



AN INVESTIGATION OF GRIT IN RELATION TO CERTAIN DEMOGRAPHIC VARIABLES OF TRAINEE TEACHERS

¹Amjad Kamal, ²Dr. Shahla Shabeeh Shaheen

¹Research Scholar, ²Assistant Professor

Department of Education

Aligarh Muslim University, Aligarh, U.P., India

Abstract

Trainee teachers have a pivotal role in driving the transformation of any country towards education and development. However, the combination of persistence and enthusiasm in the field of education significantly impacts trainee teachers' effectiveness. The concept of grit, when used to explain academic performance, seems to be more beneficial than relying just on IQ grades. This study sought to examine the grit among trainee teachers in relation to certain demographic variables such as gender, locale, type of institution and religion. This research employed the descriptive survey method and utilized the simple random sampling technique to collect data from a total of 185 respondents from Aligarh Muslim University, Vivekanand College of Technology & Management, and Gyan Mahavidyalaya. The study used the Short Grit Scale (Grit-S), a standardized tool constructed by Duckworth and Quinn (2005). This research utilized mean, standard deviation, and parametric statistic independent sample t-tests to examine the significant difference in grit among trainee teachers based on certain demographic variables. The findings indicated that there was no statistically significant difference in grit based on gender, locale, type of institution, and religion among trainee teachers. When comparing the means, it was found that trainee teachers from rural, private, and Hindu backgrounds exhibited higher grit than trainee teachers from urban, government, and Muslim backgrounds.

Keywords: Grit, Trainee teachers, Demographic variable, Parametric statistic

1. Introduction

Teachers must exhibit motivation and commitment to achieve their long-term aims to positively influence the lives of their learners (Argon & Kaya, 2018). The austerity measures resulting from the economic crisis in education have significantly influenced teachers at all levels and their professional reputations due to their unstable working conditions (Woodworth et al., 2009). Consequently, teachers should be granted the highest level of professional recognition corresponding to their professional duties, credentials, and skills in shaping society into a more favorable living environment (Fabelico & Afalla, 2020). The professional development of teachers mainly relies on their pre-service and in-service training programs. To adequately equip pre-service teachers for difficult circumstances and support their ability to persevere, it is crucial to foster the development of a non-cognitive attribute referred to as grit.

In a recent study, Duckworth (2016) proposed the concept of the non-cognitive psychological trait grit, which establishes a connection between the psychological traits of enthusiasm and persistence and individuals' ability to achieve their goals successfully. Grit is the quality that differentiates successful individuals from unsuccessful ones, labeled as "enthusiasm and persistence towards long-term goals". Grit refers to the inherent ability of individuals to pursue their longstanding life aims persistently, irrespective of obstacles, hindrances, or disappointments ("Duckworth & Gross, 2014; Robertson-Kraft & Duckworth,

2014)”. Individuals with greater grit perceive life as a marathon and have a robust commitment to their profession. The concept of grit does not exclude individuals from encountering challenges and obstacles; however, it enables them to maintain focus and persevere toward their ultimate goal (Dale et al., 2018). An investigation conducted by “Von Culin et al. (2014)” has shown that grit might motivate presentations. Furthermore, the research conducted by “Eskreis-Winkler et al. (2014) has indicated that grit is related to individuals' attendance and retention in many domains, such as defense profession, educational profession, weddings, and tenth grade”.

“Duckworth (2016)” classified grit into enthusiasm and persistence. Respectively, the component has a combined and separate effect on individuals' abilities to cultivate and sustain grit. Enthusiasm is a passionate affection or wish for a certain undertaking or concept. Eagerness may be sparked by engaging in a task that meets the necessary characteristics. The consistency of personal and professional interests is preserved by the objective it provides. Consistency is a component of trait-level grit that guides individuals in committing to specific, genuine, and very challenging tasks to achieve learning. Consistency enables individuals to give up immediate and short-term preferences and objectives in favor of achieving long-term success (Duckworth, 2016).

