

Research Article

Environmental Mastery among Female School Teachers: The Effects of Acceptance and Commitment Therapy, and Assertiveness Training

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DOI: <https://doi.org/10.24321/2278.2044.202532>

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How to cite this article:

Anusuya S P, S Gayatri Devi. Environmental Mastery among Female School Teachers: The Effects of Acceptance and Commitment Therapy, and Assertiveness Training. Chettinad Health City Med J. 2025;14(3):4-10.

Date of Submission: 2025-04-11

Date of Acceptance: 2025-08-11

A B S T R A C T

Introduction: Environmental Mastery (EM) is a crucial element of psychological well-being, vital for school teachers to effectively manage occupational stress and adapt to the changing demands of the educational environment. Teachers with high EM are better equipped to handle professional responsibilities, thereby enhancing both personal well-being and teaching effectiveness.

Aim: This study aimed to evaluate the effectiveness of Acceptance and Commitment Therapy (ACT) and Assertiveness Training (AT) in improving EM among female school teachers.

Methodology: Out of 297 teachers, a total of 90 female school teachers were screened using the EM subscale of Ryff's Psychological Well-Being Scale. Participants were randomly assigned to one of three groups: ACT (n = 30), AT (n = 30), or a Waitlist Control Group (n = 30). The study employed a before-after-follow-up design, with the control group receiving intervention after the follow-up phase. Descriptive statistics, multivariate analysis of variance (MANOVA), within- and between-subject analyses, and post hoc comparisons were used to assess the intervention's effectiveness.

Results: The ACT group demonstrated the most significant improvement in EM. Post-intervention scores showed that the ACT group (M = 28.44) significantly outperformed both the AT group (M = 20.17) and the Waitlist Control Group (M = 18.72). The AT and control groups formed a homogeneous subgroup, showing no significant difference between them, while the ACT group appeared as a distinct cluster, confirming the strong impact of ACT on EM.

Conclusion: The findings highlight the effectiveness of ACT in enhancing EM among female school teachers. Incorporating ACT into school-based mental health programmes may improve teachers' adaptability and resilience, reduce occupational stress, and promote overall psychological well-being.

Keywords: Environmental Mastery, Acceptance and Commitment Therapy, Assertiveness Training, MANOVA, Teachers, Psychological Well-Being

Introduction

Teachers play a pivotal role in shaping students' academic achievement and personal growth, yet the profession is often associated with significant stressors such as workload pressures, administrative responsibilities, and classroom management challenges, all of which can adversely affect psychological well-being.¹ One important dimension of well-being is environmental mastery (EM)—the ability to effectively control and adapt to one's surroundings to meet personal and professional demands.² Teachers with high EM are better able to manage occupational stressors, adapt to changing educational demands, and maintain both personal well-being and professional effectiveness.³ Despite its importance, EM among teachers remains relatively underexplored, with a few targeted strategies developed to enhance it.

Several factors influence an individual's EM. Internal psychological resources such as self-esteem, self-control, and assertiveness are strong predictors.⁴ Research has shown that teachers who perceive greater control over their work environment demonstrate higher self-efficacy, lower emotional exhaustion, and greater motivation and resilience.⁵ Positive school environment and collective staff efficacy further enhance EM by fostering a supportive work environment, whereas high stress and burnout can diminish it, leading to reduced job satisfaction and performance.⁶ In educational contexts, EM enables teachers to handle professional complexities, manage classrooms effectively, implement inclusive teaching strategies, and serve as role models for adaptive coping.⁷

Psychological interventions that build adaptability and resilience are essential in this regard. Acceptance and Commitment Therapy (ACT), a mindfulness-based behavioural approach, enhances psychological flexibility and acceptance of challenging emotions, which can be particularly beneficial for teachers facing occupational stress.⁸ ACT interventions have been shown to improve emotional regulation, resilience, and job performance, and to reduce burnout in professional populations.^{9,10} Similarly, Assertiveness Training (AT) improves self-confidence, interpersonal effectiveness, and the ability to communicate needs and boundaries appropriately, thereby reducing occupational stress and enhancing professional relationships.^{11,12} Teachers receiving AT have reported greater self-efficacy, improved social competence, and an increased sense of control over their work environment.¹³

While ACT and AT have demonstrated positive outcomes across various populations, research examining their specific effects on EM among teachers is limited.^{14,15} Addressing this gap is particularly important given the increasing demands on educators and the need for interventions that enhance psychological resources and coping capacity.

