Effectiveness of Acceptance and Commitment Therapy on cognitive flexibility of Psychiatric Nurses: A Quasi-Experimental Study

Mitra Rahmannia [1] iD **, Mojgan Sepahmansour[2*]** iD **, Mohsen Khalili[3]** iD

[1] Department of Psychology and Educational science, University of Islamic Azad, Central Tehran Branch, Tehran, Iran. E-mail: rahmanniamitra@gmail.com

[2] Department of Psychology and Educational science, University of Islamic Azad, Central Tehran Branch, Tehran, Iran. E-mail: mojgan.sepahmansour@iauctb.ac.ir

[3] *Corresponding author*, Department of Psychology and Educational science, University of Islamic Azad, Central Tehran Branch, Tehran, Iran. E-mail: m.khalili.psy@iauctb.ac.ir

A B S T R A C T

ognitive flexibility is critical for psychiatric nurses facing high-stress environments, yet effective interventions to enhance this skill are underexplored. This quasi-experimental study aimed to evaluate the impact of Acceptance and Commitment Therapy (ACT) on cognitive flexibility among psychiatric nurses. Sixty-two nurses from Razi and Saraye Ehsan psychiatric centers in Tehran were randomly assigned to experimental and control groups (n = 31 each). The experimental group participated in eight 90-minute group-based ACT sessions, adapted from Mohagheghi et al. (2015), incorporating interactive exercises, mindfulness practices, and homework to foster psychological flexibility. The control group received no intervention. Cognitive flexibility was assessed using the Cognitive Flexibility Inventory (CFI) at pretest and post test. Paired t-tests and analysis of covariance (ANCOVA) were employed to analyze within-group and between-group differences, controlling for pretest scores. The experimental group showed a significant increase in CFI scores (M_diff = 17.14, SD = 5.27; t(30) = 18.12, p < .001). ANCOVA revealed a significant group effect (F(1, 60) = 19.63, p < .001, η^2 = 0.71), with 71% of post test score variance attributed to the intervention. No significant demographic differences were found between groups. The findings suggest that ACT is an effective intervention for enhancing cognitive flexibility among psychiatric nurses, potentially improving their ability to cope with workplace stress. However, the small sample size and lack of long-term follow-up limit generalizability. Future research should explore ACT's sustained effects and applicability across diverse healthcare settings.

Introduction

Healthcare workers, particularly nurses, play a vital role in delivering healthcare services and are considered key pillars of the health system. Due to their heavy responsibilities and complex work environments, this group of professionals is more prone to psychological and physical issues compared to other occupations (Maslach & Leiter, 2016). Among healthcare workers, psychiatric nurses, who care for patients with mental and behavioral disorders, face unique challenges. These nurses not only require professional skills to provide therapeutic care but also need exceptional emotional and psychological capacities to cope with stress from interacting with psychiatric patients, potential violence, and unpredictable work conditions (Edwards et al., 2000). Additionally, psychiatric nurses often deal with treatment-resistant patients or those suffering from chronic mental health issues, which can impose significant psychological and emotional strain, potentially leading to problems such as burnout, emotional

exhaustion, and reduced resilience in the long term (Abdel-Aziz & Adam, 2020). These issues can negatively impact the quality of patient care and affect psychiatric nurses' job satisfaction and professional commitment (Happell & Koehn, 2011). Therefore, addressing the mental health and enhancing the cognitive and psychological capacities of this group is essential. One effective approach to tackling these challenges is the use of psychological interventions, such as Acceptance and Commitment Therapy (ACT), which helps increase resilience and reduce burnout (Hayes et al., 2006).

Cognitive flexibility, defined as the mental ability to shift between different concepts and adapt cognitive processing strategies to new and unexpected situations, is a fundamental component of executive functioning (Diamond, 2013). This cognitive capacity enables individuals to revise their perspectives, generate alternative solutions, and adjust their behaviors in dynamic and stressful situations. Among healthcare workers, particularly psychiatric nurses, cognitive flexibility is crucial for maintaining emotional regulation, problem-solving, and providing patient-centered care in challenging psychological environments (Gabrys & Dixon, 2021).

