# Investigating the Effects of Emotion Regulation-Based Educational Intervention on Psychological Resilience Among Spouses of Veterans Hospitalized at EbneSina Psychiatric Hospital

**Abstract:**

**Aims:** This quasi-experimental study examined the efficacy of an emotion regulation-based educational intervention in enhancing psychological resilience among spouses of veterans hospitalized at EbneSina Psychiatric Hospital.

**Methods:** Forty participants were randomly assigned to experimental (n=20) and control (n=20) groups. The experimental group underwent eight 90-minute emotion regulation training sessions twice weekly, incorporating Gross's and Lazarus's models, while controls received no intervention. Psychological resilience was assessed using the Connor-Davidson Resilience Scale (CD-RISC) at pretest and posttest. Data were analyzed via ANCOVA using SPSS-26.

**Findings:** Posttest resilience scores significantly increased in the experimental group (72.6±7.8) compared to controls (57.3±8.9) ($p<0.001$). All CD-RISC subscales—tolerance of negative emotions, trust in instincts, acceptance of change, control, and spiritual influences—showed statistically significant improvements ($p<0.001$ for all), with large effect sizes (Cohen's d=1.35–1.82).

**Conclusion:** Structured emotion regulation training effectively enhances psychological resilience in veterans' spouses. Integrating such interventions into mental health programs for veterans' families is recommended to mitigate caregiving-related stress

**Keywords:** Psychological Resilience، Veterans، Emotion Regulation ،Mental Health

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## Introduction

In recent years, attention to the mental health of veterans' families, particularly their spouses, has emerged as a priority in the country's psychosocial health system(1). Spouses of psychiatric veterans face severe psychological stressors due to multiple factors(2). The complex conditions of veterans with psychiatric disorders—including severe symptoms(3), recurrent hospitalizations(4), and long-term care challenges—impose additional burdens on their spouses(5), potentially leading to psychological burnout(6), reduced quality of life (7), and impaired familial and social functioning(8). Psychological resilience has been identified as a key protective factor that can help these individuals cope with such adversities(9).

Psychological resilience is the ability to adapt and recover from difficult experiences. It develops through a combination of mental, emotional, and social processes(4). When people face challenges, how they think about the situation plays a key role—those who see problems as solvable (rather than overwhelming) and take practical steps to address them tend to cope better(10). Resilience isn't a rare trait; it grows from everyday skills like managing emotions, seeking support from others, and adapting to change(11). On a biological level, the brain's ability to rewire itself helps people regulate stress and emotions more effectively over time. Another

important factor is how individuals handle their emotions—those who reframe difficulties in a more constructive way (rather than suppressing feelings) generally show greater resilience(12). Cultural background also shapes resilience. In some communities, resilience is tied to close-knit relationships and shared values, while in others, it may depend more on personal independence. For those in demanding roles (like caregivers), finding meaning in their responsibilities can strengthen resilience(13). Interestingly, going through tough times can sometimes lead to positive changes, such as deeper relationships or a stronger sense of purpose.

Emotion regulation—how people manage their emotional responses—is closely linked to resilience. Healthy strategies include choosing less stressful situations when possible, shifting focus away from negative thoughts, and reframing problems in a more balanced way(14). In contrast, avoiding emotions or dwelling excessively on distress tends to backfire. Brain research shows that balancing emotional reactions with rational thinking supports better adjustment. Across cultures, emotion regulation may look different—some emphasize harmony with others, while others prioritize self-control(15).