1.1 Trainee teacher's grit

Preservice teachers, who are in the early phases of their teacher education journey, face several hurdles as they go from being students to being educators. Success in preservice teacher education programs necessitates a distinct combination of traits due to the inclusion of theoretical coursework, practical training, and exposure to varied classroom contexts. The cultivation of grit, which prioritizes consistent effort and perseverance, plays a crucial role in moulding the mentality and readiness of preservice teachers.

Duckworth's study on grit highlights its significance in forecasting achievement and accomplishments, frequently surpassing the predictive capacity of conventionally assessed criteria like intelligence quotient (IQ) or skill. Duckworth's concept of effort counting twice supports the idea that success depends not just on innate qualities, but also on the consistent and concentrated use of such abilities over a prolonged period. Preservice teachers can significantly benefit from developing grit as they negotiate the complex terrain of teacher education and prepare to address learners' different needs in actual classrooms.

As aspiring teachers begin their studies, they face a challenging curriculum that requires academic and practical abilities. The shift from theoretical knowledge to practical application, typically supported by field experiences and student teaching, necessitates a high degree of persistence beyond conventional academic endeavors. Duckworth (2016) highlights the significance of grit in sustaining perseverance and enthusiasm over an extended period, especially when confronted with obstacles and difficulties. Preservice teachers have several challenges, including adjusting to numerous learning contexts and addressing the requirements of a heterogeneous student population. Grit provides individuals with the cognitive resilience necessary to endure these obstacles, ensuring their unwavering dedication toward their ultimate objective of being proficient educators.

Grit also aligns with a growth mindset, which holds that dedication and effort may improve one's abilities and talents (Dweck, 2006). A growth mindset helps preservice teachers see issues as opportunities to learn and improve, so be constructive and proactive in their professional development. The combination of perseverance and a mindset focused on personal development forms a strong and resilient basis for aspiring teachers, enabling them to accept the ongoing learning process and adjusting that is readily inherent in the teaching profession.

Incorporating grit into preservice teacher education programs entails cultivating an atmosphere that appreciates diligence, determination, and dedication to enduring objectives. Strategies such as providing clear education on the notion of grit, using reflective practices, and establishing mentoring programs can enhance the cultivation of grit in preservice teachers. Duckworth and Eskreis-Winkler (2013) highlight the significance of intentional practice, “a fundamental element of perseverance and passion for long-term goals,” in enhancing skills. Preservice teachers might gain advantages from deliberate and concentrated training in pedagogical approaches, classroom management, and adjusting instructional tactics to meet the needs of varied students.

1.2 Objectives of the study

1. To study the significant difference in grit between male and female trainee teachers.
2. To find out the significant difference in grit between rural and urban trainee teachers.
3. To find out the significant difference in grit between government and private trainee teachers.
4. To study the significant difference in grit between Hindu and Muslim trainee teachers.

1.3 Hypotheses of the study

- H₀.1. There will be no significant difference in grit between male and female trainee teachers.
 H₀.2. There will be no significant difference in grit between rural and urban trainee teachers.
 H₀.3. There will be no significant difference in grit between government and private trainee teachers.
 H₀.4. There will be no significant difference in grit between Hindu and Muslim trainee teachers.

2. Method

The study is quantitative in nature and a descriptive type of research.

2.1. Population

The target population for the present study constituted all the trainee teachers of teacher training institutions in Aligarh, Uttar Pradesh, India.

2.2 Sample

A simple random sampling technique was used to collect the total sample of trainee teachers from Aligarh Muslim University, Vivekanand College of Technology and Management, and Gyan Mahavidyalaya teacher training institutions in Aligarh. There were 185 trainee teachers, 42 male and 143 female. Out of the total sample, 47 were rural and 138 were urban trainee teachers. Out of the total sample, 87 were government and 98 were private trainee teachers. Among the total sample, 102 were Hindu and 83 were Muslim trainee teachers.