Psychiatric nurses work in emotionally demanding and difficult environments, frequently encountering patient aggression, psychological distress, and unpredictable behaviors. These psychological pressures can reduce cognitive flexibility, making effective adaptation and maintaining mental health more challenging (Edward et al., 2017). Reduced cognitive flexibility is associated with increased vulnerability to stress, burnout, and the use of maladaptive coping styles, all of which are prevalent among mental health workers (Moore et al., 2008; Killgore et al., 2008). Therefore, enhancing cognitive flexibility among psychiatric nurses is essential not only for their mental health but also for maintaining the quality and adaptability of clinical care. In this context, Acceptance and Commitment Therapy, as a third-wave cognitive-behavioral approach, is recognized as a promising method for increasing psychological flexibility, which includes cognitive flexibility (Hayes et al., 2012). ACT encourages individuals to accept difficult internal experiences while focusing on behaviors aligned with personal values, fostering an open and adaptive mindset (Kashdan & Rottenberg, 2010). Evidence suggests that ACT can improve cognitive processes by reducing cognitive fusion and enhancing the ability to attend and respond adaptively to various situations (Lloyd et al., 2013). Despite the proven effectiveness of ACT in various clinical and occupational populations, limited research has specifically explored its role in enhancing cognitive flexibility among psychiatric nurses, a group particularly susceptible to cognitive rigidity due to occupational stressors.

Given that psychiatric nurses are at high risk of burnout (Kelly et al., 2015), implementing interventions like ACT can play a significant role in improving cognitive flexibility, resilience, reducing burnout, and enhancing care quality. Although numerous studies have explored ACT and its outcomes, there is still a need for more precise research focusing on psychiatric nurses and clinical settings. Therefore, this study was designed to investigate the impact of ACT on the cognitive flexibility of psychiatric nurses.

Method

Sample and Sampling Method

The study population consisted of 270 psychiatric nurses employed at the Razi and Saraye Ehsan psychiatric centers in Tehran. Inclusion criteria were a minimum of six months of work experience, informed consent to participate in Acceptance and Commitment Therapy (ACT), absence of severe mental disorders requiring specialized treatment outside the study scope, and commitment to attending all therapy sessions. Exclusion criteria included unwillingness to continue participation, absence from more than two sessions without prior notice, or concurrent involvement in other related therapeutic or educational programs.

Eligible psychiatric nurses from both centers (Razi and Saraye Ehsan) were selected separately through a voluntary call and review of work records using purposive sampling. Subsequently, 62 participants (31 from each center) were randomly assigned to two groups—experimental and control (31 participants

each)—ensuring that each group comprised a mix of nurses from both centers. This random allocation method ensured that neither center was exclusively designated as the experimental or control group, but rather, participants from both centers were integrated into each group. The sample size was calculated using G*Power software, with a significance level of 0.05, statistical power of 0.80, and a medium effect size (0.5). To address potential differences between the two centers (e.g., working conditions or patient severity), groups were matched based on work experience, and confounding variables were controlled for in statistical analyses. Prior to the study, researchers conducted an orientation session to brief participants on the study procedures. Informed consent was obtained in coordination with the nurses' supervisors.

Tools Used

Cognitive Flexibility Questionnaire: To measure the variables, the Cognitive Flexibility Inventory (CFI) by Dennis and Vander Wal (2010) was used. This 20-item self-report questionnaire is designed to assess individuals' ability to generate alternative thoughts and responses and perceive situations as controllable in both clinical and non-clinical settings. Developed specifically to evaluate cognitive changes during cognitive-behavioral therapy (CBT) for depression, the CFI is widely used in psychological research (Dennis & Vander Wal, 2010). The CFI is scored on a 7-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7), with total scores ranging from 20 to 140; higher scores indicate greater cognitive flexibility. In a Persian validation study by Oraki, Jahani, and Rahmanian (2018), the Cronbach's alpha for the total scale was 0.75, with subscale alphas of 0.72 (Alternatives) and 0.55 (Control). In the present study, Cronbach's alpha values were 0.72 for Alternatives and 0.55 for Control. Due to the suboptimal reliability of the Control subscale ($\alpha < 0.70$), analyses primarily focused on the total score.

Ethical consideration

The study was conducted in accordance with the core ethical principles of the Declaration of Helsinki (2013). Ethical approval was obtained from the institutional review boards of the Razi and Saraye Ehsan psychiatric centers in Tehran, Iran. Data were provided to the researcher in a de-identified format, ensuring participant anonymity throughout the study. Completion of the questionnaire was voluntary, and all participants provided informed consent prior to participation.

