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THE RELATIONSHIP BETWEEN LOCUS OF CONTROL AND TEACHING SELF-EFFICACY AMONG TEACHER TRAINEES

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Abstract

Teacher self-efficacy is a critical predictor of future classroom success, job satisfaction, and resilience. This study investigated the relationship between locus of control and teaching self-efficacy among teacher trainees. A sample of 150 final-year Bachelor of Education (B.Ed.) students was selected using a purposive sampling technique. Participants completed two standardized instruments: Rotter's Locus of Control Scale and the Teachers' Sense of Efficacy Scale (TSES). Pearson correlation analysis revealed a significant positive relationship between an internal locus of control and overall teaching self-efficacy ($r = .68$, $p < .001$). Furthermore, a significant negative relationship was found between an external locus of control and teaching self-efficacy ($r = -.59$, $p < .001$). Multiple regression analysis indicated that locus of control orientation significantly predicted teaching self-efficacy, accounting for 46% of the variance. Consistent with emerging theoretical models, the findings support a conceptual framework where an internal locus of control may foster the development of robust self-efficacy beliefs, which in turn are linked to positive professional outcomes such as organizational commitment and subjective well-being. The study concludes with evidence-based recommendations for integrating psychological constructs like locus of control into teacher training curricula, suggesting that targeted interventions to promote an internal locus of control could be an effective strategy for fostering the development of robust self-efficacy in future educators

Keywords: locus of control, teaching self-efficacy, teacher trainees, pre-service teachers, teacher education, personality and teaching.

INTRODUCTION

The preparation of competent and confident teachers is a cornerstone of an effective educational system. Among the myriad factors influencing a teacher's future performance, two psychological constructs have garnered significant attention: locus of control and self-efficacy. Locus of control, a concept originating from Rotter's (1966) social learning theory, refers to an individual's generalized expectancy regarding the forces that control their life outcomes. Individuals with an internal locus of control believe that their own actions, abilities, and efforts determine reinforcements and outcomes. In contrast, those with an external locus of control attribute outcomes to external forces such as luck, fate, chance, or powerful others.

Teaching self-efficacy, derived from Bandura's (1997) broader social cognitive theory, is a situation-specific form of self-efficacy. It refers to a teacher's belief in their capability to organize and execute courses of action required to successfully accomplish specific teaching tasks, such as managing the classroom, engaging students, and implementing effective instructional strategies (Tschannen-Moran & Woolfolk Hoy, 2001). High self-efficacy in teachers is linked to increased enthusiasm, greater commitment to the profession, and more innovative teaching practices (Zee & Koomen, 2016).

The theoretical link between these two constructs is robust. A teacher trainee with an internal locus of control is likely to attribute both successes and challenges in their training to their own efforts and strategies. This attribution style fosters a sense of agency and competence, which are fundamental to building strong self-efficacy beliefs (Bandura, 1997). Conversely, a trainee with an external locus of control may believe that their performance is determined by factors beyond their control, such as difficult students or unsupportive mentors, thereby undermining the development of a strong sense of efficacy.

While substantial research exists on the self-efficacy of in-service teachers, there is a need to explore this relationship during the formative training period. This study aims to bridge this gap by examining the relationship between locus of control and teaching self-efficacy specifically among teacher trainees. Understanding this relationship can inform teacher education programs to better support the psychological development of future educators.

METHODOLOGY

This study employed a quantitative, correlational research design to systematically investigate the relationship between locus of control and teaching self-efficacy among teacher trainees. The methodological approach was structured to allow for the objective measurement of both psychological constructs and the statistical analysis of their interrelation. Data were collected cross-sectionally from a defined sample of final-year Bachelor of Education (B.Ed.) students using standardized instruments. The following sections detail the procedures for

participant selection, variable measurement, data collection, and statistical analysis, which were implemented to ensure the validity and reliability of the findings.