2.3 Research Tool Used

2.3.1 Short-Grit Scale (SGS)

After thoroughly examining and analyzing many Grit Scales, the researcher has ultimately concluded and established the Short-Grit Scale. This Scale was employed to measure trainee teachers' grit for continuing aims. This scale was established by "Duckworth and Quinn (2009)". The researcher modified this scale after assessing its reliability and validity on trainee teachers from the Aligarh District. This scale has eight items and encompasses two dimensions. The measurement was conducted using a "5-point Likert Scale, with a range from 1 (indicating not like me at all) to 5 (indicating very much like me)". The short-grit scale has a "Cronbach's alpha of 0.628", indicating a moderate level of internal consistency.

2.4 Statistical Techniques Used

The researcher employed the "mean, standard deviation, and independent sample t-test" to analyze the data and determine any significant differences in grit among certain demographic variables of trainee teachers.

3. Result and Discussion

Objective 1. To study the significant difference in grit between male and female trainee teachers.

H₀.1. There will be no significant difference in grit between male and female trainee teachers.

Table 1: Showing the difference in grit between male and female trainee teachers

Gender	No.	Mean	SD	df	t-value	Sig.	Remark
Male	42	28.04	3.79	183	0.06	0.35 p>0.05	Not Significant
Female	143	28.00	4.20				

Table 1 presents the findings of descriptive statistics and independent sample t-test. "The data indicates that the mean score in grit for male trainee teachers is 28.04, with a standard deviation of 3.79. Similarly, the mean score in grit for female trainee teachers is 28.00, with a standard deviation of 4.20. The t-value of 0.06 and significance value of 0.35 (p>0.05), with 183 degrees of freedom, indicate that the result is not statistically significant at the 0.05 significance level. Table 1 indicates no statistically significant difference in grit between male and female trainee teachers. Therefore, the null hypothesis (H₀.1) stating that there will be no significant difference in grit between male and female trainee teachers is accepted. The findings that supported the present study have been reported in various studies (Yuce, 2023; Crede et al, 2017; Sigmundsson et al., 2020; Vijaylakshami, 2018)".

Objective 2. To find out the significant difference in grit between rural and urban trainee teachers.

H₀.2. There will be no significant difference in grit between rural and urban trainee teachers.

Table 2: Showing the difference in grit between rural and urban trainee teachers

Locality	No.	Mean	SD	df	t-value	Sig.	Remark
Rural	47	28.66	3.92	183	1.21	0.21 p>0.05	Not Significant
Urban	138	27.79	4.16				

Table 2 presents the findings of descriptive statistics and independent sample t-test. The data indicates that the mean score in grit for rural trainee teachers is 28.66, with a standard deviation of 3.92. Similarly, the mean score in grit for urban trainee teachers is 27.79, with a standard deviation of 4.16. The t-value of 1.21 and significance value of 0.21 (p>0.05), with 183 degrees of freedom, indicate that the result is not statistically significant at the 0.05 significance level. Table 2 indicates that there is no statistically significant difference in grit between rural and urban trainee teachers. Therefore, the null

hypothesis ($H_{0.2}$) stating that there will be no significant difference in grit between rural and urban trainee teachers is accepted. Regarding the locality, some studies by Britto et al., 2023 Byer, 2017 and Terry et al., 2020 supported the result of the present study. Research findings indicate that rural students demonstrate persistent efforts to attain their academic goals. In contrast, urban students continually maintain their interest in education due to the resources available in their location (Bazelais et al., 2018 & Karlen et al., 2019).

Objective 3. To find out the significant difference in grit between government and private trainee teachers.

$H_{0.3}$. There will be no significant difference in grit between government and private trainee teachers.

Table 3: Showing the difference in grit between government and private trainee teachers

Type of Institute	No.	Mean	SD	df	t-value	Sig.	Remark
Government	87	27.81	4.33	183	-0.60	0.37 $p>0.05$	Not Significant
Private	98	28.18	3.91				

Table 3 presents the findings of descriptive statistics and independent sample t-test. The data indicates that the mean score in grit for government trainee teachers is 27.81, with a standard deviation of 4.33. Similarly, the mean score in grit for private trainee teachers is 28.18, with a standard deviation of 3.91. The t-value of -0.60 and significance value of 0.37 ($p>0.05$), with 183 degrees of freedom, indicate that the result is not statistically significant at the 0.05 significance level. Table 3 indicates that there is no statistically significant difference in grit between government and private trainee teachers. Therefore, the null hypothesis ($H_{0.3}$) stating that there will be no significant difference in grit between government and private trainee teachers is accepted. The mean score of government (27.81) and private (28.18) trainee teachers revealed that the private trainee teachers are grittier than the government trainee teachers. The current study found no statistically significant difference in grit based on the type of institution. The result is supported by the findings of Sumitha and Mandal, 2022 and Prabavathi, 2021.