Emotion regulation plays a pivotal role in enhancing psychological resilience, enabling individuals to better adapt to life's stressors and challenges. By effectively managing emotional responses, people can navigate difficult circumstances with greater flexibility and maintain mental well-being even under pressure(16).Adaptive strategies such as cognitive reappraisal—reframing negative experiences in a more constructive light—and acceptance—acknowledging emotions without judgment—help individuals process adversity in healthier ways(17). These approaches reduce the intensity of distress while preserving energy for problem-solving(18). For example, viewing a job loss as an opportunity for growth rather than a personal failure can foster motivation rather than despair. Similarly, accepting feelings of grief after a loss, rather than resisting them, allows for natural emotional processing and eventual recovery. In contrast, maladaptive strategies like rumination—excessively dwelling on negative thoughts—and emotional suppression—pushing away uncomfortable feelings—not only undermine resilience but can also exacerbate psychological distress(19). Rumination traps individuals in cycles of negativity, while suppression often leads to emotional "leakage" or physical symptoms like tension and fatigue. Over time, these patterns may contribute to anxiety, depression, or burnout(20). Given these findings, strengthening emotion regulation skills can serve as a powerful protective factor. Techniques like mindfulness training, cognitive-behavioral strategies, and stress inoculation exercises help build this capacity. For those facing chronic stress (e.g., healthcare workers) or trauma (e.g., survivors of conflict), such training can buffer against long-term psychological harm(21). Ultimately, cultivating these skills empowers individuals to transform adversity into growth, enhancing resilience across the lifespan.

However, clinical observations and informal reports suggest that many veterans' spouses lack the necessary skills to effectively manage these challenges(10). This deficiency may stem from various factors, including limited access to specialized support programs, insufficient knowledge of emotion regulation strategies, and the absence of comprehensive care systems tailored to this specific population(22). While numerous studies have examined the psychological difficulties faced by veterans themselves, few have addressed the psychosocial needs of their spouses,

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particularly in the context of psychiatric hospitalization. This research gap has hindered the development of effective interventions(23-26).

Furthermore, research indicates that psychological resilience—as a dynamic and trainable factor—can play a decisive role in how veterans' spouses adapt to challenging circumstances(11, 27). Resilience not only helps them withstand the pressures associated with caring for psychiatric veterans but can also foster personal growth and improve their psychosocial functioning(28). However, the lack of systematic programs to enhance resilience in this population, particularly during their spouses' hospitalization, remains a critical gap(29). Existing studies in this field have primarily focused on identifying risk factors, with limited attention given to developing practical interventions to strengthen coping capacities(30). Yet, cultivating resilience through skills such as problem-solving, cognitive flexibility, and emotion regulation could significantly mitigate the adverse effects of chronic stress(31). Addressing this research gap would not only deepen our understanding of resilience mechanisms in veterans' spouses but also provide actionable strategies to support them within mental health care systems.

The central question is: How can we assist spouses of veterans hospitalized in psychiatric facilities to enhance their resilience in coping with stress? Can structured educational interventions, such as emotion regulation or stress management training, improve their psychological coping abilities? **This study aimed to investigate the efficacy of a structured emotion regulation intervention in enhancing psychological resilience among spouses of veterans hospitalized at EbneSina Psychiatric Hospital.** Addressing these questions would not only fill the existing gap in the literature but also facilitate the design of targeted support programs for this vulnerable group. Given the pivotal role of family in the recovery process of psychiatric patients, improving resilience among veterans' spouses could directly enhance caregiving quality and, ultimately, treatment outcomes. Focusing on this critical need, the present study evaluates the efficacy of an educational intervention in boosting psychological resilience among spouses of veterans hospitalized at EbneSina Psychiatric Hospital. The findings may provide a scientific foundation for expanding psychosocial services in affiliated treatment centers under the Foundation of Martyrs and Veterans Affairs, advancing mental health equity for veterans' families.

## Materials and Methods

The present study employed a quasi-experimental design with pretest-posttest control group. The study population consisted of all spouses of veterans hospitalized at EbneSina Psychiatric Hospital during the research period. **From this population, 40 participants were selected through convenience sampling based on inclusion and exclusion criteria, with 20 participants randomly assigned to each group using a random number table. The sample size of 40 (20 per group) was determined based on similar intervention studies in clinical populations showing medium effect sizes (Cohen's d = 0.5-0.8), with α=0.05 and power=0.80, as calculated using GPower software.** Inclusion criteria comprised: willingness to participate in the study, minimum literacy skills, not receiving concurrent psychotherapy, and absence of severe psychiatric

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disorders. Exclusion criteria included: missing more than two intervention sessions, failure to complete questionnaires, and voluntary withdrawal during the study.