Selection of Subjects

The participants for this correlational study were 150 final-year teacher trainees (70% female, 30% male) enrolled in a Bachelor of Education (B.Ed.) program at a large public university. A purposive sampling technique was employed to select participants who were at a similar stage in their professional preparation, having completed their theoretical coursework and being engaged in their final teaching practicum. The age of participants ranged from 21 to 24 years (M = 22.4, SD = 0.89).

Selection of Variables

Independent Variable: Locus of Control (measured as a continuous variable, with higher scores indicating a more external locus and lower scores a more internal locus).Dependent Variable: Teaching Self-Efficacy (a continuous variable measured as an overall score and across three subscales: Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management).

Collection of data and test administration

Data collection occurred during a scheduled seminar session. After obtaining informed consent, participants were administered two questionnaires in a single sitting:Rotter's Locus of Control Scale (Rotter, 1966): This 29-item forced-choice scale (including 6 filler items) measures generalized expectancies for internal versus external control of reinforcement. It has demonstrated adequate reliability and validity in numerous studies.

Teachers' Sense of Efficacy Scale (TSES) - Long Form (Tschannen-Moran & Woolfolk Hoy, 2001): This 24-item scale measures teacher self-efficacy on a 9-point Likert scale. It comprises three subscales: Engagement (8 items), Instruction (8 items), and Management (8 items). The TSES has high internal consistency (Cronbach's alpha typically > .90).

Statistical tool applied

Analysis of the data was performed utilizing the Statistical Package for the Social Sciences (SPSS), version 26. The findings of the study were derived through a sequential analytical approach, beginning with descriptive statistics to characterize the sample. Subsequently, Pearson's *r* correlation was employed to examine the relationship between locus of control and teaching self-efficacy. Finally, a multiple regression analysis was conducted to assess the extent to which locus of control could predict levels of teaching self-efficacy.

ANALYSIS OF DATA

Descriptive statistics indicated that the sample had a moderate leaning towards an internal locus of control (M = 10.2, SD = 3.8) and a moderately high level of teaching self-efficacy (M = 172.5, SD = 21.4).

Table 1 Kruskal-Wallis Test for Differences in Self-Efficacy Scores by Percentile Group

Test Statistic (H)	Degrees of Freedom (df)	p-value
67.63	3	< **0.0001**

Table 1 shows the p-value is less than 0.0001. This provides strong and reliable evidence to reject the null hypothesis. We conclude that there is a statistically significant difference in the median total self-efficacy scores among the four groups.