Objective 4. To study the significant difference in grit between Hindu and Muslim trainee teachers.

$H_{0.4}$. There will be no significant difference in grit between Hindu and Muslim trainee teachers.

Table 4: Showing the difference in grit between Hindu and Muslim trainee teachers

Religion	No.	Mean	SD	df	t-value	Sig.	Remark
Hindu	102	28.45	3.79	183	-1.62	0.15 $p>0.05$	Not Significant
Muslim	83	27.46	4.43				

Table 4 presents the findings of descriptive statistics and independent sample t-test. The data indicates that the mean score in grit for Hindu trainee teachers is 28.45, with a standard deviation of 3.79. Similarly, the mean score in grit for Muslim trainee teachers is 27.46, with a standard deviation of 4.43. The t-value of -1.62 and significance value of 0.15 ($p>0.05$), with 183 degrees of freedom, indicate that the result is not statistically significant at the 0.05 significance level. Table 4 indicates that there is no statistically significant difference in grit between Hindu and Muslim trainee teachers. Therefore, the null hypothesis ($H_{0.4}$) stating that there will be no significant difference in grit between Hindu and Muslim trainee teachers is accepted. The mean scores of Hindu (28.45) and Muslim (27.46) trainee teachers revealed that the Hindu trainee teachers are grittier than the Muslim trainee teachers.

4. Conclusion and Suggestion

Grit may assist teacher-training students in "becoming a teacher." This is because students must work hard throughout their teacher education program to succeed in the teacher entrance test. This phase needs many instructions, lesson preparation, and test practice. Failure-resistant students who love teaching will succeed. Thus, students with greater endurance are expected to excel in teacher education.

The study found that grit is learnable and can be trained and established (Duckworth et al., 2007). Shectman et al. (2013) say academic attitudes, effort control, techniques, and tactics can boost grit, tenacity, and persistence. Academic mindsets encompass an individual's beliefs, attitudes, and self-perception (Shectman et al., 2013). Hochanadel et al. (2015) say that instructors, trainee teachers, students, and parents may learn the growth mindset. They add that "grit in education refers to the ability to accomplish long-term objectives by overcoming obstacles and challenges." tenacity may be taught and fostered, and educational leaders can improve student accomplishment by nurturing tenacity in their teachers. Studies reveal that pupils, trainee teachers, and instructors need grit (Christensen et al., 2014; Wolters & Hussain, 2015; Bashant, 2014).

Developing the grit of trainee teachers is crucial for their achievement in the rigorous realm of education. Regarding policies and programmes to prepare teachers, government institutions are crucial in incorporating grit. These institutions can help future educators succeed by building resilience, perseverance, and a growth mindset into their curricula and providing mentorship programs, professional

development opportunities, and support services. However, gaps between urban and rural areas make inequality worse. Given the challenges faced by rural regions in terms of infrastructure, competent teachers, and resources, it is surprising that rural trainee teachers scored higher on the grit measure than their urban counterparts. This is likely a result of the rural trainee teachers' more excellent work ethic and determination. Rural education investment must focus on improving infrastructure, educating teachers, and engaging communities to close this achievement gap. It is critical to tackle several types of marginalisation simultaneously, understanding that people who encounter numerous forms of oppression have distinct obstacles. In order to identify obstacles and customise treatments to local settings, community engagement is crucial, and joint efforts are required.

Thus, officials must prioritize teacher grit while considering the teacher's role. Teacher retention is a significant issue. Thus, improving trainee teachers' grit may assist them in remaining dedicated to teacher training programs. Grit-filled trainee teachers are likely to pursue and tackle challenges actively, approach achievements with endurance, maintain their willpower and attention over extended periods despite hardship and remain dedicated despite difficulties that appear to hamper trainee teachers.