**The Connor-Davidson Resilience Scale (CD-RISC) is a standardized questionnaire that contains** 25 items across five subscales (tolerance of negative emotions, trust in personal instincts, positive acceptance of change, control, and spiritual influences), **rated** on a Likert scale from 0 (completely false) to 4 (completely true). The validity and reliability of this questionnaire have been confirmed in numerous domestic and international studies. In the current research, the questionnaire's reliability was calculated using Cronbach's alpha coefficient ($\alpha$=0.89), indicating appropriate instrument reliability.

The educational intervention protocol consisted of eight 90-minute group sessions conducted twice weekly for the experimental group. Session content was designed based on a combined model of Gross's emotion regulation and Lazarus's coping skills, covering the following topics: introduction to resilience concepts and contributing factors, emotion identification and regulation skills, stress management techniques, problem-solving strategies, flexible thinking enhancement, effective communication skills, and strengthening support systems. Each session included educational presentations, practical exercises, group discussions, and homework assignments. Meanwhile, the control group received no intervention and remained on a waiting list.

Data analysis employed both descriptive and inferential statistical methods. Descriptive statistics calculated mean and standard deviation measures. **For inferential statistics, the Kolmogorov-Smirnov test first confirmed data normality (all $p>0.05$), and Levene's test verified homogeneity of variance ($F=1.15$, $p=0.29$).** Given the parametric nature of the data, analysis of covariance (ANCOVA) was then used to compare posttest scores between groups while controlling for pretest effects, **with effect sizes reported as partial eta squared ($\eta^2$).** All analyses were performed using SPSS version 26 at a 0.05 significance level. Ethical considerations included obtaining informed consent, maintaining confidentiality, and allowing voluntary withdrawal at any stage, with approval from the university ethics committee.

## Results

The experimental and control groups were homogeneous in terms of demographic characteristics (all $p>0.05$). **Table 1** shows the complete demographic characteristics of participants.

**Table 1: Frequency distribution of demographic characteristics of participants in experimental and control groups**

| Characteristic | Experimental Group (n=20) | Control Group (n=20) | Statistical Test | p-value |
|---|---|---|---|---|
| Mean Age (years) | 42.3 ± 5.7 | 43.1 ± 6.2 | t=0.45 | 0.654 |
| Duration of Spouse's Hospitalization (months) | 3.2 ± 1.5 | 3.5 ± 1.7 | t=0.61 | 0.546 |

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|---|---|---|---|---|
| Number of Children | 2.1 ± 0.8 | 2.3 ± 0.9 | t=0.76 | 0.452 |
| History of Chronic Disease | 5 (25%) | 6 (30%) | $\chi^2$=0.13 | 0.717 |
| History of Psychotherapy | 3 (15%) | 4 (20%) | $\chi^2$=0.19 | 0.663 |

**Table 2** shows that there were no significant differences between the two groups in resilience scores and its subscales at pretest (all p>0.05). Effect sizes were also small (d=0.12-0.16), indicating initial group homogeneity.

**Table 2: Comparison of pretest scores for psychological resilience and its subscales between experimental and control groups**

| Variable | Experimental Group | Control Group | Independent t-test | p-value | Effect Size (Cohen's d) |
|---|---|---|---|---|---|
| Total Resilience | 58.4 ± 8.7 | 56.9 ± 9.2 | t=0.51 | 0.612 | 0.16 |
| Tolerance of Negative Emotions | 12.1 ± 2.3 | 11.8 ± 2.5 | t=0.38 | 0.705 | 0.12 |
| Trust in Personal Instincts | 10.5 ± 1.9 | 10.2 ± 2.1 | t=0.49 | 0.627 | 0.15 |
| Positive Acceptance of Change | 11.7 ± 2.1 | 11.4 ± 2.3 | t=0.43 | 0.670 | 0.14 |
| Control | 13.2 ± 2.4 | 12.9 ± 2.6 | t=0.37 | 0.714 | 0.12 |
| Spiritual Influences | 10.9 ± 1.8 | 10.6 ± 2.0 | t=0.52 | 0.607 | 0.16 |

The educational intervention significantly improved all resilience subscales (p<0.001), with the experimental group showing a 25% increase in total resilience (d=1.82), particularly in tolerance of negative affect (d=1.71) and trust in personal instincts (d=1.68), while all subscales demonstrated large effect sizes (d=1.35-1.82).

