



## Research Paper:

# The Effectiveness of Acceptance and Commitment Therapy on Cognitive-Emotional Regulation, Resilience, and Self-control Strategies in Divorced Women



Hossein Ali Ghorbani Amir<sup>1</sup>, Omid Moradi<sup>2\*</sup>, Mokhtar Arefi<sup>3</sup>, Hamzeh Ahmadian<sup>4</sup>

1. Department of Psychology, Islamic Azad University, Sanandaj Branch, Sanandaj, Iran.



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## ABSTRACT

**Background:** Divorce is one of the most stressful events leading to emotional distress and behavioral problems in individuals. Meanwhile, women are more vulnerable than men to the consequences of divorce.

**Objectives:** The objective of the present study was to determine the effectiveness of Acceptance and Commitment Therapy (ACT) on cognitive emotional regulation, resilience, and self-control strategies in divorced women.

**Materials and Methods:** The present quasi-experimental study with a pre-test and post-test with a control group was conducted on all divorced women referring to the Justice Counseling Center in Babol, Iran in the second half of the year 2017 and the first half of the year 2018. The samples were selected using available sampling and divided into the experimental and control groups (n=30 per group). Data collection tools included the Cognitive Emotional Strategies Questionnaire, Resilient Scale, and Self-Control Questionnaire. Each group was first subjected to the pre-test. Then, the experimental group received ACT (Hayes et al., 2004) through 12 90-min sessions. The post-test was then performed for both groups. Data were analyzed using the SPSS. V. 22 software and multivariate covariance analysis test.

**Results:** ACT was effective in cognitive regulation of positive emotion ( $F=67.88, P<0.0001$ ), cognitive regulation of negative emotion ( $F=62.11, P<0.0001$ ), resilience ( $F=61.95, P<0.0001$ ), and self-control ( $F=38.36, P<0.0001$ ). The mean score of cognitive regulation of positive emotion, cognitive regulation of negative emotion, resilient, and self-controlling in pre-test and post-test were not significantly different from each other ( $P<0.05$ ).

**Conclusion:** The results showed that ACT led to an increase in positive cognitive regulation, resilient, self-controlling, and a decrease in negative cognitive regulation in divorced women.

### \* Corresponding Author:

**Omid Moradi, PhD.**

**Address:** Department of Psychology, Islamic Azad University, Sanandaj Branch, Sanandaj, Iran.

**Tel:** +98 (901) 8195781

**E-mail:** o.moradi@iausdj.ac.ir

## Introduction

**D**ivorce is associated with emotional problems affecting the family's well-being, as a social institution. It doubles the vulnerability of individuals, especially women to physical and psychological problems [1]. It has shown linked to the serious family communication problem, and Iran is one of the first seven countries worldwide in terms of the divorce/marriage ratio [2]. Divorce and its consequences raise many social and individual challenges for divorced women affecting their mental and general health and causing problems in their personal lives and businesses [3]. After divorce, divorced women face the loss of emotional regulation and they have a lower level of mental health and emotional regulation [4].

Emotion regulation is viewed as higher cognitive activity of an individual while facing adverse events in social life [5]. High emotional intensity is the repeated and serious experience of negative emotions and emotional reactions that occur extremely, easily, and quickly [6]. High emotional intensity cannot cause serious problems; however, it reduces the likelihood of successful emotion management [7]. Regarding a severe emotional state, a more inclusive strategy is needed to control the situation, and without such skills, emotional processes are ineffective and fail [8]. On the other hand, in recent years, approaches addressing human capacities and abilities rather than abnormalities and disorders have been widely considered by the counselors and psychologists. Increasing resilience is one of the most fundamental structures of these approaches to coping with the consequences of divorce [9].

Psychological resilience is defined as the dynamic process of positive adapting and adjusting to undesirable and unpleasant experiences in life that leads to a successful adaptation or performance facing stressful situations to make a balance between on such occasions. Also, resilience can help protect people against depression and anxiety [10]. It is a stable trajectory against the threat of adverse events, active and efficient participation in the environment. Resilience refers to one's ability to strike a bio-psychological balance against threatening events [11].