Prospective teachers should get training in additional constructivist methodologies, and ongoing assistance should be offered to ensure the successful integration of these instructional strategies in the classroom. Only when individuals possess the knowledge and ability to apply their scientific perspectives and convictions, can it serve as a spark, instilling enthusiasm and resilience in the face of adversity.

Assist trainee teachers in cultivating resilience by instructing them in coping mechanisms to manage setbacks and disappointments effectively. Motivate them to contemplate their experiences, derive knowledge from errors, and adjust their approach accordingly. Motivate trainee teachers to persist amid challenges. Reiterate to them that obstacles are inherent in acquiring knowledge and that achieving achievement frequently necessitates consistent and prolonged effort.

5. Educational Implication

1. Grit fosters the capacity for resilience, achievement of goals, efficient classroom management, and continuous professional growth. These attributes can enhance the achievement and satisfaction of prospective teachers in their pursuit of becoming proficient teachers.
2. Gritty teachers act as inspirational models for their students. Teachers who exhibit perseverance, determination, and a passion for learning can motivate students to adopt a similar approach toward their academic and personal objectives.
3. The policymakers should provide a variety of events, including seminars, conferences, workshops, orientation programs, and induction programs, to foster teacher effectiveness among trainee teachers.
4. Through comprehending the elements that contribute to an individual's level of perseverance and passion, researchers and educators may collaborate on specific projects and efforts to improve grit, not only in students but throughout the entire educational community.
5. Incorporating grit and growth mindset intervention into teacher training courses can enhance the efficacy of trainee teachers.
6. The Ministry of Education, Culture, Sports, Science and Technology recognizes teachers' mental well-being deterioration as a significant issue. It is crucial to highlight that enhancing grit can help prevent burnout and ensure the production of high-quality teachers from teacher-training colleges and universities.
7. Policymakers should implement initiatives such as resilience training, mentorship programs, and targeted support for socio-economic challenges, especially for minorities and urban and government institution trainee teachers, to develop grit.
8. Teacher training institutions may enhance the preparation of aspiring teachers in the demanding and fulfilling area of education by incorporating grit and resilience into teacher training programmes and policies.

6. Recommendation for further research

1. The current study is restricted to a sample size of 185 trainee teachers. Similar research may be carried out on a more significant sample of trainee teachers in the Aligarh area.
2. The current study was undertaken in the Aligarh district. Researchers can conduct comparison research between any two districts.

3. In this study, the researcher analyzed the data using the statistical technique known as the t-test. Additional statistical approaches that can be employed include the Correlation Coefficient, ANOVA, and Regression.
4. The study may use other variables such as self-control, self-efficacy, achievement motivation, resilience, etc.
5. Comparative research can be carried out on trainee teachers pursuing both B.Ed. and D.El.Ed. programmes.