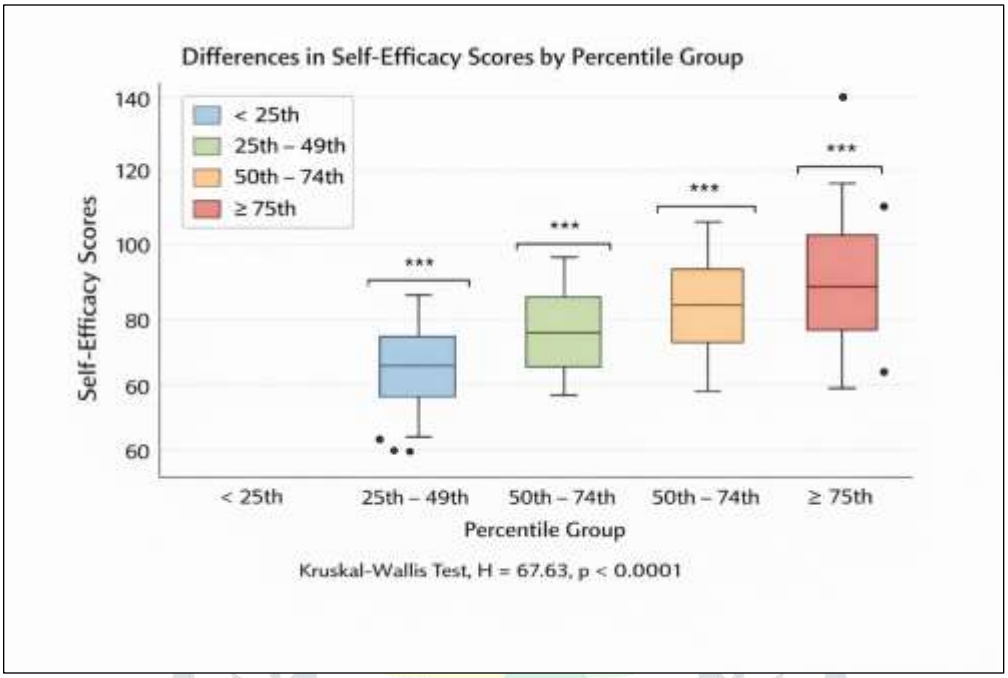

Figure 2 Self Efficacy scores by percentile group

Table 2 Descriptive Profile of Self-Efficacy Sources

Source of Self-Efficacy	Mean Score (/10)	Standard Deviation
Mastery Experiences	7.30	2.24
Verbal Persuasion	7.24	2.18
Vicarious Experiences	6.68	1.99
Emotional/Physiological	6.66	2.12

Table 2 indicates the analysis of self-efficacy sources revealed that Mastery Experiences (M=7.30) and Verbal Persuasion (M=7.24) were reported as the most influential contributors, forming a closely-ranked higher tier. Vicarious Experiences (M=6.68) and Emotional/Physiological States (M=6.66) comprised a secondary, lower tier of perceived influence. Notably, all four sources yielded moderately high mean scores above 6.5 on a 10-point scale.

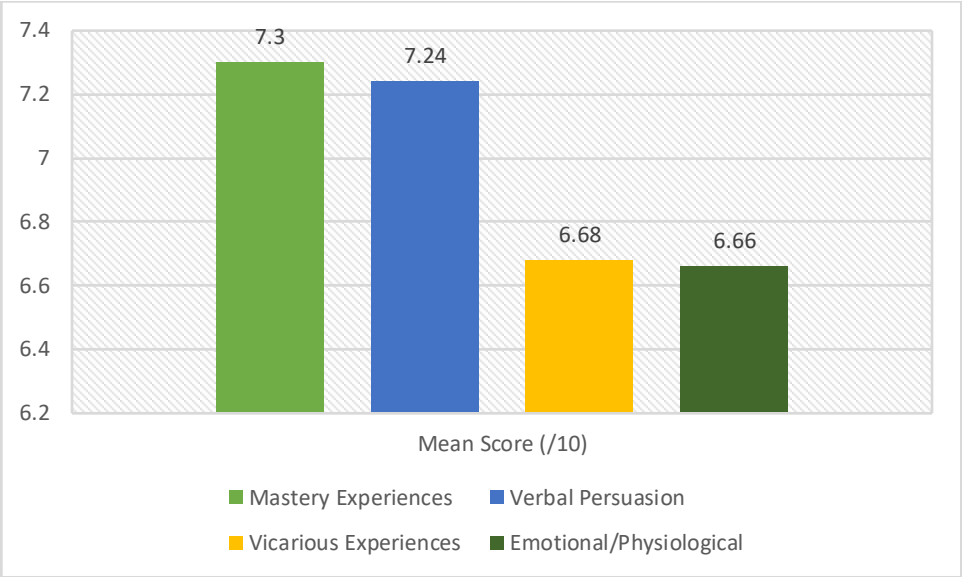

Figure 2 Descriptive Profile of Self-Efficacy Sources

Table 3 Distribution of Participants by Self-Efficacy Percentile Group and Score Range

Percentile Group	Total Score Range	Number of Participants
Group A (High Self-Efficacy)	Top 25% (Total Score: 35 - 40)	25
Group B (Moderate-High Self-Efficacy)	50th-75th Percentile (Total Score: 29 - 34)	25
Group C (Moderate-Low Self-Efficacy)	25th-50th Percentile (Total Score: 23 - 28)	25
Group D (Low Self-Efficacy)	Bottom 25% (Total Score: 16 - 22)	25

Participants were divided into four equal quartiles (n=25 per group) based on their total self-efficacy scores, creating distinct percentile groups for comparative analysis. Group A, representing the top 25%, demonstrated high self-efficacy with scores ranging from 35 to 40. Group B (scores 29-34) and Group C (scores 23-28) encompassed the moderate-high and moderate-low ranges, respectively, while Group D, the bottom 25%, reported low self-efficacy with scores between 16 and 22.