Individuals need a balance between traumatic problems and events to end their marriages and start a new life. Self-control is one of the strategies to help in this situation. Self-control at any level has the intrapersonal and interpersonal dimensions. Weak self-control resulting from a dysfunctional family and inadequate socialization associated with behavioral disorders, such as low self-esteem, low con-

science, low internal control, and a sense of helplessness reveals its intrapersonal dimension. Also considering weak self-control along with behavioral disorders, like expressing anger, hastiness, egocentrism, lack of empathy, risk-taking, delinquency, and impulsive behaviors indicates its interpersonal dimension [12].

Self-control is the person's ability to recognize and use his talents to control his and others' emotions, behaviors, and needs. General self-control has shown resulting from the intrapersonal, interpersonal, and self-report factors [13]. Acceptance and Commitment Therapy (ACT) is one of the group interventions that can be very effective in reducing problems faced by divorced women to improve self-control. ACT is grounded in functional contextualism based on the relational frame theory. In this approach, human suffering comes from his psychological inflexibility, which is reinforced by cognitive amalgamation and experiential avoidance. In this regard, people try to avoid or change several disturbing emotions, feelings, or thoughts. While these efforts are ineffective and in a contradictory pattern, they intensify feelings, emotions, and thoughts that one has attempted to avoid [14].

In this approach, psychological flexibility is targeted through the six processes of acceptance, defusion, contacting the present moment, self as context, values, and committed action. Psychological flexibility means that one can live in the present moment rather than drowning in the past and the future, and identify their values and goals and also instead of avoiding disturbing thoughts, feelings, memories, or desires, adopt a behavior consistent with his values and goals [15].

ACT has shown effective in increasing marital satisfaction, reducing interpersonal and psychological anxiety, depression, and suicidal ideation, and also acceptance of pain and pain-related anxiety, improving Obsessive-Compulsive Disorder (OCD), and quality of life [16-21].

Each year, several married women end their marriage and have to endure a wide range of changes in their lives and new emotional adjustments. Therefore, studies and interventions aiming at improving their emotional well-being probably can prevent more severe personal and social harm to this group. No study has yet been done to compare the effectiveness of ACT-based intervention on cognitive emotion regulation strategies resilience, and self-control of divorced women. Accordingly, the present study aimed at determining the effectiveness of ACT on cognitive emotion regulation, resilience, and self-control strategies in divorced women.

## Materials and Methods

The present quasi-experimental study with a pre-test and post-test with a control group was conducted on all divorced women referring to the Justice Counseling Center in Babol, Iran in the second half of the year 2017 and the first half of the year 2018. The samples (60 cases) were selected using the available sampling method and randomly divided into the experimental and control groups. For initial screening, of 162 people who answered the resilience and self-control questionnaire, 83 cases had resilience (scored below 50) and self-control (scored below 37), of whom 60 cases were selected and assigned in two groups (30 cases per group) to attend weekly training sessions.

Based on the effect size of 0.25, alpha of 0.05, and the test power of 0.80, the minimum number of samples to achieve the desired power was 30 samples in each group and 60 in total. Inclusion criteria were being divorced in the last year, female gender, and no other serious mental disorders, such as schizophrenia and bipolar disorder and the exclusion criteria were being absent for more than two sessions, physical disability, and providing incomplete information. Before the intervention, both groups received emotion regulation, resilience, and self-control strategies tests. The experimental group was then subjected to the ACT for eight 90-min sessions weekly, whereas the control group received no training. To evaluate the effect of training, again, the tests were resubmitted to both groups by the researcher.

The ethical considerations were observed in this study. The participation was completely voluntary. The subjects were informed about the objects and rules of the research and their attitudes and opinions were respected. All subjects were allowed to withdraw the research at any stage. Also, the control group had the chance to receive the ACT sessions after the study. All documents, questionnaires, and records remained confidential and only for research purposes. Written informed consent was obtained from all volunteers.

