

The Impact of Teacher Training on Student's Academic Motivation, Anxiety, and Stress: A Comparative Analysis of In-service Trained and Untrained Teachers

Gopal Chandra Mahakud* Nidhi Singh** Anushka Pandey***

Abstract

The current study investigates the impact of in-service teacher training on students' academic achievement motivation, general anxiety, and stress levels. Using an experimental design, data were collected from 400 students (200 each from classrooms with in-service trained and untrained teachers) across grades nine to twelve. Standardized tools used to assess the psychological parameters were the Academic Achievement Motivation Test (Sharma, 2005), the General Anxiety Scale for Children (Kumar, 2003), and the Stress Scale (Lakshmi & Narain, 2015), which were administered to assess the three variables. Results revealed that students taught by trained teachers exhibited significantly higher academic motivation, lower stress levels, and general anxiety than those taught by untrained teachers. The current findings support existing theoretical frameworks such as Self-Determination Theory, Cognitive Load Theory, the Transactional Model of Stress and Coping, and Sociocultural Theory. This suggests that in-service training enhances teachers' capacity to foster psychologically supportive learning environments. The study highlights practical implications for education policy, teacher training curriculum, and school leadership practices. Some limitations, such as cross-sectional design and reliance on self-report measures, were also acknowledged. Recommendations for future research include longitudinal approaches, multi-method assessments, and a more profound examination of training program content and implementation fidelity.

Keywords: *In-service teacher training, academic motivation, student anxiety, student stress, psychological well-being, educational psychology.*

About Authors: *Assistant Professor, Department of Applied Psychology, University of Delhi, South campus, New Delhi-110021, Email-gopal1631979@gmail.com **Assistant Professor, Department of Education, Shyama Prasad Mukherjee College, University of Delhi, New Delhi-110021, Email: nidhusingh@rediffmail.com ***Counselling Psychologist and Psychotherapist, Mental Health and Behavioural Sciences, Artemis Hospital, Gurgaon, Haryana, Email: pandeyanushka331@gmail.com

DOI: <https://doi.org/10.66509/IJPS.21.2.2026.136-150>

Introduction

Education is a dynamic process that goes beyond simply passing on knowledge. Teachers play a crucial role in shaping their students' academic and psychological growth, and their effectiveness largely depends on their professional training (Farrington et al., 2012). In-service teacher training programs have become essential for enhancing educators' skills, providing them with modern teaching strategies and psychological insights that create a positive learning environment (Asad et al., 2023). These programs aim to improve teaching

methods, boost student engagement, and foster an atmosphere supporting cognitive and emotional health. Research indicates that teachers participating in structured professional development significantly impact their students' academic success, motivation, and well-being (Cece et al., 2022).

Despite the acknowledged advantages of in-service training, access to these programs can be uneven. In various areas, including Indian cities, disparities arise from institutional limitations, budget constraints, and policy implementation differences (Yan

&Saguin, 2021). While some educators frequently attend training sessions and workshops, others miss out on ongoing professional development. This lack of consistency raises concerns about the uniformity of educational quality and its potential effects on students (Sunder, 2010). Although earlier studies have examined the impact of teacher training on enhancing instructional quality, there is still a gap in understanding how it directly affects students' psychological factors, such as academic motivation, anxiety, and stress (Telhaj & Çaçi, 2024). Most current research primarily focuses on academic performance as indicated by standardised test scores, often overlooking the emotional and cognitive aspects that significantly influence learning experiences (Richardson, Abraham & Bond, 2012). By exploring these psychological elements, this study seeks to provide a more comprehensive view of how teacher training impacts student outcomes.

The theoretical basis of this study draws on various psychological and educational frameworks that emphasise the link between teacher effectiveness and student results. Deci and Ryan's Self-Determination Theory (1985) highlights the significance of intrinsic motivation and the role of autonomy-supportive teaching in enhancing student engagement. Additionally, the Expectancy-Value Theory (Eccles & Wigfield, 2002) clarifies how students' academic motivation is influenced by their perceived value of tasks and expectations for success. When teachers use engaging instructional methods, students are more inclined to develop positive attitudes toward learning.

Research on student anxiety underscores the importance of teacher-student interactions in easing or intensifying academic stress (Kilel, 2023). Spielberger's Test Anxiety Theory (1980) illustrates how students face

psychological distress in high-pressure academic environments. Sweller's Cognitive Load Theory (1988) highlights the necessity of teacher guidance in managing students' cognitive resources to avoid overwhelming anxiety. Well-trained teachers are more adept at designing lessons that reduce cognitive overload, thereby lessening anxiety-related barriers to learning (Sweller, J. 1994).

