual to work for higher level goals and learning new skills by consistently putting up effort and maintaining interest over long periods of time in the face of adversity. It remains unaffected by the elements such as successful outcomes, task difficulties, making grit a distinct idea (Duckworth et al., 2007).

Grit is highly associated with career adaptability (Li et al., 2021); gritty individuals remain undeterred during failures and possess the ability to bounce back from adverse situation. This ability enables them to stay focused on long term goals despite setbacks and disappointments which are common during job placement. They embrace new challenges and are flexible to acquire new skills in response to changes in market trends. They possibly engage in continuous learning and developing their own skills and seek opportunities for personal and professional growth (Lee & Jang, 2018). This determination towards self-improvements allows them to adapt accordingly to the ever-changing job market demands and makes them attractive for employers seeking versatile and adaptive candidates.

Perseverance, is the ability to overcome obstacles and persist in the face of adversity. While, academic performance (Chia, 2005) and skill set plays a crucial role in job placement, the often undervalued is the influence of perseverance. It often plays a pivotal role in learning the necessary skills and years of education for securing a job. The perseverance and consistency of interest is essential to pass through the

rigorous academic challenges and qualification (Alhadabi & Karpinski, 2020). It's a driving force that keeps individual motivated when faced with a discouraging moment. Those individuals who lack in perseverance are easily distracted and discouraged by setbacks.

Rejection and failure are integral part of job placement. The ability of individual to the handle multiple setbacks, maintain consistency in their efforts, showing perseverance in the face of disappointment is a defining characteristic of the individual who eventually secure a job. The perseverance and consistency of their own interest enhances the individual's potential towards growth mindset (Dweck, 2006). They view rejection as an opportunity to grow and learn for self-improvement rather than as personal failure.

## **Self-efficacy and job placement**

Self-efficacy refers to an individual's belief in their own capabilities to achieve a specific task or goal (Bandura, 1977). Self-efficacy is a key concept in social cognitive theory and it is the most important regulator of affective, behavioural, cognitive, motivational and decisional processes in an individual (Bandura, 1986). It is also a major self-regulatory resource that an individual can draw to interact with the environment and achieve the goals effectively.

Individual's perception on their own abilities significantly influences the success in their career path and job placement. The job placement is not merely about obtaining a best fitting job but also about thriving in the respective job role. The individual with high self-efficacy belief shows sign of adaptability (Monteiro & Vieira, 2016) and resilience (Herbert, 2011) in the work place. They are more likely to adapt to new challenging environment and perform to their full potential. In contrast, low self-efficacy

individual struggle to adapt and overcome setbacks may not thrive in their job roles.

The self-efficacy affects learning and performance (Bernacki et al., 2015) of an individual through influencing the goals they set for themselves. Individuals with low self-efficacy tend to set easily achievable goals. In contrast, high self-efficacy individuals set higher level personal goals (Schunk, 1990). The self-efficacy influences the effort an individual exerts to achieve a goal in face of adversity. The individual with high self-efficacy generally possesses high self-confidence (Blanco et al., 2020) that their efforts will lead to success and this makes them to put effort to learn new skills and perform better during job interviews. Strong self-efficacy plays a vital role in job search and placement as it influences self-confidence of the individual. They are highly motivated and believe that their efforts will lead to success.

### Self-efficacy, grit and job placement

The psychological factors contributing to undergraduate engineering students job placement remains an area that needs to be investigated. According to Attia & Abdelwahid, (2020) there exists significant positive relationship between grit and self-efficacy. In addition to that, Alhadabi & Karpinski, (2020) show a positive relationship between grit, perseverance of efforts, consistency of interest and self-efficacy. Moreover, there is a significant relationship between job search and self-efficacy (Saks & Ashforth 1999; Zacher & Bock 2014). The self-efficacy plays a pivotal role in job search and placement. Brown et al., (2006) found a interconnectedness between self-efficacy, proactiveness, conscientiousness and job search outcome. In addition to that, Yu et al., (2022) concluded that individual's perseverance has positive effect on job search intensity while, consistency of interest showed a positive effect on job search clarity.

### Significance of the study

The study intends to shed light on the relationship between grit, perseverance of effort and consistency of interest among undergraduate engineering students. Past literature established the influence of self-efficacy on job placement but failed to discuss the difference in the level of grit and self-efficacy among job-placed and job-unplaced undergraduate engineering students. In addition to that, self-efficacy mediates the relationship between grit and job placement remains unknown. In line with the past studies, we propose that:

- H1. Self-efficacy will be significantly related with (a) grit (b) perseverance of effort and (c) consistency of interest.
- H2. Job-placed and job-unplaced students will differ across (a) grit (b) perseverance of effort and (c) consistency of interest.
- H3. The relationship between grit and job placement mediated through self-efficacy.