### Cognitive Emotion Regulation Questionnaire (CERQ)

CERQ includes nine sub-scales and 36 items developed by Garnefski et al. as a multidimensional questionnaire to identify cognitive coping strategies after experiencing adverse events or situations. The components of cognitive regulation strategies of positive emotion are acceptance, positive focusing, focus on planning, positive re-assessment, and perspective acceptance. Components of cognitive regulation strategies of negative emotion

are self-blame, blaming others, rumination, and catastrophization. Each subscale has six items scored on a 5-point scale (always, often, usually, sometimes, and never). The higher score on each subscale indicates the higher use of a specific cognitive strategy. Regarding the reliability of the CERQ, Garnefski et al. reported Cronbach's alpha of 0.91 for positive strategies, 0.87 for negative strategies, and 0.93 for the whole questionnaire [22]. The subscales of the Persian version of the CERQ also had a good internal consistency (Cronbach's alpha of 0.76 to 0.92). The components and overall subscales scores were significantly correlated ( $r=0.46$  to  $r=0.75$ ) and the obtained retest correlation coefficient value (0.51 to 0.77) indicated the scale stability [22]. In this study, the validity and reliability of this questionnaire were 0.73 and 0.79, respectively.

### The Connor-Davidson Resilience Scale (CD-RISC)

CD-RISC is a 25-item scale developed by Conner and Davidson (scored on a 5-point scale ranging from zero (completely false) to four (always true) [23]. To determine the validity of this scale, the correlation of each item with the total score of the items was first calculated, followed by using the factor analysis. The correlation of each score with the total score, except for item 3, showed its coefficients between 0.41 and 0.64. Then, using factor analysis, the scale items were analyzed with the principal component analysis model. Before extracting the factors based on the correlational matrix of items, the Kaiser-Meyer-Olkin value was 0/87 and the two Chi value in Bartlett's test was 5556/28, indicating the adequacy of factor analysis [23]. In the present study, the validity and reliability of the CD-RISC were 0.78 and 0.82, respectively.

### Self-control Questionnaire

This questionnaire was developed by Tangney et al. and consisted of 13 items [24]. It is scored on a 5-point Likert scale (1="does not apply to me at all, 2=applies to me to some degree, 3=sometimes it applies to me, 4=most of the time, it applies to me, and 5=it always applies to me. Questions 2, 3, 4, 5, 7, 9, 10, 12, and 13 are scored inversely. Tangney et al. [24] reported the reliability of 0.91 for this questionnaire and in another research, its reliability using Cronbach's alpha was obtained 0.80 [25]. In the current study, the validity and reliability of the questionnaire were 0.86 and 0.89, respectively.

After sampling, the subjects were assigned in the control and experimental groups and the pre-test was

**Table 1.** Summary of the Acceptance and Commitment Therapy (ACT) sessions

Sessions	Contents
First	Familiarizing the group members with each other and establishing a therapeutic relationship; familiarizing the members with the research subject; general measurement, controlling techniques measurement, establishing creativity, and answering the questionnaires
Second	Investigating the inner and outer world in the ACT, creating the willingness to quit inefficient programs and the realizing that the problem is controlled without providing the solution, and substituting strategies for control the problem, such as willingness.
Third	Identifying the individual's values, specifying the goals, specifying actions, and specifying obstacles.
Fourth	Examining the values of each person and deepening the previous concepts.
Fifth	Realization of fusion and departure and doing exercises for departure.
Sixth	Realization of fusion to a conceptualized self and training how to depart from it.
Seventh	Mindfulness and emphasis on living in the present moment.
Eighth	Examining the story of life and committed action.

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conducted for both groups. The experimental group was then subjected to the ACT-based intervention [26] in eight 90-min sessions once a day weekly. No intervention was conducted for the control group. After the intervention, the post-test stage was conducted. The treatment plan of the experimental group is summarized in Table 1.

Data were analyzed using SPSS software V. 22 and descriptive and inferential statistics. Mean and standard deviation were used to describe the data, and in inferential analysis, after testing the validity of the assumptions, the One-Way Analysis of Covariance (ANCOVA) was applied.

## Results

The mean age of the experimental and control groups was 34.7 (5.4) and 35.1 (6.7) years, respectively, and both groups were homogenized for age.