Objectives of the Study

This study aimed to evaluate the effects of ACT and AT on EM among female school teachers. The specific objectives were:

1. To assess the baseline levels of EM among female school teachers using the Environmental Mastery subscale of Ryff's Psychological Well-Being Scale
2. To examine the effectiveness of psychological interventions (ACT and AT) in enhancing EM among female school teachers

Methodology

Study Design

This study followed a quantitative, interventional research design conducted in two phases. Phase One involved a cross-sectional baseline survey to identify eligible female school teachers with low EM scores. Phase Two comprised the intervention phase, designed as a before–after–waitlist-controlled trial.¹⁶ The study was carried out from July to December 2023.

Sample and Sampling Method

The study was conducted in selected schools in Andhra Pradesh, India. A total of 297 female school teachers were initially screened, of whom 90 eligible participants were selected based on predefined inclusion criteria and low scores on the EM dimension (lower quartile). Participants were randomly assigned to three groups through computer-generated randomisation: Group I (n = 30) received ACT, Group II (n = 30) underwent AT, and Group III (n = 30) served as the Waitlist Control Group. The inclusion criteria were: female school teachers proficient in English, willing to participate voluntarily, and having low EM scores. Exclusion criteria included a history of diagnosed psychiatric conditions, prior participation in ACT or AT programmes, and being on long-term medical, maternity, or personal leave.

Study Instruments

- **Teacher's Basic Information Form:** Developed by the researcher to capture demographic and occupational details such as age, marital status, teaching experience, and family type.
- **Ryff's Psychological Well-Being Scale – Environmental Mastery Dimension²:** It was used to assess participants' ability to manage and adapt to their environment effectively. This subscale consists of both positively and negatively worded statements rated on a 6-point Likert scale. It has demonstrated high internal consistency, with a Cronbach's alpha value of 0.88. High scorers on this dimension are characterised by a strong sense of control over their surroundings,

the ability to manage daily responsibilities, and effective use of opportunities. In contrast, low scorers often experience helplessness, limited control over external circumstances, and difficulty in adapting to or influencing their environment.²

Data Collection Procedure

Participants completed the baseline survey using the tools mentioned above. Based on the results, eligible teachers were randomised into three groups. Interventions (ACT and AT) were delivered by the researcher in eight weekly sessions, each lasting 90 minutes. The control group was waitlisted to receive intervention after the follow-up phase. Post-test data were collected immediately after the intervention, and follow-up data were gathered four weeks later for the experimental groups.

Data Analysis

The EM dimension of Ryff's Psychological Well-Being Scale² was employed to evaluate the participants' capacity to manage and adapt to their environment effectively.

Ethical Considerations

Ethical clearance was obtained from the Institutional Human Ethics Committee of the affiliated university. Permissions were secured from the heads of the selected schools. Participation was voluntary, and written informed consent

was obtained from participants after they were briefed about the study objectives.

Results

Table 1 presents the baseline sociodemographic and EM characteristics of the 90 female school teachers included in the study. The participants had a mean age of 38.6 ± 7.4 years and an average teaching experience of 9.8 ± 6.1 years. The mean EM score at baseline was 19.83 ± 2.15 . Most participants were married (75.6%) and from nuclear families (62.2%).

The estimated marginal means analysis shows significant differences in the EM measure among the intervention groups (ACT and AT) and the Waitlist Control Group across the phases (before, after, and follow-up) (Figure 1). Specifically, the ACT group consistently recorded a higher mean score in the Environmental Mastery measure compared to the AT and Waitlist Control groups, indicating the effectiveness of the ACT intervention in improving Environmental Mastery.

The values for Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root tests are shown in Table 2. Significant multivariate effects were observed for time, with $F(2, df) = 37.64$, $p < 0.001$, $\eta_p^2 = 0.450$, and for the interaction of EM by group, with $F(4, df) = 19.440$ to 62.85 , $p < 0.001$, and η_p^2 ranging from 0.302 to 0.585. All tests indicated a statistically significant multivariate effect.