Procedure

To enhance the cognitive flexibility of psychiatric nurses, this study utilized an Acceptance and Commitment Therapy (ACT) protocol adapted from Mohagheghi et al. (2015, pp. 86–87), selected for its evidence-based approach to improving psychological flexibility (Hayes et al., 2011). Following qualitative evaluation and content validity assessment by expert professors, the protocol was finalized and implemented with the experimental group. Grounded in scientific evidence, the protocol fosters coping skills, reduces occupational stress, and enhances professional quality of life (Bond et al., 2011). It comprises textual instructions and practical activities, including therapeutic exercises, homework, and educational handouts, designed to generalize learning to real-world settings (Luoma et al., 2007). Originally developed for 60-minute individual sessions (Hayes et al., 2012), the protocol was adapted by Mohagheghi et al. (2015) for 45- to 60-minute individual sessions.

To leverage the benefits of group therapy—such as peer support, social interaction, and workplace applicability—the protocol was modified for this study. Adaptations included: (a) extending session duration to 90 minutes to accommodate instruction, practice, homework review, and group discussion (Prudenzi et al., 2022); (b) replacing individual exercises with interactive activities, such as role-playing and group feedback, to promote empathy and social support (Yalom & Leszcz, 2005); and (c) allocating the first 15–20 minutes of each session to review previous homework, enhancing learning depth and treatment adherence (Bond et al., 2011). The protocol was delivered in eight structured group sessions with an individualized focus, preserving the six core ACT processes (acceptance, cognitive defusion, present-moment awareness, self-as-context, values, and committed action) in their original sequence to

ensure fidelity while optimizing group-based benefits, including cost-effectiveness and generalizability. The session structure is detailed in Table 1.

Table 1- Description of Sessions in the Acceptance and Commitment Therapy (ACT) Protocol for Enhancing Cognitive Flexibility.

Session	Content	Objective
Session 1	- Participant introduction of challenges (20 min) - Constructive hopelessness exercise[a] (10 min) - Initial values assessment (15 min) - Mindfulness exercise (5 min)	Introduce ACT concepts and assess personal values to initiate cognitive flexibility.
Session 2	- Mindfulness exercise (5 min) - Thought suppression exercise (15 min) - Acceptance strategies (15 min) - Homework assignment (5 min)	Foster acceptance of thoughts to reduce rigid cognitive patterns.
Session 3	- Mindfulness exercise (5 min) - Review of previous session (10 min) -Cognitive defusing exercises[b] (25 min) - Homework assignment (5 min)	Promote detachment from unhelpful thoughts to enhance flexible thinking.
Session 4	- Mindfulness exercise (5 min) - Review of previous session (10 min) - Self-as-context exercises[c] (25 min) - Homework assignment (5 min)	Encourage flexible perspective-taking to support cognitive adaptability.
Session 5	- Mindfulness exercise (5 min) - Review of previous session (10 min) - Values clarification exercises (25 min) - Homework assignment (5 min)	Clarify personal values to guide flexible, value-driven decisions.
Session 6	- Mindfulness exercise (5 min) - Review of previous session (10 min) - Committed action exercises[d] (25 min) - Homework assignment (5 min)	Encourage actions aligned with values to reinforce flexible behaviors.
Session 7	- Mindfulness exercises (20 min) - Review of previous session (15 min) - Homework assignment (5 min)	Strengthen mindfulness skills to sustain cognitive flexibility.
Session 8	- Mindfulness exercise (5 min) - Review of all sessions (15 min) - Committed action planning[e] (20 min) - Session conclusion preparation (10 min)	Consolidate learning and prepare for sustained flexible behaviors post-intervention.

Note: Each session lasted approximately 60 minutes. Homework assignments involved practicing session-specific exercises (e.g., mindfulness or values reflection). *[a] Constructive hopelessness involves acknowledging unworkable control strategies. [b] Cognitive defusing refers to distancing from unhelpful thoughts. [c] Self-as-context promotes viewing thoughts from a broader perspective. [d] Committed action involves goal-directed behaviors aligned with values. [e] Committed action planning focuses on long-term value-driven actions.*

The study involved 62 psychiatric nurses from the Razi and Saraye Ehsan psychiatric centers in Tehran, randomly assigned to experimental and control groups (31 participants each). Prior to the intervention, both groups completed the Cognitive Flexibility Inventory.