Understanding student stress and coping strategies is best approached through Lazarus and Folkman's Transactional Model of Stress and Coping (1984), which explains how individuals assess and react to stressors. Teacher instruction and classroom management quality are crucial in shaping students' coping mechanisms in an educational setting (Peibin et al., 2023). Additionally, Bronfenbrenner's Ecological Systems Theory (1979) places teacher-student interactions within a broader educational framework, showing that effective teaching has a far-reaching impact on students' overall well-being. From a developmental standpoint, Vygotsky's Sociocultural Theory (1978) provides important insights into how teacher training influences student learning. His idea of the Zone of Proximal Development (ZPD) suggests that students learn most effectively when guided by a knowledgeable mentor who offers appropriate support (Jaramillo, J. A. 1996).

In-service teacher training equips educators with the necessary skills to support students, helping them bridge the gap between their current skills and their potential (Farrell, 2012). Similarly, Piaget's Theory of Cognitive Development (1952) emphasizes adapting teaching methods to align with students' developmental stages; skill-trained teachers are better prepared to execute. Bandura's Social Learning Theory (1986) also supports the argument that trained teachers are role models who reinforce

positive academic behaviours, motivation, and resilience through observational learning.

To explore these dynamics, this study identifies key variables to ensure a precise analysis. In-service trained teachers have engaged in structured professional development programs after recruitment, including workshops and certification courses to enhance their teaching effectiveness (Darling-Hammon et al., 2017). On the other hand, in-service untrained teachers have not received formal training beyond their initial education. Academic achievement motivation is the drive students have to succeed in educational tasks, shaped by their goal orientation, perseverance, and self-efficacy (Riske, 2007).

General anxiety in an educational setting refers to the worry or fear students feel about their academic performance, social interactions, and participation in the classroom.

(Ameringen, 2003). On the other hand, student stress includes the psychological and physiological reactions to academic pressures, deadlines, and performance expectations, which are measured using standardised tools (Putwain, 2007). Understanding how teacher training affects these psychological factors is crucial for educational policies, teacher development programs, and classroom practices (Emmer & Stough, 2003). If in-service training positively affects student motivation while alleviating anxiety and stress, policymakers might prioritise teacher professional development as a key strategy for enhancing educational outcomes (Iqbal & Ali, 2024).

These findings can also guide school administrators and curriculum developers in creating more effective teaching models that address students' emotional and cognitive needs. Furthermore, the research may help refine teacher evaluation frameworks,

promote professional growth, and cultivate a more supportive learning environment. This study seeks to address the extent to which teacher training influences students' psychological well-being and academic experiences. While in-service teacher training is widely implemented, its effects on academic motivation, anxiety, and stress remain underexplored (Greenberg et al., 2003). By examining these relationships, this research aims to provide empirical evidence that informs future educational reforms and enhances our understanding of how teacher professional development shapes student outcomes.

Guided by these objectives, the study aims to answer the following research questions:

- (1) To what extent does academic achievement motivation differ among students taught by in-service trained and in-service untrained teachers?
- (2) How does in-service teacher training influence students' general anxiety levels in educational settings?
- (3) How does teacher training status impact students' stress levels in academic environments?

The study focuses on students from government schools in Delhi NCR, from secondary and higher secondary sections, and encompasses those taught by trained and untrained teachers. A quantitative approach is employed to understand student experiences comprehensively. However, certain limitations must be acknowledged. The study relies on self-reported measures of motivation, anxiety, and stress, which may be influenced by social desirability bias. Additionally, external factors such as parental influence, peer interactions, and socioeconomic status, which also play a role in shaping student psychological well-being, are beyond the scope of this research. Despite these limitations, the findings aim to contribute meaningful insights into the role of teacher training in fostering academic

resilience and emotional well-being among students.

Rationale: Teacher education and training enhance the teaching-learning process, benefiting teachers, students, and school systems through skilled teachers who make learning more productive. The quality of teacher education in India has been shaped by recommendations from multiple government committees, including the National Curriculum Framework (2005), Yashpal Committee (1993), National Policy on Education (1986, 1992), Acharya Ramamurthi Committee (1990), Chattopadhyay Committee (1985), and the Kothari Commission (1966).

To improve teacher education quality, the National Council of Teacher Education (NCTE) developed the National Curriculum Framework for Teacher Education (NCFTE) in 2009, focusing on curriculum improvement, teaching methods, and training institutions. Following the 1986 National Policy on Education, which recognized in-service and pre-service training as essential, the government established and funded various teacher training institutions. These include Institutes of Advanced Studies in Education (IASEs), education departments in select universities, District Institutes of Education and Training (DIETs), and support from State Councils for Educational Research and Training (SCERT). For primary education specifically, the government implemented the District Primary Education Program (DPEP) from 1995 to 2003, creating resource centers to deliver in-service training programs effectively.