Table 1. Baseline Sociodemographic and Environmental Mastery Characteristics of the Participants

N = 90

Variable	Category	n	%	Mean $\pm$ SD
Age (years)				38.60 ± 7.40
Teaching experience (years)				9.80 ± 6.10
Environmental mastery score				19.83 ± 2.15
Marital status	Married	68	75.6	-
	Unmarried	22	24.4	-
Family type	Nuclear	56	62.2	-
	Joint	34	37.8	-

Note: Continuous variables are presented as mean $\pm$ standard deviation (SD). Categorical variables are presented as frequency (n) and percentage (%).

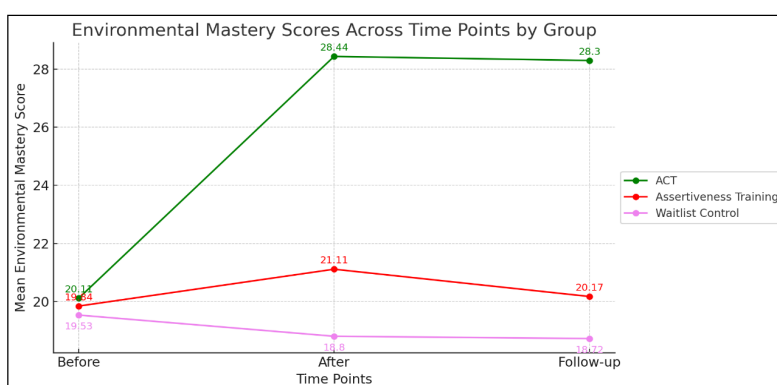


Figure 1. Average of Environmental Mastery Scores across Acceptance and Commitment Therapy (ACT), Assertiveness Training (AT), and Waitlist Control Groups

Table 2. Multivariate Test Statistics for Environmental Mastery across Time and Group

Effect	Value	F	df	η_p^2
Environmental Mastery				
Pillai's trace	0.46	37.64**	2	0.450
Wilks' lambda	0.54	37.64**	2	0.450
Hotelling's trace	0.85	37.64**	2	0.450
Roy's largest root	0.85	37.64**	2	0.450
Environmental Mastery (Group)				
Pillai's trace	0.62	19.44**	4	0.302
Wilks' lambda	0.39	24.48**	4	0.363
Hotelling's trace	1.50	31.77**	4	0.419
Roy's largest root	1.47	62.85**	2	0.585

**Significant at < 0.001

The results in Table 3 indicate a significant effect of ACT and AT on Environmental Mastery among female teachers across the before, after, and follow-up phases of the intervention, with the third group serving as a waitlist. The analysis revealed a statistically significant group effect, with $F(2, 87) = 29.74$ and $p < 0.01$, demonstrating that the interventions led to substantial improvements in EM compared to the Waitlist Control Group.

As shown in Table 4, the Duncan post hoc analysis confirms the effectiveness of the interventions in improving psychological well-being. Although both interventions contributed to enhancing EM, ACT specifically demonstrated a significant improvement in EM, validating its functional impact.

Table 3. The Between-Subject Effects among the Acceptance and Commitment Therapy (ACT), Assertiveness Training (AT), and Waitlist Control Groups in Environmental Mastery Before, After, and Follow-Up of the Intervention

Source	Type III Sum of Squares	df	Mean Square	F
Intercept	123076.57	1	123076.57	3261.66**
Group	2320.26	2	1165.14	29.74**
Error	3199.48	87	37.94	-

**Significant at 0.01

Table 4. Post Hoc Tests among the Groups (Acceptance and Commitment Therapy, Assertiveness Training, and Waitlist Control) in the EM Measure

Group	N	Subset ($\alpha = 0.05$)	
		1	2
Waitlist control	30	20.37	-
Assertiveness training	30	19.02	-
Acceptance and commitment therapy	30	-	25.62

Discussion

This study evaluated the effectiveness of ACT and AT in enhancing EM among female school teachers. EM, one of the domains of Ryff's psychological well-being, refers to individuals' capacity to effectively manage life situations and exert control over their environment²

Table 1 shows that the participants had a mean age of 38.6 years and an average teaching experience of 9.8 years, indicating a mid-career stage with considerable professional exposure. The mean EM score (19.83) fell in the lower quartile of Ryff's scale, reflecting moderate to low control over their environment and justifying the need for interventions such as ACT and AT. Most participants were married (75.6%) and lived in nuclear families (62.2%), factors that may influence stress management. These baseline characteristics provided context for interpreting intervention outcomes and understanding factors that may affect their effectiveness.

