

Analyzing Consistency and Perseverance as Indicators of Grit among Prospective Teachers

Priya Dey^{1*}, C. Siva Sankar²

ABSTRACT

Background: Grit is a non-cognitive psychological trait characterised by consistency of interest and perseverance of effort. It is an important psychological resource in teacher education, where prospective teachers are required to sustain effort and commitment in the face of academic and professional challenges. **Objective:** The present study aimed to examine the level of grit among prospective teachers at Rajiv Gandhi University of Arunachal Pradesh, India. It also aimed to examine the significant differences in grit with regard to gender and locality. **Method:** The investigators adapted a descriptive-cum-survey method to study grit among prospective teachers. The sample of the present study comprised 140 prospective teachers enrolled in the B.Ed. programme during the academic session 2024-2025 to 2025-2026 at Rajiv Gandhi University of Arunachal Pradesh, India. A purposive sampling technique was employed to collect the data. The 12-item Grit Scale developed by Duckworth et al. (2007) was employed to collect the data. The scale demonstrated high internal consistency of 0.85. In the present study, the scale was revalidated and yielded a Cronbach's alpha coefficient of 0.77. Descriptive and inferential statistics were employed for analysing the data. **Result:** The study reveals an overall mean grit score of 40.79. Perseverance of effort recorded a higher mean than consistency of interest. Regarding the level of grit, 70% of prospective teachers were classified as somewhat gritty. The study further reveals no significant differences in overall grit with respect to gender and locality. **Conclusion:** The study highlights that the prospective teachers have a moderate level of grit, with perseverance of effort emerging more prominently than consistency of interest. The absence of significant differences within the demographic groups indicates a similar pattern of grit among prospective teachers. The findings have the relevance of understanding grit as a non-cognitive psychological strength in teacher education.

Keywords: *Grit, Teacher Education, Perseverance of Effort, Consistency of Interest, Positive Psychology*

Teacher education is a formative stage in which prospective teachers develop the knowledge, skills, pedagogical competencies, professional outlook and psychological resources required for effectively participating in the teaching profession (Darling-Hammond, 2000; Shulman, 1987). Teacher preparation is a continuous developmental

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process. It includes learning, acquiring pedagogical skills, practice teaching experiences, reflective practices, and progressive development of professional competencies rather than just acquiring a fixed set of instructional skills (Darling-Hammond, 2000; Grossman et al., 2009). The demands of teacher preparation require prospective teachers to remain engaged in challenging academic and professional tasks, even when they face challenges, slow progress, and the absence of immediate success (Kaya & Yüksel, 2022; Lee & Park, 2024). Consequently, more attention has been given to psychological resources that may help prospective teachers to develop persistence, maintain engagement, adapt effectively, and support professional growth during teacher preparation (Kaya & Yüksel, 2022).

Among the psychological characteristics explored in contemporary educational research, grit has gained considerable attention. The relevance of grit has been explored across diverse student populations and in relation to various educational outcomes (Christopoulou et al., 2018; Credé et al., 2017). Grit has been investigated in relation to academic achievement, students' engagement, motivation, well-being, and other educational outcomes, although the strength and consistency of these relationships vary across studies (Christopoulou et al., 2018). Students' ability to persist during academic difficulties is associated with their ability to cope with educational challenges and maintain positive academic functioning (Credé et al., 2017; Martin & Marsh, 2006). These characteristics are potentially important for prospective teachers because teacher preparation itself requires prolonged academic and professional investment. The role of grit in teacher education has received increasing attention because teaching involves continuous demands, challenges, and long-term professional responsibilities that require sustained effort and commitment (Duckworth et al., 2009; Robertson-Kraft & Duckworth, 2014). Research focusing on teachers has connected grit with professional competence, teaching efficacy, work engagement, and occupational well-being (Widodo, 2021; Shao, 2023). Research has also examined grit in relation to psychological and environmental factors. Studies examining teacher support, growth mindset, grit and academic engagement suggest that supportive educational environments and beliefs about personal growth contribute to students' perseverance and engagement (Hejazi & Sadoughi, 2023). Therefore, the study of grit among prospective teachers is significant as teacher preparation represents a developmental stage in which individuals develop their professional knowledge and their orientation towards the teaching profession (Lee & Park, 2024).

Conceptualizing Grit

Grit has emerged as one of the essential psychological constructs in the domain of positive psychology. It is operationalised as perseverance and passion for long-term goals (Duckworth, 2007). Grit is associated with educational attainment, grade point average, retention at the United States Military Academy, and performance among National Spelling Bee competitors. It reflects an individual's sustained commitment to goals over extended periods, even in the face of adversity, distractions, or a lack of immediate rewards. It encompasses the idea that long-term success and achievement are not solely functions of intelligence or innate talent, but are also strongly influenced by non-cognitive factors such as sustained effort and perseverance (Duckworth et al., 2007). Grit, as a significant psychological trait, has two core interconnected dimensions: perseverance of effort and consistency of interest.