Data collection and analyses method

Descriptive and inferential statistics were conducted using SPSS version 23 (α = .05). Chi-square tests confirmed no significant differences in demographic variables (gender, age, marital status, education, work experience) between groups (p > .05). Descriptive statistics (means, standard deviations) were calculated for Cognitive Flexibility Inventory (CFI) scores. Paired t-tests compared pretest and posttest CFI scores within the experimental group to assess within-group effects. ANCOVA tested the main hypothesis, comparing posttest CFI scores between groups, controlling for pretest scores.

Results

Table 2 compares the demographic characteristics of the experimental and control groups.

Table 2- Demographic Characteristics of Experimental and Control Groups.

Variable	Group	Category	Frequency	Percentage
Gender	Control	Male	16	51.6%
		Female	15	48.4%
	Experimental	Male	17	54.8%
		Female	14	45.2%
Age	Control	30–40 years	14	45.1%
		40–50 years	13	41.9%
		Over 50 years	4	13%
	Experimental	30–40 years	13	41.9%
		40–50 years	13	41.9%
		Over 50 years	5	16.2%
Marital Status	Control	Single	16	51.6%
		Married	15	48.4%
	Experimental	Single	14	45.1%
		Married	17	54.9%
Education Level	Control	Bachelor's degree	13	41.9%
		Master's degree	18	58.1%
	Experimental	Bachelor's degree	11	35.4%
		Master's degree	20	64.6%
Work Experience	Control	1–5 years	8	25.8%
		5–10 years	11	35.4%
		10–15 years	5	16.1%
		Over 15 years	7	22.7%
	Experimental	1–5 years	6	19.3%
		5–10 years	9	29%
		10–15 years	9	29%
		Over 15 years	7	22.7%

To evaluate the effect of the Acceptance and Commitment Therapy (ACT) intervention on cognitive flexibility, paired t-tests were conducted to compare pretest and posttest Cognitive Flexibility Inventory (CFI) scores within the experimental group. As shown in Table 3, the experimental group exhibited a significant increase in cognitive flexibility scores from a pretest mean of 75.00 to a posttest mean of 92.14, with a mean difference of 17.14 (SD = 5.27, SE = 0.946). The paired t-test confirmed this increase was statistically significant, $t(30) = 18.12$, $p < .001$, indicating the clinical effectiveness of the ACT intervention in enhancing cognitive flexibility.

Table 3- Descriptive Statistics for Cognitive Flexibility (Pretest and Posttest).

Variable	Pretest Mean	Posttest Mean	Mean Difference	SD	SE	t	.sig
Cognitive Flexibility	75.00	92.14	17.14	5.27	0.946	18.12	<.001

Table 4 presents the results of the analysis of covariance (ANCOVA), which assessed differences in posttest CFI scores between the experimental and control groups while controlling for pretest scores. A significant group effect was found, $F(1, 60) = 19.63$, $p < .001$, with a large effect size ($\eta^2 = 0.71$), suggesting that approximately 71% of the variance in posttest scores was attributable to the intervention. These findings support the efficacy of the ACT intervention in improving cognitive flexibility among psychiatric *nurses.*

Table 4- ANCOVA Results for Cognitive Flexibility.

Source	Sum of Squares	df	Mean Square	F	Sig.	η^2
Group (Intervention)	11542.47	1	11542.47	19.63	<.001	0.71
Error	4771.53	60	78.58	—	—	—
Total	16257	61	—	—	—	—

Discussion and Conclusion

This quasi-experimental study examined the effectiveness of an 8-session group-based Acceptance and Commitment Therapy (ACT) intervention, adapted from Mohagheghi et al. (2015), in improving cognitive flexibility among psychiatric nurses in high-stress psychiatric settings. Findings showed a significant increase in total Cognitive Flexibility Inventory (CFI) scores in the experimental group (M_diff = 17.14, SD = 5.27; t(30) = 18.12, p < .001). Analysis of covariance (ANCOVA) confirmed a significant difference in posttest CFI scores between groups, controlling for pretest scores (F(1, 60) = 19.63, p < .001, η^2 = 0.71), with 71% of posttest variance attributed to the intervention. The large effect size may stem from the group format, which fostered peer support and shared learning (Yalom & Leszcz, 2005), and the elevated baseline stress among nurses, potentially amplifying ACT's impact. These results align with Fernández et al. (2021), who found ACT improved mental flexibility in students, though their individual-based approach differed from the current group protocol. Hayes et al. (2006) similarly highlighted ACT's role in enhancing psychological flexibility via acceptance and emotion regulation, supporting its relevance for occupational cognitive adaptability.