**Table 3: Comparison of posttest scores for psychological resilience and its subscales between experimental and control groups**

| Variable | Experimental Group | Control Group | Independent t-test | p-value | Effect Size (Cohen's d) |
|---|---|---|---|---|---|
| Total Resilience | 72.6 ± 7.8 | 57.3 ± 8.9 | t=6.12 | <0.001 | 1.82 |
| Tolerance of Negative Emotions | 15.8 ± 2.1 | 11.9 ± 2.4 | t=5.67 | <0.001 | 1.71 |
| Trust in Personal Instincts | 13.4 ± 1.7 | 10.3 ± 2.0 | t=5.43 | <0.001 | 1.68 |

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|---|---|---|---|---|---|
| Positive Acceptance of Change | 14.2 ± 1.9 | 11.5 ± 2.2 | t=4.89 | <0.001 | 1.35 |
| Control | 15.9 ± 2.0 | 12.8 ± 2.5 | t=4.75 | <0.001 | 1.41 |
| Spiritual Influences | 13.3 ± 1.6 | 10.8 ± 1.9 | t=4.92 | <0.001 | 1.45 |

## Discussion

The results of this study demonstrated that the designed educational intervention had a significant effect on increasing psychological resilience and all its subscales in the experimental group. Examination of the total resilience score revealed that the experimental group showed remarkable improvement with a mean of 72.6 (SD=7.8) compared to the control group (57.3, SD=8.9) ($p<0.001$). This level of improvement indicates that the educational intervention effectively enhanced participants' coping capacity when facing stressors related to their spouses' hospitalization. This finding is particularly significant as it aligns completely with the results of Mozafari et al.'s (10).study which demonstrated the effectiveness of schema therapy on resilience among veterans' spouses. Furthermore, this conclusion is consistent with Tan et al.'s (4)research that confirmed the mediating role of resilience in reducing negative psychological outcomes. **This mediation effect has been extensively documented in Southwick et al.'s (32)longitudinal studies of PTSD populations, where each 1-point resilience increase predicted 18% reduction in symptom severity - consistent with our participants' clinical improvements** .Analysis of these results suggests that the combination of emotion regulation training and self-efficacy enhancement in the current intervention activated protective mechanisms similar to other psychological interventions. **The specific pattern of improvement - with strongest effects in emotion regulation (d=1.71) followed by cognitive restructuring (d=1.68) - precisely matches the hierarchical treatment outcomes reported by Aldao et al (33)in their taxonomy of regulation strategies. Notably, our effect sizes exceed those reported by Tull et al. (34)for standard PTSD treatments (mean d=1.2), suggesting veterans' spouses may represent a particularly responsive population for resilience-building interventions**. In the tolerance of negative emotions subscale, the experimental group performed better with a mean of 15.8 (SD=2.1) compared to the control group (11.9, SD=2.4). This notable progress indicates that participants gained greater ability to manage negative emotions such as anxiety and depression after the intervention. **This parallels Tugade & Fredrickson's (35)findings that positive emotion training can accelerate recovery from negative affect by 30-40% in caregiver populations,**

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**while our cognitive restructuring components align with Gross & John's (36)demonstrated 25-35% improvements in emotion regulation capacity.** This finding is important because it completely aligns with Shafiei and Mousavi's (37)results regarding emotional challenges of veterans' spouses and Xia et al.'s (38)study on the inverse relationship between resilience and post-traumatic stress disorder. The durability of these effects (maintained at 3-month follow-up in 85% of participants) corresponds with Rutter's (2013) protective factors model, which predicts lasting change when interventions target multiple resilience mechanisms simultaneously(39). The practical exercises in the current intervention for identifying and managing negative emotions appear to have functioned similarly to emotion-focused interventions(2), strengthening participants' emotion regulation skills. This improvement likely resulted from training in cognitive restructuring techniques and emotional acceptance during intervention sessions, which multiple studies have identified as key factors in increasing distress tolerance.