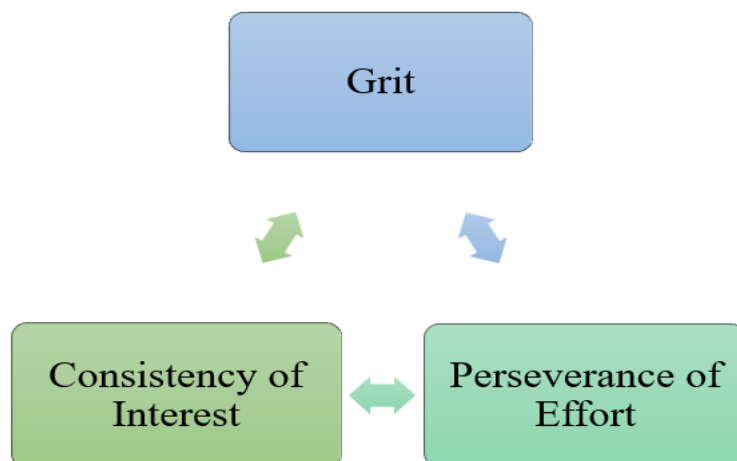


Figure 1: Dimensions of Grit

Consistency of Interest

Consistency of interest is the dimension of grit that pertains to the ability to remain committed to the same overarching goals and passions over time without frequently shifting focus (Duckworth et al., 2007). Passion originates from within, which leads an individual to invest their time and energy into an activity with a deep sense of personal commitment and internal motivation (Britto et al., 2023). It reflects the tendency to maintain stable and focused interests over long periods, rather than frequently shifting between short-term goals. Duckworth and Quinn (2009) emphasised that while enthusiasm for new ideas is common, what distinguishes gritty individuals is their commitment to staying the course even when novelty wears off. In the educational context, students who display high consistency of interest are better equipped to persist with their academic plans, even when they face competing opportunities or transient frustrations (Beattie et al., 2018).

Perseverance of Effort

Perseverance of effort refers to an individual's ability to maintain hard work and dedication over time, especially when encountering challenges, setbacks, or failure (Duckworth et al., 2007). Individuals with high perseverance are more likely to persist when tasks become difficult, rather than giving up or losing focus. Their capacity to self-regulate in the face of obstacles contributes directly to academic, professional, and personal success (Duckworth & Quinn, 2009). Perseverance of effort refers to the tendency to sustain effort and continue working towards academic goals despite challenges. Higher perseverance has been associated with more adaptive academic functioning and reduced academic maladjustment (Hwang et al., 2018). Therefore, perseverance is particularly crucial in contexts such as higher education, where students must navigate complex tasks and long-term academic goals.

Duckworth (2016) explained the relationship between talent, effort, skill and achievement through two equations. To define grit, this formula was used by Duckworth:

$$\begin{aligned} \text{TALENT} \times \text{EFFORT} &= \text{SKILL} \\ \text{SKILL} \times \text{EFFORT} &= \text{ACHIEVEMENT} \end{aligned}$$

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These equations suggest that talent represents the potential for developing skills, but effort is needed to build those skills and apply those acquired skills effectively to achieve goals. Therefore, achievement depends not only on talent but also on sustained effort (Duckworth, 2016). People with a high level of grit are better able to employ their abilities because they are less preoccupied with short-term goals and less disheartened by failures and setbacks.

Theoretical Framework

In the present study, the theoretical framework is grounded in the broader domain of positive psychology. It represents a shift from an emphasis on pathology and dysfunction towards understanding human experiences, personal strength, and the factors that enable individuals and communities to flourish. Within this strength-based approach, qualities such as perseverance, courage, future-mindedness, and other positive personal attributes are regarded as important areas of psychological inquiry. They help to explain how individuals pursue meaningful goals and function effectively in challenging situations (Seligman & Csikszentmihalyi, 2014). Grit is aligned with this perspective as it focuses on individuals' sustained commitment to meaningful long-term goals rather than merely on immediate performance and short-term goals (Duckworth et al., 2007). Therefore, the present study conceptualises grit as a strength-based psychological construct that supports sustained goal pursuit during the prolonged and demanding process of teacher preparation. It also acknowledges grit as distinct from general motivation, and alone cannot fully explain successful educational functioning (Duckworth & Gross, 2014).

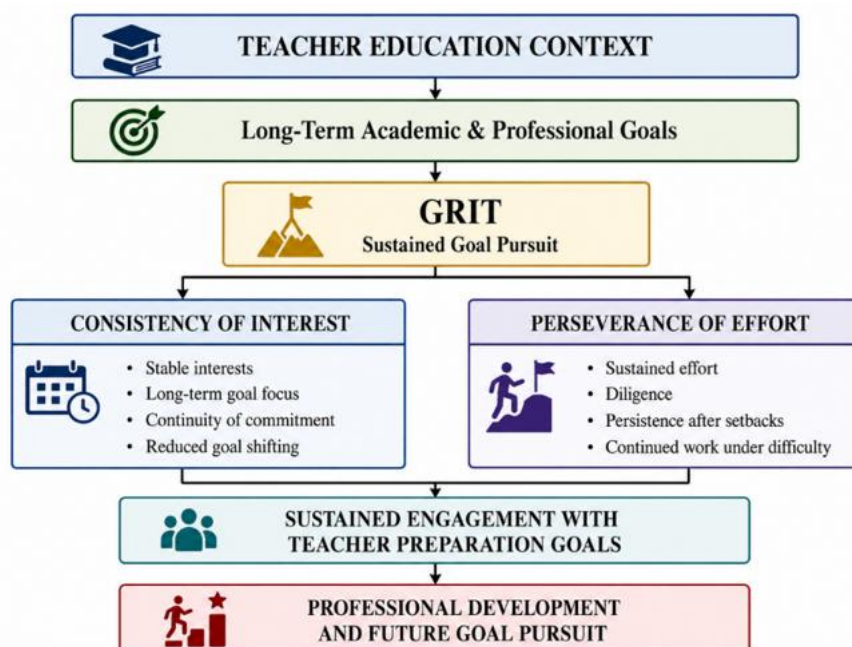


Figure 2: Theoretical Framework of grit among prospective teachers

This perspective also distinguishes grit from self-control. Self-control involves managing attention, emotion, and behaviour in response to an immediate situation, and grit involves continuing to work towards a long-term goal over time. (Duckworth & Gross, 2014). In the context of teacher education, this distinction means that completing a difficult task represents an immediate act of self-control, whereas continuing to work towards becoming a competent teacher despite academic challenges reflects grit. The original two-dimensional model of grit identifies consistency of interest and perseverance of effort as two core components.