### The proposed model

As shown in Fig 1 Grit (perseverance of effort and consistency of interest) varies across individuals and its effects are multifaceted. It can influence self-efficacy, and job placement. While, the effect of grit on job placement will be mediated through self-efficacy. However, grit can also strengthen the effect of self-efficacy on job placement.

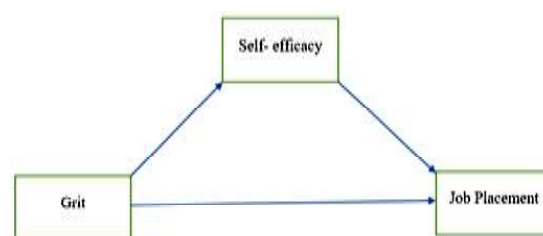


Fig 1: Shows the model of grit and self-efficacy influence on job placement

## Method

### Research Design and Participants

A descriptive survey was conducted to study the influence of grit, self-efficacy on job placement among engineering undergraduate students. The study consists of 283 final year undergraduate engineering students which 133 were males (46.9%) and 155 were females (53.1%) aged between 20 - 23 years with a Mean age = 21.22 and SD = 0.97 selected from Salem district of Tamil Nadu state in India.

### Procedure

The researcher approached various engineering colleges in Salem district. After receiving permission from the college management, participants were informed about the aim and nature of the study with their informed consent only interested participants were provided with questionnaires. The assurance for confidentiality of data was provided and also participants were informed that they can withdraw from the study at any point in time.

### Tools

*Grit scale* developed by Duckworth et al, (2007). It was used to assess the two dimensions of grit i.e., Consistency of Interest and Perseverance of Effort. The scale consists of 12 items with a score ranges from 1 (Not like me at all) to 5 (Very much like this) for positive items (i.e., I have overcome setbacks to conquer an important challenge) and for reverse scoring items (i.e., I become interested in new pursuits every few months) 1 (Very much like this) to 5 (Not like me at all) and the total score ranges from 12 to 60. The scale demonstrated high internal consistency ( $\alpha = 0.85$ ) for the overall scale as well as individual factor (Consistency of Interests,  $\alpha=0.84$ ; Perseverance of Effort,  $\alpha =0.78$ ).

*Generalized self-efficacy scale* was used to assess the self-efficacy was developed by

Schwarzer and Jerusalem (1995). It has a total of 10 items (i.e., I can always manage to solve difficult problem if I try hard enough) with a score of 1 (Not at all true) to 5 (Exactly true) and the total score ranges from 10 to 40. The Cronbach's alpha value is 0.82.

*Job placement status* of the final year engineering undergraduate students was found using a self-report dichotomous Yes / No type questionnaire.

## Results

The study intends to assess the mediating role of self-efficacy on relationship between grit and job placement. The collected data was analyzed to remove the missing values and outliers. During the analysis, data of 16 participants were removed out of 283 responses as their score shows abnormal distances. In total 267 response of participants were considered for analysis which consists of 124 were males (46.4%) and 143 were females (53.6%) aged between 20 - 23 years with Mean age = 21.28 and SD = 0.96.

Table 1: Showing normality of data

Variables	Skewness	Kurtosis
Grit	-0.77	0.61
Self-efficacy	-0.91	0.51

Table 1 indicates that the data was normally distributed as the skewness and kurtosis values ranged between -2 and + 2, hence parametric tests were adapted for analysis. Statistical analyses were done using SPSS version 25 (statistical package for social science) and Model 4 of Hayes Process Macro v4.1 (Hayes 2022) for SPSS. Pearson's product moment correlation used to study the relationship between grit and self-efficacy. Along with that t- test was used to analyse the difference in grit and self-efficacy among job placed and job-unplaced undergraduate engineering students. The mediation analysis showed the mediating role of self-efficacy on the relationship between grit and job placement.

Table 2. Showing the correlation matrix for the study variables.

Variables	n	M	SD	1	2	3	4
1. Perseverance of Effort	267	23.27	3.22	-			
2. Consistency of Interest	267	23.41	2.94	0.55*	-		
3. Grit	267	46.68	5.43	0.72*	0.69*	-	
4. Self efficacy	267	33.78	4.56	0.64*	0.41*	0.60*	-

Note. \*  $p < 0.05$ .