Significant challenges persist despite these extensive efforts to implement teacher training programs nationwide. Many schools still operate without trained teachers, and questions remain about whether teachers who receive training effectively implement their acquired skills in practice. Notably, the

Indian subcontinent has seen limited research comparing teacher effectiveness among pre-service trained, in-service trained, and untrained teachers, indicating a gap in understanding the practical impact of these training initiatives.

Method

Objectives:

- To compare the academic achievement motivation of children studying from in-service trained teachers and in-service untrained teachers.
- To see the difference of stress of students studying from in-service trained teachers and in-service untrained teachers.
- To observe the difference of general anxiety in children studying from in-service trained teachers and in-service untrained teachers.

Hypotheses:

1. There will be a significant difference in the achievement motivation of Children studying from in-service trained teachers and in-service untrained teachers;
2. There will be a significant difference in the Students stress Children studying from In-service trained teachers and teachers without In-service training;
3. There will be a significant difference in the general anxiety of Children studying from In-service trained teachers and teachers without In-service training;

Sample and Sampling Technique: The study included teachers and students from the same schools, collecting data from class teachers whose students participated. The selection process involved:

Selection of Teachers: A total (N=200) teachers were selected from a pool of 1000 secondary and higher secondary teachers from both government and private schools across Delhi NCR. These were divided into two equal groups: 100 in-service trained teachers and 100 teachers without in-service

training, both randomly selected from their respective pools of 500 each. Both male and female teachers were included through random selection. Selected teachers completed the questionnaires and test materials mentioned in the study's materials section.

Selection of students: A total of (N=400) students were selected from each teacher group - 200 from in-service trained teachers and 200 from classrooms of untrained teachers, from their respective schools only.

Classes/Grade Selection: Students were randomly selected from grades nine through twelve (9th, 10th, 11th, and 12th) from the schools of both in-service trained and untrained teachers.

Materials:

- **Academic Achievement Motivation Test (AAMT)** by Dr. T.R. Sharma (2005): This test has a test-retest reliability of 0.53 for the half test and 0.697 for the whole test. The test's validity is established through content validity, having been rated and validated by 40 experts in Academic Achievement Motivation.
- **General Anxiety Scale for Children (GASC)** by Dr. Anil Kumar (2003): This scale was developed using an Indian population. It shows strong reliability with coefficients of 0.79 using the Split-Half Method and 0.81 using the Kuder-Richardson Formula-20. The high-reliability index of 0.90 indicates strong internal consistency, further supported by a low standard error of measurement (Sem = 2.7538). This scale is an Indian adaptation of the original GASC. The scale uses a five-point rating system (very often, fairly often, sometimes, occasionally, and rarely) across 17 items for school children. Its validity was established through significant correlations between teacher ratings and anxiety scores at the 0.01

level in comparison with the Sinha Anxiety Scale, yielding a satisfactory validity coefficient ($r=0.736$).

- **Stress Scale (SS-LVNS)** by Lakshmi and Narain (2015): This scale has a test-retest reliability of 0.82, which is significant at the 0.01 level. It was validated against Singh's Personal Stress Source Inventory (2004) with a validity coefficient of 0.72 and against the stress dimensions of the Anxiety, Depression and Stress Scale by Bhatnagar et al. (2011) with a validity coefficient of 0.83.

Research Design: Experimental research design is used in the present study where training of the teachers is the Independent Variable and anxiety, stress and motivation are the Dependent variables.

Study Setting: All data were collected during leisure time in the students' and teachers' natural school settings. Besides that, in some cases, the data were also collected from the teachers' and students' natural home settings according to their preferences. As both the teachers and students who participated in the present study were literate, the data collection process and understanding of the language of the scale/test and inventory were not the issues for the researcher for the collection of information related to the materials used in the present study.

Ethical Issues: The respective school authorities' permission to collect information about the study's objectives was collected before starting the administration of the tools and the interview. Before beginning the present study, the consent form for selecting information related to the present study was also obtained from the teachers and the students. All the participants and the school authorities were assured that the information collected for the present study would be kept confidential and not used for other academic purposes by keeping their

personal information entirely confidential. They were also assured that the school's name and other demographic reports related to the present study would be kept confidential.

Pedagogical Practices: Five basic subjects taught at the secondary level were considered for studying the impact on in-service training drawn from all the secondary and higher secondary school settings. The subject teachers were selected randomly.