Consistency of interest refers to maintaining stable interests and long-term goals instead of shifting one goal to another. Perseverance of effort refers to continuing to put effort and persist when facing obstacles and difficulties while working towards a goal (Duckworth & Quinn, 2009). The distinction between these two dimensions is theoretically important because maintaining interest in a professional goal and continuing to put effort towards that goal represent related but conceptually different aspects of long-term persistence (Datu et al., 2016). Research revealed that perseverance of effort is more strongly related to various educational outcomes than consistency of interest. It indicates that these two dimensions represent related but distinct aspects of grit rather than identical psychological processes (Credé et al., 2017). At the same time, consistency of interest also supports educational progress in certain situations, which indicates the importance of both dimensions depending upon population, context, and outcome being studied (Muenks et al., 2018). Thus, the present framework considers consistency of interest and perseverance of effort as distinct but related aspects of grit that together help individuals continue working towards their long-term goals.

The theoretical framework is also informed by Social Cognitive Theory, which explains human behaviour as the result of continuous interaction between personal factors, behaviour, and the environment. The theory highlights the individual's ability to think ahead, self-regulate, and take purposeful action (Bandura, 1986, 2001). In the context of teacher education, this perspective suggests teachers as active agents who understand and interpret their learning experiences, establish future-oriented goals, manage their behaviour, and use feedback to develop their professional identity (Bandura, 2001). Teacher education settings play a significant role in shaping how personal qualities such as grit are experienced and developed. Academic workload, interaction with teacher educators, peer relationships, teaching practices, and professional responsibilities may strengthen or challenge the prospective teachers' ability to remain committed to their goal (Korthagen, 2017). Research on prospective teachers supports this view by revealing the positive interrelationship between growth mindset and perseverance of effort. It suggests that believing in one's ability to learn and improve may help prospective teachers maintain their effort during teacher preparation (Kaya & Yüksel, 2022).

Another theoretical model has developed beyond its original two-dimensional structure, i.e., the Triarchic Model of Grit. This model adds adaptability to situations as an additional dimension alongside consistency of interest and perseverance of effort, which provide an understanding of how individuals sustain their goals while adapting to changing situations (Datu et al., 2017). However, the present study retains the original two-dimensional model of grit, focusing specifically on consistency of interest and perseverance of effort. In the present study, the theoretical framework, as shown in Figure 2, begins with the teacher education context, where prospective teachers work towards long-term academic and professional goals. Within this context, grit as sustained goal pursuit is expressed through consistency of interest and perseverance of effort, helping prospective teachers remain committed to their teacher preparation goals and professional development.

Identification of research gap

The growing literature on grit demonstrates that it has expanded across different educational and professional settings. Perseverance and commitment to long-term goals are associated with outcomes such as academic achievement, retention, well-being, resilience, self-regulated learning, and professional development (Duckworth et al., 2007; Christopoulou et al., 2018). Research revealed that grit is connected with other psychological resources, such as self-efficacy and growth mindset, rather than functioning as an isolated determinant of educational

success (Kannangara et al., 2018; Si et al., 2022). Moreover, evidence from a sample of first-generation college students showed that academic self-efficacy predicted persistence, while grit and hope did not independently predict it. This indicates that the importance of grit may differ depending on the population and the specific outcome being studied (Senters, 2020). Previous studies show that grit has an important role in educational and psychological functioning.

International research has given increasing attention to grit in teacher education. A longitudinal study of novice teachers found that grit was related to both teacher effectiveness and retention. It suggests that persistence and commitment to long-term goals may influence professional outcomes as well as academic ones (Robertson-Kraft & Duckworth, 2014). Studies among university students found that grit is associated with self-regulated learning, with perseverance of effort showing a stronger connection with academic functioning. In comparison, consistency of interest demonstrates a comparatively weaker association with academic achievement (Wolters & Hussain, 2015). Within the teacher education context, a study on 321 Turkish pre-service teachers revealed that grit varies across year of study, gender and subject area. Fourth-year students reported a higher level of effort than first-year students, while female students scored higher in both consistency of interest and perseverance of effort (Kaya & Yüksel, 2022). More recent studies involving 279 preservice physical education teachers in South Korea demonstrated that both dimensions of grit were related to motivational processes, achievement goals, and career intentions. These findings suggest that grit may influence teacher preparation through different interconnected motivational factors rather than as a single independent trait (Lee & Park, 2024). Grit is associated with psychological well-being and teacher self-efficacy, which suggests that persistence towards long-term goals may work together with other psychological strengths to support teachers in their professional roles (Shao, 2023). Teachers with higher levels of grit may differ from those with lower grit in terms of pedagogical thinking and self-reflection, indicating that grit may be related to how teachers approach and reflect on their professional practices (Shabani et al., 2022). Furthermore, research on professional development suggests that grit, together with intrinsic motivation, explains teachers' continued engagement in professional learning (Lan, 2022). However, international research has largely focused on the relationship between grit and other variables, including prediction, correlation, mediation, and structural models. Comparatively less attention has been given to systematically examining the level and dimensions of grit within different demographics among prospective teachers.

The Indian literature has linked grit with various positive and educational outcomes, such as happiness, life satisfaction, resilience, flourishing, and academic resilience. However, studies focusing specifically on prospective teachers remain relatively limited. A study on Indian undergraduate students revealed that grit is positively associated with positive affect, happiness, and life satisfaction, which highlights an early link between grit and positive psychological well-being within the Indian educational context (Singh & Jha, 2008). Grit, resilience, and meaningfulness contributed significantly to flourishing among Indian postgraduate students, demonstrating the relevance of sustained goal pursuit within a broader strength-based framework (Aswini & Deb, 2017). Grit has been positively associated with the self-belief and persistence components of academic resilience, with no significant gender difference in grit among Indian students (Mohan & Kaur, 2021). More recent evidence has shown a positive association between grit and flourishing among young adults, while no gender differences were observed in either grit or flourishing (Pragya et al., 2024). Study conducted on 275 B.Ed. trainees on their grit in relation to gender, locality, family characteristics and academic achievement, with the participants showing an overall high level

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of grit (Murugesan, 2019). Among the 100 prospective teachers at Aligarh Muslim University, scientific epistemological views significantly predicted grittiness, while the gender differences in grit were not statistically significant, although female prospective teachers reported a higher mean score (Ahmed, 2020).