A total of 267 engineering students participated in the study. Among them, 153 (57.3%) were job placed and 114 (42.7%) were job unplaced. The correlation matrix for study variables were presented in Table 2.

The analysis shows that self-efficacy is positively correlated with grit (0.60), perseverance of effort (0.64) and consistency of interest (0.41). Hence, hypothesis H1 (a-c) is accepted.

Table 2. Showing the t- value for Consistency of Interest, Perseverance of Effort, Grit and Self-efficacy among job-placed and unplaced engineering students

Variables	Job placed (153)		Job unplaced (114)		t-value
	M <sub>1</sub>	SD <sub>1</sub>	M <sub>2</sub>	SD <sub>2</sub>	
Perseverance of Effort	24.35	2.67	21.82	3.34	6.84*
Consistency of Interest	24.47	2.30	21.98	3.10	7.52*
Grit	48.82	4.15	43.81	5.63	8.36*
Self-efficacy	35.42	3.71	31.57	4.72	7.49*

Note. \*  $p < 0.05$ .

Table 3 shows the significant difference in job-placed and unplaced engineering students based on their consistency of interest, perseverance of effort, grit and self-efficacy. Grit was significantly higher among job-placed (M= 48.82) than unplaced engineering students (M= 43.81). Self-efficacy was significantly higher among job-

placed (M= 35.42) than unplaced engineering students (M= 31.57). The job-placed students have higher perseverance of effort (M= 24.35) than unplaced students (M= 21.82). Furthermore, the job-placed students have a higher consistency of interest (M= 24.47) than unplaced students (M= 21.98). Hence, hypothesis H2 (a-c) is confirmed.

Table 3. Showing the mediating role of self-efficacy on the relationship between grit and job placement.

Direct effect (Grit → Job Placement)	Relationship	Indirect effect	t-statistics	Confidence Interval	
				Lower bound	Upper bound
0.11 (0.00)	Grit → Self-efficacy → Job placement	0.13	4.33	0.20	0.07

The mediation analysis was conducted using Model 4 of Process Macro for SPSS. The present study assessed the mediating role of self-efficacy on the relationship between grit and job placement. The results revealed a significant indirect effect of grit on job placement through self-efficacy ( $b = 0.13$ ,  $se = 0.03$ ). Furthermore, the direct effect of grit on job placement in the presence of the mediator was also found significant ( $b = 0.11$ ,  $se = 0.02$ ,  $p < 0.01$ ). Hence, self-efficacy partially mediated the relationship between grit and job placement. The mediation summary is presented in Table 4 and the path diagram is shown in Fig 2. Hence, hypothesis (H3) is verified.

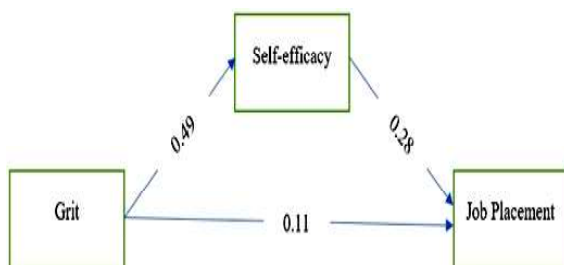


Fig 2. Showing the Path diagram of self-efficacy as a mediating variable on the relationship between grit and job placement.

## Discussion

The present study sheds light on the influence of grit and self-efficacy on job placement. Self-efficacy is positively correlated with grit as shown in Table 2. Attia and Abdelwahid, (2020) found a positive relationship between grit and self-efficacy which is supported by the present study. The increased grit and self-efficacy can lead to higher likelihood of job placement. Moreover, self-efficacy positively correlates with perseverance of effort and consistency of interest as shown in Table 1. Alhadabi and Karpinski, (2020) showed a positive relationship between grit, perseverance of efforts, consistency of interest and self-efficacy which is supported by the present study.

Self-efficacy varies across job-placed and unplaced students as shown in Table 3. Zacher & Bock, (2014) found a significant relationship between job placement and self-efficacy is in line with the present study. The self-efficacy plays a key role in job search and placement. Brown et al., (2006) found a connectedness between self-efficacy, proactiveness, conscientiousness and job search outcome. The high self-efficacy individuals tend to possess skills to present themselves confidently and handle stressful interview effectively, as they believe in their own abilities to secure job offers. They are highly motivated and persist in their efforts, leading to greater probability of successful job placement. On the contrary, low self-efficacy individuals are easily distracted and discouraged by repeated failures and it eventually hinders their job placement.