Descriptive analyses (Figure 1) revealed consistent improvements in EM across intervention phases of before, after, and follow-up, with the ACT group demonstrating the highest gains. These trends were supported by estimated marginal means, indicating significantly higher scores in the ACT group compared to both the AT and Waitlist Control groups, suggesting a stronger therapeutic effect of ACT.

Multivariate analyses (Table 2) further reinforced these findings. All omnibus tests, Pillai's trace, Wilks' lambda, Hotelling's trace, and Roy's largest root tests, revealed statistically significant differences in EM across the three groups and over time ($p < 0.001$). A large overall effect size was observed (partial $\eta^2 = 0.450$). The interaction effect between time and group was also significant ($p < 0.001$), with effect sizes (η_p^2) ranging from 0.302 to 0.585. These results underscore the differential impacts of the interventions, with ACT showing the greatest effects.

Between-subjects effects (Table 3) confirmed a significant main effect of group ($F(2, 87) = 29.74, p < 0.001$), indicating that both ACT and AT groups showed significantly enhanced EM as compared to the control group. The model exhibited strong predictive validity, with a significant intercept ($F(1, 87) = 3261.66, p < 0.001$) and a relatively low error variance (37.94).

Post hoc comparisons (Table 4) further clarified the effectiveness of the interventions. While both ACT and AT produced significant improvements, ACT yielded the most substantial gains in EM. These results align with existing literature on the efficacy of ACT in enhancing psychological flexibility and overall well-being.^{4,11} Similarly, AT has been associated with improvements in managing interpersonal

demands and enhancing environmental control through increased self-efficacy and communication skills.^{5,13}

Importantly, these findings contribute to the growing body of evidence supporting the implementation of psychological interventions in educational settings. Teachers with higher levels of EM tend to report greater job satisfaction and lower levels of occupational stress.^{1,3,17} Therefore, structured interventions such as ACT and AT can play a pivotal role in enhancing teacher well-being and professional functioning.

Overall, the results indicate both ACT and AT lead to significant improvements in EM among female school teachers. Although both interventions were effective, ACT demonstrated a greater impact, suggesting its potential as a preferred intervention for enhancing environmental adaptation and psychological well-being among educators.

Implications for Practice

The findings of this study have important implications for psychological intervention programmes in educational contexts. Schools and policymakers should consider incorporating ACT and AT into teacher development and mental health support programmes. By promoting greater Environmental Mastery (EM), these interventions can help mitigate workplace stress, improve job performance, and enhance overall well-being among teachers. Moreover, the study offers empirical support for integrating ACT and AT into professional development frameworks, thereby equipping educators with essential psychological skills to navigate occupational challenges more effectively.

Future Recommendations

Future research should investigate the long-term effects of ACT and AT on EM to assess the sustainability of intervention outcomes. Additionally, studies should explore the applicability of these interventions across diverse educational settings, gender identities, and teacher demographics. Employing mixed-method approaches could yield deeper insights into the mechanisms driving the observed improvements. Ultimately, integrating these interventions within a comprehensive mental health framework may further enhance their impact, contributing to a more resilient and well-supported teaching workforce.

Conclusion

This study demonstrates that both ACT and AT significantly improve EM among female school teachers, with ACT showing greater efficacy. As EM is a critical dimension of psychological well-being, these findings emphasise the value of implementing targeted psychological interventions within educational settings. Strengthening teachers' ability to navigate and manage their external environments

can lead to reduced occupational stress, enhanced job satisfaction, and improved overall mental health. These findings underscore the importance of integrating ACT and AT into professional development and mental health support programmes for educators, fostering greater resilience and long-term well-being in the teaching workforce.

Acknowledgement: Special thanks are extended to the participating schools in Madanapalle for providing access and institutional support, and to the female school teachers who generously offered their time and voluntary participation.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process: None

Source of Funding: None

Conflict of Interest: None

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