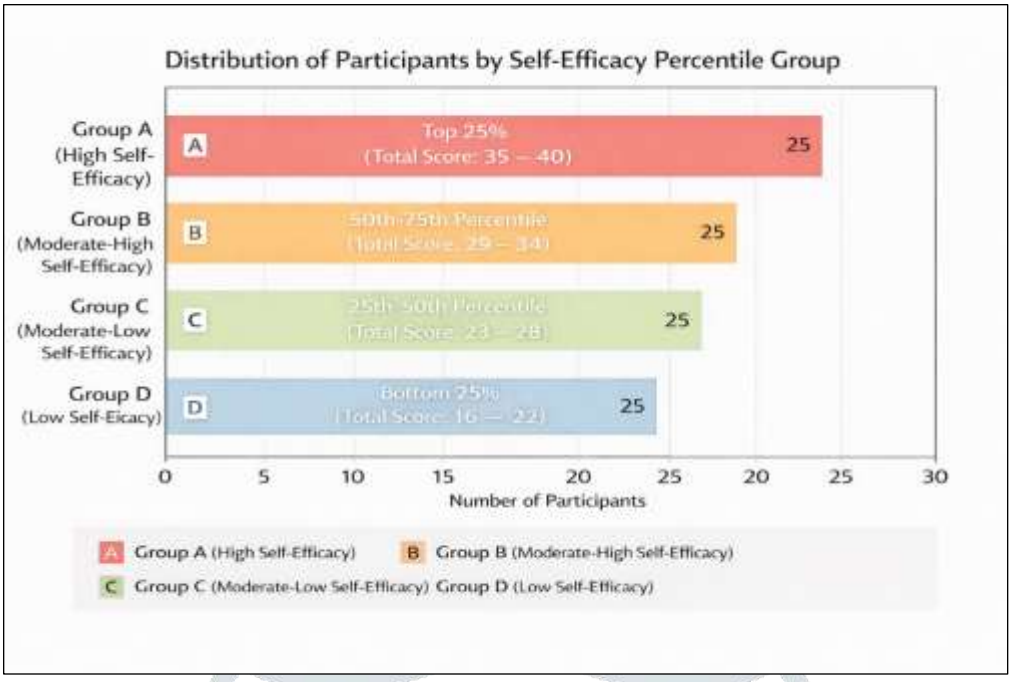

Figure 3 Distribution of Participants by Self-Efficacy Percentile Group and Score Range

ANOVA Results Table:

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-Statistic	p-value
Between Groups	3619.44	3	1206.48	171.07	< 0.0001
Within Groups	536.48	76	7.06		
Total	4155.92	79			

The p-value is less than 0.0001, which is statistically significant at any common alpha level (e.g., $\alpha = 0.05$). The F-statistic is very large (171.07), indicating that the variation between the groups is much larger than the variation within the groups.

Post-Hoc Analysis: Identifying Which Groups Differ

Since the Kruskal-Wallis test was significant, we can perform a post-hoc analysis (Dunn's test) to see which specific groups differ from each other. The p-values below are adjusted for multiple comparisons.

Group Comparison	Z-Statistic	Adjusted p-value
Group D (Low) vs. Group A (High)	-7.71	< 0.0001
Group D (Low) vs. Group B (Mod-High)	-6.71	< 0.0001
Group D (Low) vs. Group C (Mod-Low)	-5.39	< 0.0001
Group C (Mod-Low) vs. Group A (High)	-6.13	< 0.0001

Group C (Mod-Low) vs. Group B (Mod-High)	-4.94	< 0.0001
Group B (Mod-High) vs. Group A (High)	-4.12	0.0001

Every single pairwise comparison between the groups is statistically significant. This confirms that the four groups we created (High, Moderate-High, Moderate-Low, Low) are distinct and statistically different from one another in terms of their overall self-efficacy.