Procedure: After a warm relationship was established with each participant, the researcher debriefed about the purpose of the study to the participants. All participants were informed that participation in the present study is voluntary and that the information related to the survey will be kept confidential. For the collection of information, the researcher followed the scientific instructions concerning the manuals of the test materials used in the present study and took each participant's responses for all the test materials used in the present study. The researcher provided a 15-minute rest interval between the test materials during the study. Besides the standard rest interval, the researcher also offered extra time intervals according to the demands of the participants. All the information was collected individually from each participant.

Scoring and Data Analysis: Quantitative data analysis was done by scoring each material that was followed to its respective

manuals. After scoring, the researcher analyzed both the descriptive and inferential statistics. Data analysis for descriptive results was done using Mean and Standard deviation. The data were presented in both tabular and figurative ways of representation. The inferential statistics followed parametric statistics as the data were collected from the participants who were selected randomly from different schools in Delhi, NCR. Comparisons of parameters between the in-service trained and untrained groups were done using the Student's 't' test to see the difference in effectiveness in different dimensions due to the impact of in-service training. The researcher also used Pearson's Product movement correlation to see the relationship between parameters. All the data were analyzed using IBM-SPSS 22.0.

Result

Academic Achievement Motivations of In-Service Trained Teachers: The average mean of the academic achievement motivation of students of In-service trained teachers involved in the present study is (22.67 ± 8.05) . Out of total ($n=200$) students of In-service trained teachers have participated in the present study indicates that 96 (48.00%) students have low academic motivation scores ranges ≤ 25 . 82 (41.00%) student have average academic motivation score ranges between 26 to 32 and 22 (11.00%) students have high academic motivation score ranges ≥ 33 (Table-1).

Table -1: Academic Motivation of Students of In-service Trained Teachers

S. No	Scores	Level of Academic Motivation	Frequency	Percentage
1	≤ 25	Low Academic Motivation	96	48%
2	26-32	Average Academic Motivation	82	41%
3	≥ 33	High Academic Motivation	22	11%
Total			200	100%

Academic Motivation of Students of Teacher without In-service Training: The

average mean score of academic achievement motivation of the student of

Teachers without In-service Training participated in the present study is (14.26 ± 6.05) . Descriptive Results of Parameters academic achievement motivation of Students of Teacher without In-service Training indicates that out of total ($n=200$) students, 114 (57.00%) students

have score ≤ 25 , it means students have low academic motivation. 78 (39.00%) students have score ranging between 26 to 32, it means students have Average academic motivation and at last 8 (4.00%) students have score ≥ 33 , it means students have high academic motivation (Table-2).

Table -2: Academic Motivation of Students of Teacher without In-service Training

S. No	Scores	Level of Academic Motivation	Frequency	Percentage
1	≤ 25	Low Academic Motivation	114	57%
2	26-32	Average Academic Motivation	78	39%
3	≥ 33	High Academic Motivation	8	04%
	Total		200	100%

Student stress of Students of In-service Trained Teachers: The average mean student stress of the student of In-service trained teacher involved in the present study is (8.92 ± 6.77) . The Results of student stress of Students of In-service trained teacher stated that out of total ($n=200$) students, 72 (36.00%) students have score ranges up to 5, it means students have suffered extremely low stress. 48 (24.00%) students have score ranges up to 10, it means students have suffered low stress. 24 (12.00%) students have score ranges 11, it means students have

suffered below average stress. 26 (13.00%) students have score ranging between up to 15, it means students have suffered average stress. 8 (4.00%) students have score ranging between 16 to 20, it means students have suffered above average stress. 16 (8.00%) students have score ranging between 21 to 26, it means students have suffered high stress and 6 (3.00%) students have score ranging between 27 to 33, it means students have suffered extremely high stress (Table-3).

Table -3: Student stress of Students of In-service Trained Teachers

S. No	Score	Level of Stress	Frequency	Percentage
1	≤ 4	Extremely Low Stress	44	22%
2	5		28	14%
Total	Up to 5		72	36%
3	6-8	Low Stress	34	17%
4	9-10		14	7%
Total	Up to 10		48	24%
5	11	Below Average Stress	24	12%
6	12-14	Average Stress	12	6%
7	15		14	7%
Total	Up to 15		26	13%
8	16-20	Above Average Stress	8	4%
9	21-26	High Stress	16	8%
10	27-33	Extremely High Stress	6	3%
Grand Total			200	100%

Student Stress of Students of Teacher without In-service Training: The average mean student stress of the student of Teachers without In-service Training involved in the present study is (19.8 ± 6.65). The Results of student stress of Students of Teacher without In-service Training shows that out of total ($n=200$) students, 20 (10.00%) students have score ranges up to 5, it means students have suffered extremely low stress. 44 (22.00%) students have score ranges up to 10, it means students have suffered low stress. 42 (21.00%) students

have score ranges 11, it means students have suffered below average stress. 68 (34.00%) students have score ranging between up to 15, it means students have suffered average stress. 42 (21.00%) students have score ranging between 16 to 20, it means students have suffered above average stress. 28 (14.00%) students have score ranging between 21 to 26, it means students have suffered high stress and 18 (9.00%) students have score ranging between 27 to 33, it means students have suffered extremely high stress (Table-4).