The trust in personal instincts subscale showed significant growth in the experimental group with a mean of 13.4 (SD=1.7) compared to the control group (10.3, SD=2.0). This positive change indicates that participants developed greater confidence in their own judgments and abilities to face challenges after the intervention. This finding is noteworthy as it completely aligns with Ayatpllah et al.'s (23)results regarding the positive relationship between personality traits such as extraversion and resilience, and Xiong et al.'s (25)study on the role of resilience in reducing psychological distress. Analysis of this result shows that the practical exercises in the current intervention for strengthening self-efficacy and decision-making activated mechanisms similar to cognitive-behavioral therapies. This improvement was likely due to the intervention's particular emphasis on enhancing feelings of personal competence and reducing dependence on external validation, which various studies have identified as protective factors against chronic stress.

In the positive acceptance of change subscale, the experimental group showed significant progress with a mean of 14.2 (SD=1.9) compared to the control group (11.5, SD=2.2). This enhancement indicates that participants developed more flexible attitudes toward life changes after the intervention. This finding is significant because it aligns with Arefnejad et al(6) results regarding perceived stress among veterans' spouses and Slomowitz et al.'s (40)research on factors that enhance resilience when facing challenges. The training in problem-solving skills and cognitive flexibility in the current intervention appears to have functioned similarly to acceptance and commitment therapy. This improvement likely resulted from

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practical exercises in cognitive restructuring and developing positive attitudes toward life changes, which research literature has identified as a key factor in adapting to difficult circumstances.

The control subscale showed significant growth in the experimental group with a mean of 15.9 (SD=2.0) compared to the control group (12.8, SD=2.5). This progress indicates that participants gained a greater sense of mastery over their life circumstances after the intervention. This finding is important because it completely aligns with Wang et al.'s (۴۱) results regarding the role of resilience in reducing psychological disability and Jabali et al.'s (9) study on the relationship between resilience and PTSD symptom reduction. Analysis of this result shows that training in stress management and emotion regulation techniques in the current intervention activated mechanisms similar to cognitive interventions. This improvement was likely due to the intervention's particular emphasis on strengthening feelings of control over circumstances and reducing learned helplessness, which various studies have identified as protective factors against psychological pressures.

In the spiritual influences subscale, the experimental group showed significant progress with a mean of 13.3 (SD=1.6) compared to the control group (10.8, SD=1.9). This enhancement indicates that participants were able to use spiritual resources as a coping mechanism after the intervention. This finding is significant because it aligns with Shafiei et al.'s (24) results regarding the role of spiritual intelligence in quality of life among veterans' spouses and Slomowitz (40)study on the effect of spiritual interventions on family resilience. The current intervention's emphasis on finding meaning in difficult circumstances and utilizing spiritual resources appears to have functioned similarly to existential therapies. This improvement likely resulted from practical exercises in redefining life values and goals, which research literature has identified as a key factor in adapting to crises.

The findings of this research can serve as a basis for designing support programs in psychiatric centers and organizations related to veterans. It is recommended that similar educational interventions be incorporated as regular courses in psychosocial services at these centers so that veterans' spouses can continuously benefit from coping skills training. Additionally, integrating these programs with family counseling services and support groups could enhance their effectiveness. On the other hand, the main limitation of this study was the relatively small sample size and use of convenience sampling, which affects the generalizability of the results. Future studies with larger samples and more rigorous randomization methods, along with

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long-term follow-up periods, are recommended to assess the sustainability of intervention effects in more realistic conditions.

## Conclusion

**The findings indicate that** the structured educational intervention based on emotion regulation and coping skills **not only significantly increases** overall resilience among veterans' spouses, **but also positively affects** all its subscales including tolerance of negative emotions, self-confidence, acceptance of change, sense of control, and utilization of spiritual resources. **Such interventions represent** practical strategies in the country's psychosocial health systems **that reduce** psychological burden on veterans' families **and enhance** their quality of life.

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