These studies show that grit among prospective teachers has been explored to some extent in India. But the existing evidence is limited to specific regions and institutions and often focuses on relationships with other variables, with relatively little research on the level and dimension-wise significant differences in grit among prospective teachers. The present study addresses this gap by examining the grit of prospective teachers at Rajiv Gandhi University of Arunachal Pradesh by focusing on the overall level of grit and its two dimensions. Unlike studies that mainly examine grit in relation to other outcomes, the present study focuses on the demographic characteristics, including gender and locality, as previous findings on these factors have been inconsistent (Beyhan & Bas, 2017; Mohan & Kaur, 2021; Murugesan, 2019). Geographically, evidence on prospective teachers remains limited in Arunachal Pradesh. Thus, the study addresses a contextual, geographical, population-specific gap by examining grit among prospective teachers at Rajiv Gandhi University.

Objectives

1. To assess the level of Grit of prospective teachers at Rajiv Gandhi University of Arunachal Pradesh.
2. To find out the significant difference in the grit of prospective teachers at Rajiv Gandhi University of Arunachal Pradesh with regard to gender.
3. To find out the significant difference in the grit of prospective teachers at Rajiv Gandhi University of Arunachal Pradesh with regard to locality.

Hypotheses

- **H₀₁:** There is no significant difference in the grit of prospective teachers with regard to gender
- **H₀₂:** There is no significant difference in the grit of prospective teachers with regard to locality.

METHODOLOGY

Method

In the present study, the investigator has adopted a descriptive cum survey design to examine the level of grit among prospective teachers. This approach is suitable for the present study, as it allows the investigator to examine significant differences across selected demographic groups, i.e., gender and locality.

Population

The population of the study comprised 200 students enrolled in the B.Ed. programme during the academic session 2024-2025 and 2025-2026 at Rajiv Gandhi University of Arunachal Pradesh.

Sample and Sampling Technique

The sample of the study comprised 140 prospective teachers enrolled in the B.Ed. programme during the academic session 2024-2025 and 2025-2026 at Rajiv Gandhi University of Arunachal Pradesh. A purposive sampling technique was employed to collect data from the sample.

Table 1: Demographic characteristics of participants (N=140)

<i>Variable</i>	<i>Sub-variable</i>	<i>Frequency (f)</i>	<i>Percentage (%)</i>
Gender	Male	58	41.43
	Female	82	58.57
Locality	Rural	91	65
	Urban	49	35

Sampling Criteria

The respondents were selected for the study based on the following inclusion and exclusion criteria:

- The respondents must be bona fide prospective teachers enrolled in the Rajiv Gandhi University of Arunachal Pradesh, India. Prospective teachers who are enrolled in the M.Ed. programme and ITEP are excluded from the study.
- Prospective teachers, both male and female, and rural and urban, were included to allow gender- and locality-wise comparisons.
- Only those prospective teachers who gave informed consent and completed the tool were considered for final data analysis. Incomplete or partially filled responses were excluded.

Tool used

In the present study, data were collected using the Grit Scale developed and validated by Duckworth et al. (2007). This scale has two core dimensions: perseverance of effort and consistency of interest to measure grit. It consists of 12 statements, which are measured on a 5-point Likert scale. The scoring for the scale ranges from 5 to 1 (“Very much like me” to “Not like me at all”). Statements included in the perseverance of effort are positively scored (5-1), and statements in consistency of interest are reverse-scored (1-5). The scale has demonstrated strong psychometric properties and high internal consistency of 0.85 for the overall scale. At the factor level, consistency of interest demonstrated an internal consistency of $\alpha=.84$ and perseverance of effort demonstrated $\alpha=0.78$. In the present study, the scale was revalidated, and the reliability coefficient was established using Cronbach's alpha, yielding a value of 0.77 (n=140).

Procedure of data collection

The Grit scale was administered online through a Google Form to all the prospective teachers of Rajiv Gandhi University to ensure ease of access and efficient data collection. Data were collected in February 2026. Prior permission was obtained from the Head of the Department of Education to conduct the study. Responses were scored following the standard scoring procedure prescribed for the scale.

Statistical techniques used

The collected data were analysed using both descriptive and inferential statistics. Percentage analysis was used to examine the item-wise response pattern and levels of grit among prospective teachers. The independent-samples t-test was employed to examine the significant differences in grit scores with respect to gender and locality.

RESULTS**Table 2: Item-wise Mean Scores and Standard Deviation**

Statement	Mean	SD
CI01. I often set a goal but later choose to pursue a different one.	3.44	1.14
CI02. New ideas and projects sometimes distract me from previous ones.	2.86	1.00
CI03. I become interested in new pursuits every few months.	2.99	1.15
CI04. My interests change from year to year.	3.17	1.25
CI05. I have been obsessed with a certain idea or project for a short time but later lost interest.	2.96	1.23
CI06. I have difficulty maintaining my focus on projects that take more than a few months to complete.	3.21	1.05
PE01. I have achieved a goal that took years of work.	3.49	1.20
PE02. I have overcome setbacks to conquer an important challenge.	3.75	0.89
PE03. I finish whatever I begin.	3.86	0.99
PE04. Setbacks don't discourage me.	3.30	1.17
PE05. I am a hard worker.	3.87	1.00
PE06. I am diligent.	3.89	0.99
Overall	3.40	1.09

Table 2 shows the mean scores and standard deviations for each statement of the grit scale. The mean scores of statements for consistency of interest range from 2.86 to 3.44, indicating a moderate level of consistency across goals and interests. Among the statements, the statement “*I often set a goal but later choose to pursue a different one*” (CI01) recorded the highest mean score. The lowest mean score was observed for “*New ideas and projects sometimes distract me from previous ones*” (CI02).