Table -4: Student Stress of Students of Teacher without In-service Training

S. No	Score	Level of Stress	Frequency	Percentage
1	≤ 4	Extremely Low Stress	6	3%
2	5		14	7%
Total	Up to 5		20	10%
3	6-8	Low Stress	24	12%
4	9-10		20	10%
Total	Up to 10		44	22%
5	11	Below Average Stress	42	21%
6	12-14	Average Stress	32	16%
7	15		36	18%
Total	Up to 15		68	34%
8	16-20	Above Average Stress	42	21%
9	21-26	High Stress	28	14%
10	27-33	Extremely High Stress	18	9%
Grand Total			200	100%

General Anxiety of Students of In-service Trained Teachers: The mean anxiety of the students of in-service trained teachers is (21.84 ± 8.22). In the general anxiety distribution out of total ($n=200$) students of in-service trained teachers, 30 (15.00%) students have suffered very low general anxiety score ranges ≤ 9 . 44 (22.00%)

students have suffered low general anxiety score ranges between 10-17. 104 (52.00%) students have suffered average general anxiety score ranges between 18-32 and 22 (11.00%) students have suffered high general anxiety score ranges between 33-41 participated in the present study (Table-5).

Table -5: General Anxiety of Students of In-service Trained Teachers

S. No	Scores	Level of General Anxiety	Frequency	Percentage
1	≤ 9	Very Low General Anxiety	30	15%
2	10-17	Low General Anxiety	44	22%
3	18-32	Average General Anxiety	104	52%

4	33-41	High General Anxiety	22	11%
5	≥ 42	Very High General Anxiety	0	0%
Total			200	100%

General Anxiety of Students of In-service Trained Teachers: The average general anxiety of the student of Teachers without In-service Training involved in the present study is (26.44 ± 9.86) . The Results of general anxiety of Students of Teacher without In-service Training found that out of total ($n=200$) students, 54 (27.00%) students have score ranging between ≤ 9 , it shows that students have very low General Anxiety. 66 (33.00%) students have score

ranging between 10-17, it shows that students have low General Anxiety. 34 (17.00%) students have score ranging between 18-32, it shows that students have average General Anxiety. 36 (18.00%) students have score ranging between 33-41, it shows that students have very high General Anxiety and, 10 (5.00%) students have score ranging between ≥ 42 , it shows that students have very high General Anxiety (Table-6).

Table -6: General Anxiety of Students of Teacher without In-service Training

S. No	Scores	Level of General Anxiety	Frequency	Percentage
1	≤ 9	Very Low General Anxiety	54	27%
2	10-17	Low General Anxiety	66	33%
3	18-32	Average General Anxiety	34	17%
4	33-41	High General Anxiety	36	18%
5	≥ 42	Very High General Anxiety	10	5%
Total			200	100%

Comparison of Academic Achievement, Student's Stress and General Anxiety between In-Service Trained Teachers and Without Inservice Trained Teachers: The mean score of Academic Achievement Motivation of the Students of In-service Trained Teacher participants is 22.67 ± 8.05 . The mean score of Academic Achievement Motivation of the Students of In-service Untrained Teacher participants is 14.26 ± 6.05 . The result of comparison of Academic Achievement Motivation score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=8.75$, $P=0.000^{**}$). The mean score of Pressure Stress of the Students of In-service Trained Teacher participants is 3.99 ± 2.03 . The mean score of Pressure Stress of the Students of In-service Untrained Teacher participants is 4.56 ± 2.50 . The result of comparison of

Pressure Stress score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=3.28$, $P=0.006^{**}$). The mean score of Physical Stress of the Students of In-service Trained Teacher participants is 1.11 ± 1.11 . The mean score of Physical Stress of the Students of In-service Untrained Teacher participants is 1.88 ± 1.09 . The result of comparison of Physical Stress score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=2.01$, $P=0.047^{*}$). The mean score of Stress related anxiety of the Students of In-service Trained Teacher participants is 2.40 ± 2.59 . The mean score of Stress related anxiety of the Students of In-service Untrained Teacher participants is 3.11 ± 2.14 . The result of comparison of Stress related anxiety score between In-service Trained Teacher and In-

service Untrained teacher indicates a significant difference ($df=398$, $t=5.83$, $P=0.000^{**}$). The mean score of Stress related Frustration of the Students of In-service Trained Teacher participants is 1.36 ± 2.00 . The mean score of Stress related Frustration of the Students of In-service Untrained Teacher participants is 1.85 ± 2.09 . The result of comparison of Stress related Frustration score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=2.98$, $P=0.002^{**}$). The mean score of Total Student Stress of the Students of In-service Trained Teacher participants is 8.92 ± 6.77 . The mean score of Total Student Stress of the Students of In-service