ACT likely promotes cognitive flexibility by encouraging acceptance of stress-related thoughts and cultivating mindfulness, enabling nurses to shift from rigid cognitive patterns to value-driven behaviors. This adaptability is crucial for psychiatric nurses facing complex patient needs and workplace stressors, supporting their mental health and care quality. The group-based delivery, with interactive exercises, likely enhanced these effects by promoting empathy and collaboration, particularly salient for nurses in demanding environments. The practical implications of these findings are significant for psychiatric nursing and healthcare systems. Implementing group-based ACT interventions in psychiatric hospitals can equip nurses with cognitive tools to manage workplace stress, potentially reducing burnout and improving patient care quality. Hospital administrators could integrate ACT training into professional development programs, leveraging its group format for cost-effectiveness and peer support. Additionally, healthcare policymakers might consider funding ACT-based programs to enhance workforce resilience, particularly in high-stress settings like psychiatric wards, aligning with global efforts to prioritize mental health support for healthcare workers.

Limitations include the small sample size (n = 62) and specific setting (Razi and Saraye Ehsan centers), which may limit generalizability. Self-report CFI measures risk response bias, and the lack of long-term follow-up prevents assessing effect sustainability. Group dynamics may have confounded results (Yalom & Leszcz, 2005), and unmeasured variables, such as prior mindfulness exposure or workplace stress intensity, could have influenced outcomes. Only total CFI scores were analyzed, as subscale scores (Alternatives, Control) were not calculated, potentially overlooking nuanced effects. Future research should recruit larger, geographically diverse samples; employ objective measures, such as the Stroop Test

Iranian Journal of Organizational Psychology, Vol. 2, Issue 3, pp.

7

or supervisor ratings; conduct 6- to 12-month follow-ups; compare ACT with cognitive-behavioral therapy; and explore CFI subscales for deeper insights. These findings suggest ACT is a promising intervention for enhancing cognitive flexibility among psychiatric nurses, supporting resilience and care quality, pending further validation.

Acknowledgements

Conflict of interest

The author express that there is no conflict of interest in this study.

References

Abdel Aziz, A. E., & Adam, S. S. (2020). Relationship between resilience, burnout and professional quality of life among nurses working at El Abbassiya Psychiatric Mental Health Hospital. *Egyptian Journal of Health Care, 11*(2), 551–577. https://doi.org/10.21608/ejhc.2020.156951

Bond, F. W., Hayes, S. C., & Barnes-Holmes, D. (2006). Psychological Flexibility, ACT, and Organizational Behavior. *Journal of Organizational Behavior Management, 26*(1-2), 25–54. https://doi.org/10.1300/J075v26n01_02

Cleary, M., Kornhaber, R., Sayers, J., & Gray, R. (2017). Mental health nurse prescribing: A qualitative, systematic review. *International Journal of Mental Health Nursing, 26*(6), 541–553. https://doi.org/10.1111/inm.12372

Dennis, J. P., & Vander Wal, J. S. (2010). The Cognitive Flexibility Inventory: Instrument development and estimates of reliability and validity. *Cognitive Therapy and Research, 34*(3), 241–253. https://doi.org/10.1007/s10608-009-9276-4

Diamond, A. (2013). Executive functions. *Annual Review of Psychology, 64*, 135–168. https://doi.org/10.1146/annurev-psych-113011-143750

Dyrbye, L. N., Shanafelt, T. D., Sinsky, C. A., Cipriano, P. F., Bhatt, J., Ommaya, A., et al. (2017). Burnout among health care professionals: A call to explore and address this underrecognized threat to safe, high-quality care. *NAM Perspectives.* https://doi.org/10.31478/201707b

Edwards, D., Burnard, P., Coyle, D., Fothergill, A., & Hannigan, B. (2000). Stress and burnout in community mental health nursing: A review of the literature. *Journal of Psychiatric and Mental Health Nursing, 7*(1), 7–14. https://doi.org/10.1046/j.1365-2850.2000.00258.x

Edward, K. L., Hercelinskyj, G., & Giandinoto, J. A. (2017). Emotional labour in mental health nursing: An integrative systematic review. *International journal of mental health nursing*, *26*(3), 215–225. https://doi.org/10.1111/inm.12330