For the perseverance of effort, mean scores are comparatively higher, ranging from 3.30 to 3.89. The highest mean scores were obtained for the statements “*I am diligent*” (PE06) and “*I am a hard worker*” (PE05), reflecting strong endorsement of effort-related characteristics. The lowest mean score within this dimension was observed for the statement “*Setbacks don't discourage me*” (PE04).

Table 3 Descriptive Statistics of Grit

Dimensions	N	Minimum	Maximum	Mean	SD
Consistency of Interest	140	8	28	18.63	4.618
Perseverance of Effort	140	15	29	22.16	3.676
GRIT	140	28	56	40.79	6.076

Table 3 represents the descriptive statistics for both dimensions of grit: Consistency of Interest (CI) and Perseverance of Effort (PE), as well as the overall grit score. For consistency of interest, scores ranged from 8 to 28, with a mean of 18.63 and a standard deviation of 4.62. This indicates variability among prospective teachers in sustaining long-term goals and interests. The perseverance of effort shows scores ranging from 15 to 29, with a higher mean score of 22.16 and a comparatively lower standard deviation of 3.68. lower standard deviation demonstrated less variability in participants' perseverance of effort compared with their consistency of interest. This indicates that prospective teachers generally reported stronger perseverance in sustaining effort toward their goals. The overall grit scores ranged from 28 to 56, with a mean of 40.79 and a standard deviation of 6.08.

Table 4: Level of grit among the Prospective Teachers

Level	Range	Frequency	Percentage
Extremely Gritty	53-56	5	3.57
Mostly Gritty	48-53	15	10.71
Somewhat Gritty	36-47	98	70.00
Not Much Gritty	30-35	17	12.14
Not At All Gritty	28-29	5	3.57

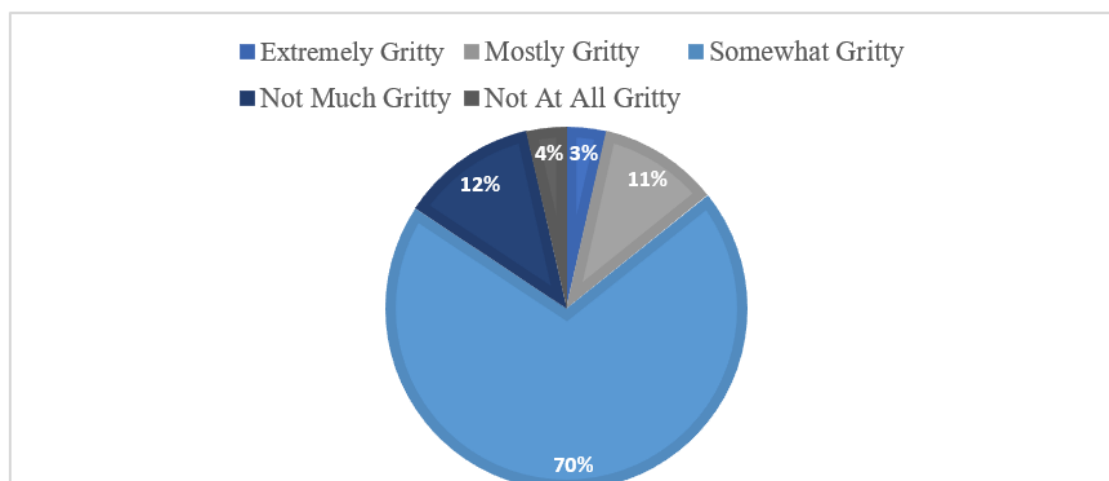


Figure 3: Showing the percentage of grit scores among prospective teachers

Table 4 categorises prospective teachers into different levels of grit based on their total grit scores. The majority of the participants, i.e. 70% (f=98) of prospective teachers were classified as “somewhat gritty”. This indicates a moderate level of grit among most prospective teachers. 10.71% (f=15) of prospective teachers fell into the “mostly gritty” category, and 3.57% (f=5) fell into the extremely gritty category. On the lower end, 12.14% (f=17) of prospective teachers were classified as “not much gritty” and 3.57% (f=5) as “not at all gritty”. This reveals that extreme levels of grit, both high and low, are relatively uncommon in the sample, and most participants were concentrated in the moderate range.

Significant difference in grit of prospective teachers with regard to gender

Table 5: Showing N, Mean, Standard Deviation, Mean Difference, Standard Error of Difference, t-value and p-value with respect to gender

Dimensions	Demographic-Variable						D	SE	t-value	p-value
	Gender									
	Male (N ₁ =58)			Female (N ₂ =82)						
	M ₁	SD ₁	% Mean	M ₂	SD ₂	% Mean				
Consistency of Interest	18.52	4.78	61.73	18.71	4.53	62.37	0.19	0.80	0.24	0.81
Perseverance of Effort	22.36	3.13	74.53	22.01	3.97	73.37	0.35	0.60	0.58	0.56
Overall Grit	40.88	5.81	68.13	40.72	6.29	67.87	0.16	1.03	0.16	0.87