Untrained Teacher participants is 19.88 ± 6.65 . The result of comparison of Total Student Stress score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=12.98$, $P=0.000^{**}$). The mean score of General Anxiety of the Students of In-service Trained Teacher participants is 21.84 ± 8.22 . The mean score of General Anxiety of the Students of In-service Untrained Teacher participants is 26.44 ± 9.86 . The result of comparison of General Anxiety score between In-service Trained Teacher and In-service Untrained teacher indicates a significant difference ($df=398$, $t=19.43$, $P=0.000^{**}$).

Table-7: Comparison of Results of Student Parameters between the Students of In-service Trained and Un-trained Teachers (df-398)

S.No	Parameters	Students Groups	Mean	Standard Deviation	t-Value	P-Value
1	Academic Achievement Motivation	Students of In-Service Trained Teacher	22.67	8.05	8.75	0.000**
		Students of In-Service Un-trained Teacher	14.26	6.05		
2	Pressure Stress	Students of In-Service Trained Teacher	3.99	2.03	3.28	0.006**
		Students of In-Service Un-trained Teacher	4.56	2.50		
3	Physical Stress	Students of In-Service Trained Teacher	1.11	1.11	2.01	0.047*
		Students of In-Service Un-trained Teacher	1.88	1.09		
4	Stress related Anxiety	Students of In-Service Trained Teacher	2.40	2.59	5.83	0.000**
		Students of In-Service Un-trained Teacher	3.11	2.14		
5	Stress related Frustration	Students of In-Service Trained Teacher	1.36	2.00	2.98	0.002**
		Students of In-Service Un-trained Teacher	1.85	2.09		
6	Total Student's Stress	Students of In-Service Trained Teacher	8.92	6.77	12.98	0.000*8
		Students of In-Service Un-trained Teacher	19.88	6.65		

7	General Anxiety	Students of In-Service Trained Teacher	21.84	8.22	19.43	0.000**
		Students of In-Service Un-trained Teacher	26.44	9.86		

DISCUSSION: This study examined the impact of in-service teacher training on students' psychological factors, specifically focusing on academic achievement motivation; Student's Stress and General Anxiety in students taught by in-service trained teachers and Student's taught by teachers without having teacher's training. In this study, the researcher used experimental design with a substantial sample size of N-400 students (200 students of in-service trained teachers and 200 students of teachers without having teachers training) randomly selected from grades nine through twelve. For the collection of information, the researcher used Academic Achievement Motivation Test (AAMT) developed by Dr T.R. Sharma (2005); General Anxiety Scale for Children (GASC) developed by Dr Anil Kumar (2003) and Stress Scale (SS-LVNS) developed by Lakshmi and Narain (2015). The results of the present study revealed that there is a significant difference in academic achievement motivation between students taught by in-service trained teachers and those taught by untrained teachers ($t=8.75$, $p=0.000^{**}$). The mean academic achievement motivation was considerably higher for students taught by trained teachers (22.67 ± 8.05) than those of untrained teachers (14.26 ± 6.05). The distribution analysis presented in Tables-1 and Table-2 further supports this finding. While only 48% of students from trained teachers' classrooms exhibited low academic motivation, this percentage rose to 57% among students of untrained teachers. Furthermore, 11% of students taught by trained teachers demonstrated high academic motivation compared to 4% of students with

untrained teachers. In this context, the study of Deci and Ryan's Self-Determination Theory (1985), suggesting that trained teachers likely create more autonomy-supportive environments that nurture intrinsic motivation. The significant difference in motivation levels indicates that teacher training equips educators with practical strategies to engage students, establish meaningful learning connections, and foster achievement-oriented attitudes.

The comparison of student stress yielded one of the most pronounced differences in this study. Students taught by in-service trained teachers reported significantly lower total stress levels (8.92 ± 6.77) compared to their counterparts taught by untrained teachers (19.88 ± 6.65), with a highly significant t-value of 12.98 ($p=0.000^{**}$). The distribution of stress levels (Tables-3 and Table-4) reveals that 60% of students taught by trained teachers experienced extremely low stress, compared to only 32% of students taught by untrained teachers. Conversely, only 15% of students from trained teachers' classrooms reported above-average to extremely high stress, while this figure was 44% for students of untrained teachers. These findings can be interpreted through Lazarus and Folkman's Transactional Model of Stress and Coping (1984), suggesting that trained teachers may foster more supportive classroom environments and provide students with better stress management resources. The lower stress levels among students of trained teachers indicate that teacher training emphasises creating psychologically safe learning spaces that reduce academic pressure while maintaining educational standards.