Further, the grit, perseverance of effort and consistency of interest significantly differs across job-placed and unplaced students as shown in Table 3. Yu et al., (2022) concluded that individual's perseverance has positive effect on job search intensity while, consistency of interest showed a positive effect on job search clarity which the present results in line with. When an individual is maintaining consistency in their efforts and interest, they are more likely to invest time on upskilling themselves and never get easily distracted from their chosen career path. Eventually, when the skills and career path align with one another, they are more likely to secure a job. In contrast, if an individual's chosen career path contradicts their own interest, they experience dissatisfaction, lack motivation which reduces their chances of job placement.

The major finding of the study is that self-efficacy mediated the relationship between grit and job placement as shown in Table 4. The individuals with higher levels of grit are more likely to attain job placement due to their perseverance and consistency. Higher

levels of grit may lead to higher self-efficacy beliefs (Alhadabi & Karpinski 2020). As gritty individuals persist and overcome challenges, they may develop greater self-confidence (Malureanu et al., 2021) in their own ability and skills necessary for the job placement. This increases self-efficacy belief which can positively influence job placement. When individual believes on their own ability, they are more likely to stay focused on their career path. The self-efficacy and consistency of interest have to work parallelly to achieve a long-term objective. On the other hand, perseverance and self-efficacy influence job placement directly through building self-confidence, motivation and a sense of achievement. Along, with that it develops a strong self-belief in their abilities and enhances job seekers overall well-being.

#### **Theoretical implications**

The model provides a broad comprehension of grit, self-efficacy and job placement. This study innovates by assessing the interconnection between grit and job placement which remains unexplored so far. Past studies show a relationship between self-efficacy and job placement but failed to assess the mediating role of self-efficacy on relationship between grit and job placement which is a novelty. Finally, the difference in level of grit, perseverance of effort, consistency of interest and self-efficacy among job placed and job-unplaced undergraduate engineering students which is another novelty of the present study.

#### **Practical implications**

This study has several practical implications for educational institutions, college faculty and trainers. First, curriculum must be designed to improve psychological aspects of students that could potentially improve job placement outcomes. Second, the results shown that lower level of grit and self-efficacy may reduce job placement, so that job placement trainers could possibly

focus on identifying the students with low level of self-efficacy and provide necessary intervention. One's belief on their own abilities is not a fixed attribute, it can change over time due experience and training. The repeated failure during job placement interview may degrade one's self-efficacy belief. Finally, the present study suggests that nurturing self-efficacy and grit intervention could be a potential contributor for enhancing adaptability and resilience, ultimately leading to improved job placement and overall career satisfaction.

#### **Limitation and future directions**

The Quantitative data were collected only once during the research process using self-report measures. The smaller sample size was used in this study to obtain data from a particular region in the state that may not be generalized to larger population and the survey method used only questionnaires to collect data. Future research in this area could delve deeper into these relationships with qualitative research methods for in-depth understanding about the study variables. In addition to that, wide range of population, larger sample size, various academic elements and developing new interventional programs aimed at optimizing these skills for individual's wellbeing and simultaneously improve the employability skills of the undergraduate engineering students may be studied.

#### **Conclusion**

The present study provides us with valuable insights about the influence of grit and self-efficacy on job placement of undergraduate engineering students. The findings underscore the importance of self-efficacy and grit in the context of job placement, indicating that job placed undergraduate engineering students tend to possess higher levels of self-efficacy and grit were compared to their counterparts. Further, a significant positive relationship between

grit, perseverance of efforts, consistency of interest and self-efficacy show a potential connection between these factors. This indicates that gritty individuals exhibit better self-efficacy beliefs and tend to believe in their own potential and efforts. The study also sheds light on the mediating role of self-efficacy as a contributing factor to the relationship between grit and job placement. This suggests that grit may indirectly influence job placement through its relationship with self-efficacy. Students with higher level of grit display better self-efficacy, thus increasing their chance of job placement. The relationship between self-efficacy, grit and job placement are likely to be influenced by various factors like individual differences, life experiences, networking behaviour, college related factors, personality, sociocultural and environmental factors. In a competitive job market, individuals must focus on improving self-efficacy beliefs by setting challenging goals, seeking mentorship, acquiring necessary skills and achieving their goals. Future researchers must conduct more empirical studies to explore relationship between these variables in a wide range of context and populations.

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