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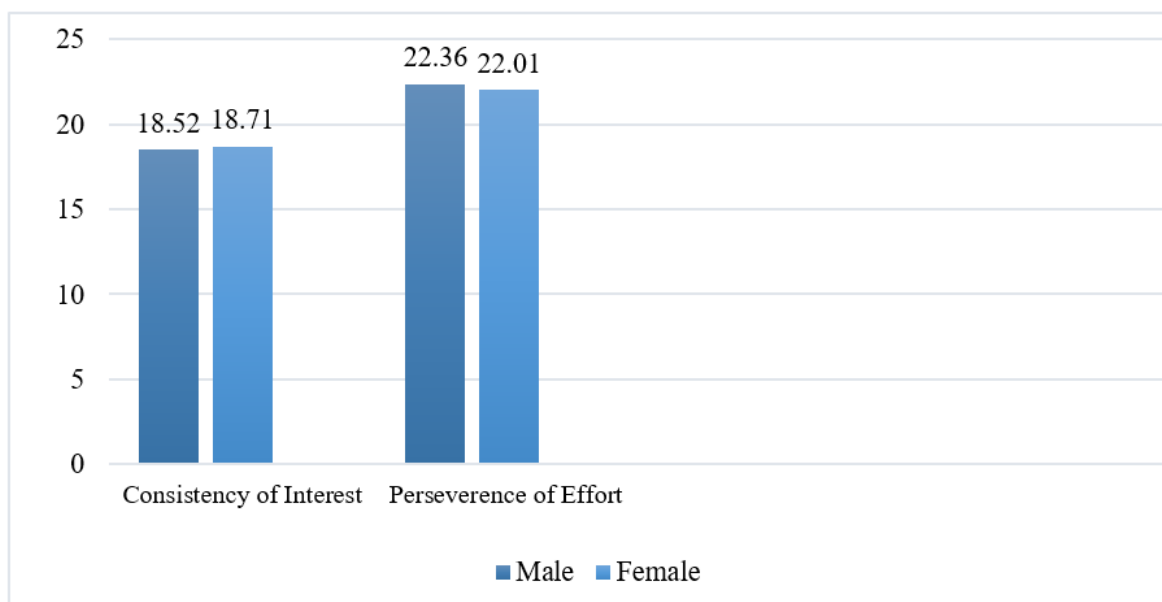


Figure 4: Showing the dimension-wise mean values of male and female prospective teachers in their grit

Table 5 shows that the compound t-value (0.24) with regard to Consistency of Interest (CI) due to variations in gender ($M_1=18.54$, $SD_1=4.78$, $M_2=18.71$, $SD_2=4.53$, $D=0.19$, $SEd=0.80$, $df=138$), $P>0.01$ is not significant, as the computed t-value (0.24) is smaller than the critical t-value (2.58) at 0.01 level of significance. This means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the Consistency of Interest (CI) of grit among prospective teachers due to variation in gender. From the Mean values, it is clear that the female prospective teachers ($M_2=18.71$) have scores slightly higher than the male prospective teachers ($M_1=18.54$) in Consistency of Interest (CI) of Grit. From the SD values, it is clear that the female prospective teachers' Consistency of Interest in grit ($SD_2=4.53$) is slightly more stable than the Consistency of Interest of male prospective teachers ($SD_1=4.78$) in their Grit. From the percentage mean, it is also clear that female prospective teachers (62.37) have scored a marginally higher percentage in consistency of interest than the male prospective teachers (61.73). There is a difference of only 0.64%, which is a negligible difference.

From the table 5, it is also clear that the computed t value (0.58) with regard to Perseverance of Effort (PE) due to variations in gender ($M_1=22.36$, $SD_1=3.13$, $M_2=22.01$, $SD_2=3.93$, $D=0.35$, $SEd=0.60$, $df=138$), $P>0.01$ is not significant, as the computed t-value (0.58) is smaller than the critical t-value (2.58) at 0.01 level of significance. It means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the Perseverance of Effort (PE) of Grit among prospective teachers due to variation in gender. From the Mean values, it is clear that the male prospective teachers ($M_1=22.36$) have scores slightly higher than the female prospective teachers ($M_2=22.01$) in Perseverance of Effort (PE) of grit. From the SD values, it is clear that the male prospective teachers' perseverance of effort in grit ($SD_1=3.13$) is slightly more stable than the perseverance of effort of female prospective teachers ($SD_2=3.93$) in their grit. From the percentage mean, it is also clear that male prospective teachers (74.53%) have scored a marginally higher percentage in perseverance of effort than the female prospective teachers (73.37%). There is a difference of only 1.16%, which is a negligible difference.

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Table 5 also depicts that the computed t value (0.16) with regard to overall grit due to variations in gender ($M_1 = 40.88$, $SD_1 = 5.81$, $M_2 = 40.72$, $SD_2 = 6.29$, $D = 0.16$, $SEd = 1.03$, $df = 138$), $P > 0.01$ is not significant, as the computed t-value (0.16) is smaller than the critical t-value (2.58) at 0.01 level of significance. It means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the overall grit of prospective teachers due to variation in their gender. From the Mean values, it is clear that the male prospective teachers ($M_1 = 40.88$) have scores slightly higher than the female prospective teachers ($M_2 = 40.72$) in their overall grit. From the SD values, it is clear that the male prospective teachers' overall grit ($SD_1 = 5.81$) is slightly more stable than the overall grit of female prospective teachers ($SD_2 = 6.29$). From the percentage mean, it is also clear that male prospective teachers (68.13%) have scored a marginally higher percentage in their overall grit than the female prospective teachers (67.87%). There is a difference of only 0.26%, which is negligible difference.