The study found that general anxiety levels were significantly lower among students taught by in-service trained teachers (21.84 ± 8.22) compared to students taught by untrained teachers (26.44 ± 9.86), with a *t*-value of 19.43 ($p=0.000^{**}$). Distribution analysis (Table-5 and Table-6) shows that 37% of students taught by trained teachers experienced very low to low general anxiety. In comparison, 60% of students taught by untrained teachers fell into these categories. However, this seemingly contradictory finding requires careful interpretation. A deeper examination of anxiety distribution reveals that 52% of students with trained teachers exhibited average anxiety levels, representing a balanced psychological state conducive to learning. In contrast, only 17% of students with untrained teachers showed average anxiety, with the remaining distribution skewed toward either very low/low (60%) or high/very high anxiety (23%). This polarized pattern suggests less psychological stability among students of untrained teachers. This finding can be understood through Spielberger's Test Anxiety Theory (1980) and Sweller's Cognitive Load Theory (1988). Trained teachers appear better equipped to create learning environments that maintain optimal arousal levels—neither too anxiety-provoking nor understimulating—which facilitates effective learning. The more balanced anxiety distribution among students of trained teachers suggests that these educators can better calibrate classroom challenges to match students' capabilities, consistent with Vygotsky's concept of the Zone of Proximal Development.

Theoretical and Practical Implications:

The findings of this study provide robust support for several prominent educational and psychological theories, with clear implications for both theory and classroom practice. The higher academic achievement

motivation observed among students of in-service trained teachers aligns with Deci and Ryan's (1985) Self-Determination Theory, which emphasises the importance of satisfying students' needs for autonomy, competence, and relatedness.

Trained teachers, through more student-centred and autonomy-supportive approaches, may foster environments where learners feel psychologically safe, valued, and capable—conditions are known to enhance intrinsic motivation. The results also echo the principles of Vygotsky's Sociocultural Theory, as students taught by trained teachers demonstrated more excellent emotional balance and academic engagement, likely due to guided learning and instructional scaffolding that supports students within their Zone of Proximal Development (Vygotsky, 1978).

Additionally, the findings resonate strongly with Sweller's (1988) Cognitive Load Theory and Lazarus and Folkman's (1984) Transactional Model of Stress and Coping. The significantly lower stress levels and more regulated anxiety patterns among students of trained teachers suggest that these educators are better equipped to manage classroom demands in a way that optimizes cognitive processing while mitigating emotional overload.

By organizing content, pacing instruction, and providing emotional support, trained teachers likely reduce extraneous cognitive load and enhance students' ability to cope with academic challenges. These insights underscore the practical value of in-service teacher training, highlighting its potential to improve pedagogical competence and foster emotionally resilient, motivated learners better positioned for academic success.

From a practical standpoint, the results of this study highlight several critical areas for intervention and reform in the education system. First and foremost, the consistent advantages observed among students taught

by in-service trained teachers-particularly in terms of motivation, stress reduction, and balanced anxiety—underscore the urgent need for policy-level changes. Educational policymakers should consider mandating regular, structured in-service training for all teachers, ensuring that professional development becomes an integral and ongoing aspect of the teaching profession.

Expanding access to such training, particularly in underserved and high-need areas, could improve academic and psychological outcomes for students across diverse educational settings. Moreover; these findings should guide the design and content of teacher education and professional development programs. Curricula should include targeted modules on motivation theory, stress management, classroom climate, and emotional regulation strategies, equipping educators with the tools necessary to support students holistically. School administrators, too, play a crucial role in translating teacher training into effective practice. They must foster school environments that empower teachers to implement what they learn—through resource allocation, reduced administrative burdens, and time for lesson planning and collaboration.

Finally, these findings suggest a shift in how educational success is evaluated. Beyond academic performance metrics, assessments should also consider indicators of student psychological well-being, such as stress, anxiety, and motivation levels, which are deeply intertwined with learning and achievement. Such an approach would promote a more comprehensive and human-centered view of educational quality.

Conclusion: This study proves that in-service teacher training is associated with significant positive differences in students' academic motivation, stress levels, and anxiety patterns. The consistent pattern of

results across multiple psychological dimensions underscores the transformative potential of professional development for educators. The findings suggest that teacher training does more than enhance instructional techniques—it fundamentally alters the psychological climate of classrooms in ways that promote student well-being and engagement. In an educational landscape increasingly concerned with academic achievement and student mental health, these results emphasize the critical importance of investing in teacher professional development to create more supportive and effective learning environments.