Fernández Jiménez, E., Vidal Bermejo, E., Torrea Araiz, I., Castellanos Villaverde, T., Navarro Oliver, G., & Hospital Moreno, A. (2021). On gender and cognitive flexibility. The REM-ACT study: Acceptance and commitment therapy versus a mindfulness-based emotional regulation intervention in anxiety disorders. A randomized controlled trial. *European Psychiatry, 64*(S1), S786–S787. https://doi.org/10.1192/j.eurpsy.2021.2080

Gabrys, R. L., Tabri, N., Anisman, H., & Matheson, K. (2018). Cognitive control and flexibility in the context of stress and depressive symptoms: The Cognitive Control and Flexibility Questionnaire. *Frontiers in Psychology, 9*, 2219. https://doi.org/10.3389/fpsyg.2018.02219

Happell, B., & Koehn, S. (2011). Seclusion as a necessary intervention: The relationship between burnout, job satisfaction and therapeutic optimism and justification for the use of seclusion. *Journal of Advanced Nursing, 67*(6), 1222–1231. https://doi.org/10.1111/j.1365-2648.2010.05570.x

Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy, 44*(1), 1–25. https://doi.org/10.1016/j.brat.2005.06.006

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and commitment therapy: The process and practice of mindful change* (2nd ed.). Guilford Press.

Hayes, S. C., Villatte, M., Levin, M., & Hildebrandt, M. (2011). Open, aware, and active: contextual approaches as an emerging trend in the behavioral and cognitive therapies. *Annual review of clinical psychology*, *7*, 141–168. https://doi.org/10.1146/annurev-clinpsy-032210-104449

Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review, 30*(7), 865–878. https://doi.org/10.1016/j.cpr.2010.03.001

Kelly, L., Runge, J., & Spencer, C. (2015). Predictors of compassion fatigue and compassion satisfaction in acute care nurses. *Journal of Nursing Scholarship, 47*(6), 522–528. https://doi.org/10.1111/jnu.12162

Killgore, W. D., Cotting, D. I., Thomas, J. L., Cox, A. L., McGurk, D., Vo, A. H., et al. (2008). Post-combat invincibility: Violent combat experiences are associated with increased risk taking propensity following deployment. *Journal of Psychiatric Research, 42*(13), 1112–1121. https://doi.org/10.1016/j.jpsychires.2008.01.001

Lloyd, J., Bond, F. W., & Flaxman, P. E. (2013). The value of psychological flexibility: Examining mechanisms underpinning a CBT intervention for burnout. *Work & Stress, 27*(2), 181–199. https://doi.org/10.1080/02678373.2013.782157

Luoma, J. B., Hayes, S. C., & Walser, R. D. (2007). *Learning ACT: An acceptance and commitment therapy skills-training manual for therapists.* New Harbinger Publications.

Maslach, C., & Leiter, M. P. (2016). Burnout. In *Stress: Concepts, cognition, emotion, and behavior* (pp. 351–357). Academic Press. https://doi.org/10.1016/B978-0-12-800951-2.00044-3

Mohagheghi, H., Dousti, P., & Jafari, D. (2016). The effectiveness of acceptance and commitment therapy on reduction of generalized anxiety disorder, social phobia and health anxiety in students. *Clinical Psychology Studies, 7*(23), 81–94. https://doi.org/10.22054/jcps.2016.4559

Moore, S. A., Zoellner, L. A., & Mollenholt, N. (2008). Are expressive suppression and cognitive reappraisal associated with stress related symptoms? *Behaviour Research and Therapy, 46*(9), 993–1000. https://doi.org/10.1016/j.brat.2008.05.001

Oraki, M., Jahani, F., & Rahmanian, M. (2018). The effectiveness of acceptance and commitment therapy (ACT) on the psychological flexibility of the elderly women. *Journal of Clinical Psychology, 10*(1), 47–56. https://doi.org/10.22075/jcp.2018.14182.1378

Prudenzi, A., Graham, C. D., Flaxman, P. E., Wilding, S., Day, F., & O'Connor, D. B. (2022). A workplace Acceptance and Commitment Therapy (ACT) intervention for improving healthcare staff psychological distress: A randomised controlled trial. *PloS one*, *17*(4), e0266357. https://doi.org/10.1371/journal.pone.0266357

World Medical Association. (2013). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA, 310*(20), 2191–2194. https://doi.org/10.1001/jama.2013.281053

Yalom, I. D., & Leszcz, M. (2005). *The theory and practice of group psychotherapy* (5th ed.). Basic Books.