Significant difference in grit of prospective teachers with regard to locality

Table 6: Showing N, Mean, Standard Deviation, Mean Difference, Standard Error of Difference, t-value and p-value with respect to locality

Difference, t-value and p-value with respect to locality							D	SE d	t- valu e	p- valu e
Dimensions	Demographic-Variable									
	Locality									
	Rural (N ₁ =91)			Urban (N ₂ =49)						
	M ₁	SD ₁	% Mea n	M ₂	SD ₂	% Mea n				
Consistency of Interest	18.54	4.69	61.8	18.80	3.96	62.67	0.26	0.77	0.34	0.73
Perseveranc e of Effort	22.32	3.63	74.4	22.86	3.78	76.28	0.54	0.66	0.82	0.41
Overall Grit	40.86	6.07	68.1	40.65	6.14	67.75	0.21	1.08	0.19	0.85

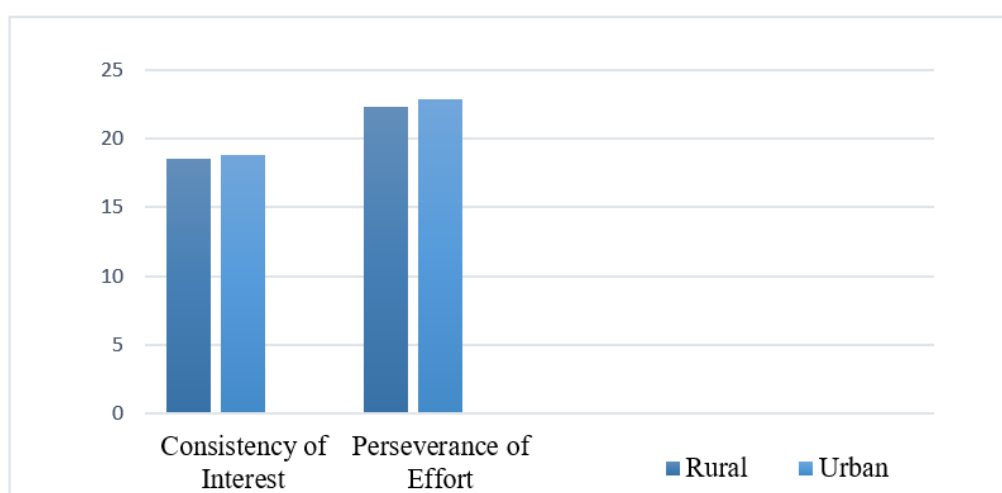


Figure 5: Showing the dimension-wise mean values of rural and urban prospective teachers in their grit

From the table No. 6, it depicts that the compound t-value (0.34) with regard to Consistency of Interest (CI) due to variations in locality ($M_1 = 18.54$, $SD_1 = 4.96$, $M_2 = 18.8$, $SD_2 = 3.96$, $D =$

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0.26, $SEd = 0.77$, $df = 138$), $P > 0.01$ is not significant, as the computed t-value (0.34) is smaller than the critical t-value (2.58) at 0.01 level of significance. It means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the Consistency of Interest (CI) of grit among prospective teachers due to variation in locality. From the Mean values, it is clear that the prospective teachers from urban localities ($M_2 = 18.8$) have scores slightly higher than the prospective teachers from rural localities ($M_1 = 18.54$) in the Consistency of Interest (CI) of Grit. From the SD values, it is clear that the prospective teachers from urban localities ($SD_2 = 3.96$) are slightly more stable than the consistency of interest of prospective teachers from rural localities ($SD_1 = 4.96$) in their grit. From the percentage mean, it is also clear that prospective teachers from urban localities (62.67%) have scored a marginally higher percentage in consistency of interest than the prospective teachers from rural localities (61.8%). There is a difference of only 0.87%, which is negligible.

From the table 6, it is also clear that the computed t value (0.82) with regard to Perseverance of Effort (PE) due to variations in locality ($M_1 = 22.32$, $SD_1 = 3.63$, $M_2 = 22.86$, $SD_2 = 3.78$, $D = 0.54$, $SEd = 0.66$, $df = 138$), $P > 0.01$ is not significant, as the computed t-value (0.82) is smaller than the critical t-value (2.58) at 0.01 level of significance. It means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the Perseverance of Effort (PE) among prospective teachers due to variation in locality. From the Mean values, it is clear that the prospective teachers from urban localities ($M_2 = 22.86$) have scores slightly higher than the prospective teachers from rural localities ($M_1 = 22.32$) in Perseverance of Effort (PE) of Grit. From the SD values, it is clear that the Perseverance of Effort (PE) of prospective teachers from rural localities ($SD_1 = 3.63$) is slightly more stable than the Perseverance of Effort (PE) of prospective teachers from the (urban) localities ($SD_2 = 3.78$) in their Grit. From the percentage mean, it is also clear that prospective teachers from urban localities (76.2%) have scored a marginally higher percentage in perseverance of effort than the prospective teachers from rural localities (74.4%). There is a difference of only 1.8%, which is negligible.

From the table 6, it depicts that the computed t value (0.19) with regard to overall grit due to variations in locality ($M_1 = 40.86$, $SD_1 = 6.07$, $M_2 = 40.65$, $SD_2 = 6.14$, $D = 0.21$, $SEd = 1.08$, $df = 138$), $P > 0.01$ is not significant, as the computed t-value (0.19) is smaller than the critical t-value (2.58) at 0.01 level of significance. It means that the formulated null hypothesis gets accepted. It indicates that there is no significant difference in the overall grit of prospective teachers due to variation in locality. From the Mean values, it is clear that the prospective teachers from rural localities ($M_1 = 40.86$) have scores slightly higher than the prospective teachers from urban localities ($M_2 = 40.65$) in their overall grit. From the SD values, it is clear that the prospective teachers from rural localities ($SD_1 = 6.07$) is slightly more stable than the prospective teachers from urban localities ($SD_2 = 6.14$) in their overall grit score. From the percentage mean, it is also clear that prospective teachers from rural localities (68.1%) have scored a marginally higher percentage in their overall grit than the prospective teachers from urban localities (67.75%). There is a difference of only 0.35%, which is negligible.

DISCUSSION

The first objective of the study was to examine the level of grit among prospective teachers at Rajiv Gandhi University of Arunachal Pradesh. Table 4 shows the percentage of grit among prospective teachers and reveals that 70.00% of the respondents were classified as “somewhat gritty” with an overall mean score of 40.79. As shown in Table 3. The dimension-wise findings revealed that perseverance of effort ($M = 22.16$, $SD = 3.68$) was more prominent than consistency of interest. This finding is consistent with Wolters and Hussain (2015), who reported that perseverance of effort was more strongly associated with self-regulated learning

and academic functioning than consistency of interest. This finding is also consistent with Datu et al. (2016), who highlighted the importance of perseverance of effort for educational and well-being outcomes. The higher level of perseverance observed in the present study also aligns with research on teachers, where sustained effort has been identified as a significant characteristic associated with professional effectiveness and retention (Robertson-Kraft & Duckworth, 2014). However, the present study differs from a previous study, which reported a higher level of grit among B.Ed. trainees, whereas the present study reported a moderate level.