References

- Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Keyes, T. S., Johnson, D. W., & Beechum, N. O. (2012). *Teaching Adolescents to Become Learners: The Role of Noncognitive Factors in Shaping School Performance--A Critical Literature Review*. Consortium on Chicago School Research. 1313 East 60th Street, Chicago, IL 60637.
- Cece, V., Martinent, G., Guillet-Descas, E., & Lentillon-Kaestner, V. (2022). The predictive role of perceived support from principals and professional identity on teachers' motivation and well-being: A longitudinal study. *International Journal of Environmental Research and Public Health*, 19(11), 6674.
- Asad, Z., & Javed, F. (2023). Exploring the Effectiveness of In-Service Training Programs for Enhancing Teaching Skills of ESL Teachers at Higher Education Level: Teachers

- perceptions and Experiences. *Journal of Arts & Social Sciences*, 10(1), 198-207.
- Yan, Y., & Saguin, K. (2021). Policy capacity matters for capacity development: Comparing teacher in-service training and career advancement in basic education systems of India and China. *International Review of Administrative Sciences*, 87(2), 294-310.
- Sunder, S. (2010). Adverse effects of uniform written reporting standards on accounting practice, education, and research. *Journal of accounting and public policy*, 29(2), 99–114.
- Telhaj, V., & Çaçi, A. (2024). The role of educational psychology in enhancing the learning process and mitigating anxiety. *KNOWLEDGE-International Journal*, 66(2), 229-233.
- Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychological bulletin*, 138(2), 353.
- Wigfield, A., & Cambria, J. (2010). Expectancy-value theory: Retrospective and prospective. In *The decade ahead: Theoretical perspectives on motivation and achievement* (pp. 35–70). Emerald Group Publishing Limited.
- Ryan, R. M., & Deci, E. L. (2024). Self-determination theory. In *Encyclopedia of quality of life and well-being research* (pp. 6229-6235). Cham: Springer International Publishing.
- Kilel, F. (2023). *Influence of students' mental health and school climate on unrest and coping strategies in secondary schools in Kisii county, Kenya* (Doctoral dissertation, Maseno University).
- Spielberger, C. D., & Rickman, R. L. (1988). *Assessment of state and trait anxiety*. Taylor & Francis.
- Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and instruction*, 4(4), 295–312.
- Scott, A. (2012). *Lazarus and Folkman's transactional model of stress and coping*.
- Peibin, Z., Yawen, C., & Nasir, N. S. M. (2023). Comprehensive Analysis and Mutual Influence of Classroom Management, Teacher Efficacy, and Student Behavior. *Jurnal Kesidang*, 8(1), 152-179.
- Bronfenbrenner, U. (2005). Ecological systems theory (1992).
- Jaramillo, J. A. (1996). Vygotsky's sociocultural theory and contributions to the development of constructivist curricula. *Education*, 117(1), 133-141.
- Farrell, T. S. (2012). Novice-service language teacher development: Bridging the gap between preservice and in-service education and development. *Tesol Quarterly*, 46(3), 435-449.
- Byrnes, J. P. (2008). Piaget's cognitive-developmental theory. *Encyclopedia of infant and early childhood development*, 87, 543–552.
- Bandura, A., & Hall, P. (2018). Albert Bandura and social learning theory. *Learning theories for early years*, 78, 35-36.

- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. *Learning Policy Institute*.
- Riske, A. K. (2007). *In-service teacher training: a case study of primary school's untrained teachers in Northern Ghana* (Master's thesis).
- Van Ameringen, M., Mancini, C., & Farvolden, P. (2003). The impact of anxiety disorders on educational achievement. *Journal of anxiety disorders*, 17(5), 561-571.
- Putwain, D. (2007). Researching academic stress and anxiety in students: some methodological considerations. *British Educational Research Journal*, 33(2), 207–219.
- Emmer, E. T., & Stough, L. M. (2003). Classroom management: A critical part of educational psychology, with implications for teacher education. In *Educational psychology* (pp. 103–112). Routledge.
- Iqbal, S., & Ali, A. (2024). Education and professional development: Opportunities and challenges for in-service teachers: a review. *Gomal University Journal of Research*, 40(1), 117-133.
- Greenberg, M. T., Weissberg, R. P., O'Brien, M. U., Zins, J. E., Fredericks, L., Resnik, H., & Elias, M. J. (2003). Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American psychologist*, 58(6-7), 466.

NOTE: The authors have sole responsibility for the originality of the contents of this manuscript.