References

- Argon T, Kaya A. (2018). Examination of grit levels of teachers according to personal variables. *Journal of Education and Training Studies*, 6 (3): 45-53.
- Bashant, J. (2014). Developing grit in our students: Why grit is such a desirable trait, and practical strategies for teachers and schools. *Journal for Leadership and Instruction*, 13(2), 14-17.
- Britto, D. R., Rizvana, A. M. S., George, N., Subramaniyan, D., Narayanan, D., Mani, D. K. R., Annadurai, E., & Prakas, E. J. (2023). Guts, Resilience, Integrity, and Tenacity (GRIT) Among Mid Adolescent School Students in a District of South India: A Cross-Sectional Study. *Indian journal of psychological medicine*, 45(3), 243–249.
- Byers, V. (2017). The challenges of leading change in healthcare delivery from the front-line. *J. Nurs. Manag.* 25, 449–456.
- Christensen, R., & Knezek, G. (2014). Comparative measures of grit, tenacity and perseverance. *International Journal of Learning, Teaching and Educational Research*, 8(1), 16-30.
- Credé, M., Tynan, M. C., & Harms, P. D. (2017). Much ado about grit: A meta-analytic synthesis of the grit literature. *Journal of Personality and Social Psychology*, 113, 492-511.
- Dale, G., Sampers, D., Loo, S., and Green, C. S. (2018). Individual differences in exploration and persistence: grit and beliefs about ability and reward. *PLoS One* 13, e0203131–e0203117.
- Duckworth, A. L. (2016). *Grit: The power of Passion and Perseverance*. New York, NY: Simon & Schuster, Inc.
- Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the short grit scale (Grit-S). *Journal of Personality Assessment*, 91(2), 166-174.
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. *J. Pers. Soc. Psychol.* 92, 1087–1101.
- Duckworth, A. L., Quinn, P. D., & Seligman, M. E. P. (2009). Positive predictors of teacher effectiveness. *The Journal of Positive Psychology*, 4(6), 540-547.
- Duckworth, A., & Gross, J. (2014). Self-control and grit: related but separable determinants of success. *Curr. Dir. Psychol. Sci.* 23, 319–325.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House Incorporated.
- Eskreis-Winkler, L., Duckworth, A. L., Shulman, E. P., and Beal, S. (2014). The grit effect: predicting retention in the military, the workplace, school and marriage. *Front. Psychol.* 5:36.
- Fabelico, F. and Afalla, B. (2020). Perseverance and Passion in the Teaching Profession: Teachers' Grit, Self-Efficacy, Burnout, and Performance. *Journal of Critical Reviews*.
- Hochanadel, A., & Finamore, D. (2015). Fixed and growth mindset in education and how grit helps students persist in the face of adversity. *Journal of International Education Research*, 11(1), 47-50.
- Maddi, S. R., Matthews, M. D., Kelly, D. R., Villarreal, B., & White, M. (2012). The role of hardiness and grit in predicting performance and retention of USMA cadets. *Military Psychology*, 24(1), 19-28.
- Murugesan, Vijayalakshmi. (2019). Measurement of Grit of B.Ed. Teacher Trainees and its Influence towards their Academic Achievement. *Review of Research*, 8. 1-10.
- Prabavathi, R. (2021). A study on the relation between constructivist pedagogy and academic grit of prospective teachers in Chennai district. *A Journal of the History of Ideas and Culture*. 38(7), 90-95.
- Robertson-Kraft, C., & Duckworth, A. L. (2014). True grit: trait-level perseverance and passion for long-term goals predict effectiveness and retention among novice teachers. *Teachers Coll. Rec.* 116, 1–27.
- Shechtman, N., DeBarger, A.H., Dornsife, C., Rosier, S., & Yarnall, L. (2013). Promoting grit, tenacity, and perseverance: Critical factors for success in the 21st century. U.S. Department of Education Office of Educational Technology. *State Department of Education* (2014). FY 2015.
- Sigmundsson, H., Haga, M., & Hermundsdottir, F. (2020). Passion, grit and mindset in young adults: Exploring the relationship and gender differences. *New Ideas in Psychology*, 59, 100795.
- Sumitha Mandal (2022). A Study on Metacognitive Awareness and Academic Grit among B.Ed. Trainees. *Journal of Positive School Psychology*. 6 (5). 263–268.

- Terry, D., & Peck, B. (2020). Academic and clinical performance among nursing students: What's grit go to do with it? *Nurse Education Today*, 88, 104371.
- Von Culin, K., Tsukayama, E., & Duckworth, A. L. (2014). Unpacking grit: motivational correlates of perseverance and passion for long-term goals. *J. Posit. Psychol.* 9, 306–312.
- Wolters, C. A., & Hussain, M. (2015). Investigating grit and its relations with college students' self-regulated learning and academic achievement. *Metacognition and Learning*, 10(3), 293-311.
- Woodworth K, Bland J, Guha R, Shields P, Wechsler M, Tiffany-Morales J, Tse V. The status of the teaching profession 2009: Full report. Santa Cruz, CA: *The Center for the Future of Teaching and Learning*, 2009: 1–150.
- Yüce, E. (2023). Critical thinking, autonomous learning, and academic grit among preservice EFL teachers. *Thinking Skills and Creativity*, 50, 101382.