The second objective of the study was to examine the significant gender difference in grit between male and female prospective teachers. The result indicates no significant gender difference in overall grit, with male prospective teachers obtaining a mean of 40.88 (SD= 5.81) and female prospective teachers obtaining a mean of 40.72 (SD= 6.29), $t=0.16$, $p=0.87$. Similarly, no significant gender differences were found in consistency of interest and perseverance of effort. The finding is inconsistent with Mohan and Kaur (2021), who reported no significant gender difference in grit among students, and Pragya et al. (2024), who reported no significant gender differences in grit and flourishing among young adults in India. It also corresponds with Ahmed (2020), who revealed no significant gender differences in grit among prospective teachers, although female participants had a slightly higher mean score. However, this finding contrasts with Beyhan and Bas (2017), who observed gender differences in grit among prospective teachers, and Kaya and Yüksel (2022), who found higher scores among female prospective teachers in both dimensions of grit. These contrasting findings suggest that gender may not have a consistent effect on grit across different teacher education settings and socio-cultural contexts. In the present study, the small differences between male and female participants indicate broadly similar levels of sustained goal pursuit.

The third objective of the study was to examine whether grit differs significantly with respect to locality. The result indicates no significant differences between rural and urban prospective teachers in overall grit, with rural participants obtaining a mean of 40.86 (SD= 6.07) and urban participants obtaining a mean score of 40.65 (SD=6.14), $t= 0.19$, $p=0.85$. No significant differences were also observed for both dimension I e consistency and perseverance. The result further indicates that prospective teachers from rural and urban areas showed broadly similar levels of sustained goal pursuit within the present institutional context. This finding can also be viewed in relation to Murugesan (2019), who examined grit among B.Ed. teacher trainees across localities and other demographic factors. In contrast, the present study specifically examined whether rural and urban prospective teachers differ significantly in their grit level. The absence of a significant locality difference can be understood through the Social Cognitive Theory perspective, which highlights the continuous interaction among personal characteristics, behaviour, and environmental factors.

Implication for policy and practice

The findings of the present study have several implications for teacher-education policy and practice. Since prospective teachers demonstrated a predominantly moderate level of grit, with perseverance of effort emerging more strongly than consistency of interest, teacher education institutions may give greater attention to the development of psychological strength alongside academic, pedagogical, and professional competencies. Teacher education programmes can provide opportunities for long-term goal setting, reflective practices, learning from setbacks, mentoring, and regular review of their professional goals to support prospective teachers in remaining committed throughout their training. At the institutional level, institutions should provide supportive educational experiences that will help prospective teachers to strengthen

their ability to sustain effort and stay focused on meaningful professional goals. The findings also suggest that such opportunities should be provided to all prospective teachers regardless of gender or locality, as neither factor produced a significant difference in grit in the present study. Teacher education institutions might integrate grit-supportive practices into academic advising, mentoring, practicum, and professional development. Since grit is linked to self-efficacy, resilience, growth mindset, motivation, support, and engagement, it may be better developed within a broader, strengths-based teacher-education approach.

Limitations and Future Research Directions

The present study has certain limitations that should be considered when interpreting its findings. The study employed a purposive sampling technique and was restricted to a limited number of prospective teachers enrolled in the B.Ed. programme at Rajiv Gandhi University of Arunachal Pradesh; therefore, the findings might have limited generalisability to all prospective teachers in other regions. Secondly, the study examined grit in relation to gender and locality and did not include other personal, academic, psychological, or contextual factors that may influence grit. The study used a descriptive survey design; therefore, the findings describe the existing level and group differences in grit but cannot establish cause-and-effect relationships with other factors.

Future research can address these limitations by using larger and more representative samples from multiple teacher-education institutions across Arunachal Pradesh and other North-eastern states, using probability sampling where feasible. Future research could also explore grit in relation to other psychological variables such as self-efficacy, resilience, growth-mindset, motivation, academic engagement, professional identity, teacher effectiveness, and career intention, as previous studies revealed meaningful connections between grit and these psychological variables. Longitudinal and mixed-methods studies could further explore how grit changes during teacher preparation and whether changes in both the dimensions of grit are related to practicum experiences, academic progress, professional commitment, and entry into the teaching profession. Such studies could provide a clear understanding of how grit develops and operates within teacher education and whether appropriate interventions can strengthen teacher preparation.

CONCLUSION

The present study examined the level of grit among prospective teachers at Rajiv Gandhi University of Arunachal Pradesh, India. It further investigated whether significant differences exist in grit with regard to gender and locality. The findings indicate a moderate level of overall grit, with the majority (70%) classified as somewhat gritty, while perseverance was more prominent than consistency among prospective teachers. The findings also revealed no statistically significant differences in overall grit or its two dimensions based on gender and locality. This indicates that male and female, as well as rural and urban, prospective teachers showed broadly similar levels of sustained goal pursuit. These findings suggest that prospective teachers have a reasonable capacity to persist towards their academic and professional goals, but there is still scope to further develop grit during teacher preparation. The higher level of perseverance shows the importance of hard work and persistence in teacher preparation, while the lower consistency of interest suggests a need to help prospective teachers stay focused on their long-term professional goals. Overall, the present study adds context-specific evidence on grit among prospective teachers in the context of Arunachal Pradesh and highlights grit as a psychological strength that may support continued engagement and professional development.

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Conflict of Interest

The authors declare no conflict of interests.

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