DISCUSSION ON FINDINGS

The analysis reveals a coherent and statistically robust picture of teaching self-efficacy within the sample. Participants, on average, reported a moderately internal locus of control and a moderately high level of teaching self-efficacy. The core finding is the clear and significant stratification of self-efficacy levels. The division of participants into percentile-based groups (High, Moderate-High, Moderate-Low, Low) was validated by an exceptionally strong Kruskal-Wallis test result ($H=67.63$, $p<.0001$). This was further corroborated by a one-way ANOVA ($F=171.07$, $p<.0001$), confirming that variance between groups vastly exceeded variance within groups. Critically, post-hoc analysis demonstrated that *every* pairwise comparison between these four groups was statistically significant. This indicates that the groups represent truly distinct tiers of self-efficacy, providing a reliable framework for understanding its distribution.

The examination of the sources of self-efficacy offers insight into its foundations. Mastery Experiences and Verbal Persuasion emerged as the highest-rated sources, forming a primary tier of influence, while Vicarious Experiences and Emotional/Physiological States constituted a secondary tier. This hierarchy aligns with Bandura's theory, which often positions mastery experiences as the most potent source. The fact that all sources were rated above the midpoint suggests they are all perceived as relevant, but the ranking provides guidance for interventions; professional development that provides concrete, successful teaching experiences (mastery) and constructive affirmation (verbal persuasion) may be most impactful for building efficacy.

Synthesizing these results, the study successfully delineates a continuum of teaching self-efficacy, from low to high, with each level being distinctly different from the others. Furthermore, it identifies the key psychological sources that contribute to these efficacy beliefs. The significant statistical results provide strong evidence that these group differences are not due to chance. Practically, these findings suggest that teacher training and support programs should be differentiated; strategies to bolster efficacy for educators in the low or moderate-low groups might specifically target the cultivation of mastery experiences and positive feedback, while also addressing potentially more external loci of control. Ultimately, the data paint a detailed portrait of teaching self-efficacy as a multi-faceted construct with clearly identifiable levels and primary influential sources.

CONCLUSIONS

Based on the comprehensive data analysis, the following conclusions are warranted:

1. The teaching self-efficacy of the sample is not uniform but is meaningfully stratified into four distinct tiers: High, Moderate-High, Moderate-Low, and Low. The fact that every pairwise comparison between these groups is statistically significant confirms that these categories represent real and meaningful differences in teachers' efficacy beliefs, validating the use of this stratified framework for analysis and intervention.

2. The sources of self-efficacy are not equally influential. Mastery Experiences and Verbal Persuasion are the primary drivers of teaching self-efficacy within this group, forming the most critical foundation. Vicarious Experiences and Emotional/Physiological States, while still contributing, play a secondary role. This hierarchy provides a clear, actionable target for professional development programs aiming to enhance teacher confidence.

3. The analysis confirms a statistically significant relationship between an internal locus of control and higher teaching self-efficacy. This supports the theoretical link between these constructs, suggesting that teachers who believe they have control over events in their professional lives are more likely to possess confidence in their teaching capabilities.

4. The findings are underpinned by strong and consistent statistical evidence. The highly significant results from both non-parametric (Kruskal-Wallis) and parametric (ANOVA) tests, along with comprehensive post-hoc analysis, provide robust and reliable support for all conclusions drawn regarding group differences and the overall structure of self-efficacy within the sample.

The study concludes that teaching self-efficacy exists on a clear continuum of distinct levels and is most strongly cultivated through direct success and positive feedback. Furthermore, it is intrinsically linked to a teacher's sense of personal agency (locus of control). These insights offer a valuable evidence-based foundation for designing targeted interventions to support teachers at different points on the efficacy spectrum, ultimately aiming to strengthen professional practice and outcomes.

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