The Shapiro-Wilk and Kolmogorov-Smirnov test confirmed the normal distribution of data ( $P < 0.05$ ). Also, the equality of variances and mean assumptions in the pre-test stage were approved ( $P < 0.05$ ). The assumption of homogeneity of variances was confirmed during the study ( $P < 0.05$ ). Furthermore, the assumption of linearity between pre-test and post-test was significant ( $P < 0.05$ ). In examining the assumption of homogeneity of the slope of the regression line, all traits were investigated. The results confirmed the homogeneity of the slope of the regression

**Table 2.** The mean score of cognitive emotional regulation, resilience, and self-control in the pre-test and post-test

Variables	Groups	Mean $\pm$ SD		P
		Pre-test	Post-test	
Cognitive regulation of positive emotions	Experimental	52.4 (10.5)	60.2 (13.7)	0.001
	Control	52.5 (10.1)	53.7 (10.6)	0.73
Cognitive regulation of negative emotions	Experimental	59.5 (9.3)	48.2 (.4)	0.001
	Control	59.1 (8.6)	59.3 (8.4)	0.49
Resilience	Experimental	48.8 (7.9)	57.8 (10.1)	0.001
	Control	47.8 (7.8)	48.1 (7.9)	0.56
Self-control	Experimental	35.8 (4.2)	46.8 (7.9)	0.001
	Control	35.4 (7.2)	46.8 (7.3)	0.81

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**Table 3.** Results of Analysis Of Covariance (ANCOVA) of the research variables

Variables	Sources	SS	df	MS	F	P	Power
Positive emotional regulation	Pre-test	769.86	1	769.86	23.6	0.01	0.17
	Group	704.54	1	704.54	5.70	0.02	0.16
	Error	35.3	27	123.49			
Negative emotional regulation	Pre-test	7.41	1	7.41	6.84	0.01	0.71
	Group	111.87	1	111.87	103.25	0.0001	1.00
	Error	29.25	27	1.08			
Resilience	Pre-test	899.53	1	899.53	11.09	0.002	0.27
	Group	1981.78	1	1981.78	24.43	0.0001	0.45
	Error	2351.96	27	81.10			
Self-controlling	Pre-test	10247.94	1	10247.94	96.51	0.0001	0.70
	Group	10058.46	1	10058.46	68.23	0.0001	0.70
	Error	4275.05	27	14.41			

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line so that the F-value regarding the interaction effect of the pre-test score and group was not significant ( $P < 0.05$ ).

### Discussion

The obtained results revealed that ACT was effective in positive emotion regulation, negative emotion regulation, resilience, and self-control. The mean scores of the positive and negative emotion regulation, resilience, and self-control in the pre-test and post-test of the control group showed no significant differences. These findings are consistent with the results reported by Norte et al. [27], McCracken et al. [28], and Asanjarani et al. [29].

In explaining the findings, it can be said that cognitive emotional regulation reduced negative emotions and increased positive emotions and adaptive behavior of divorced women. Therefore, using ACT, divorced women use emotions correctly and can be informed about the sensations and accept them. Expressing emotions, especially positive emotions in life situations reduces negative emotions, and consequently, the adaptation level of divorced women in terms of socio-emotional adjustment skill can be improved.

In other words, divorced women are unaware of their positive and negative emotions and cannot use them accurately in their life situations because their psychological problems make them evaluate themselves negatively and do not use their strategies to cope with the problems. However, training the components of ACT makes the divorced women aware of the negative emotions and their negative influence on themselves and by

reassessing emotions in different situations, they try to keep healthy emotions leading to reduced mental problems. Concerning the effect of ACT on cognitive emotion regulation strategies in women, McCracken et al. [28] and Asanjarani et al. [29] believed that training the strategies to avoid or control unpleasant and unwanted mental experiences to people with low emotional regulation while attending the training sessions of ACT not only is ineffective but also has the opposite effect and exacerbate their stress. Therefore, women are helped to experience disturbing thoughts merely as a thought and become aware of their consequences and nature. They are also encouraged to do useful activities consistent with their values instead of responding to these thoughts. Accordingly, they gradually can focus on their activities, goals, and plans and achieve positive and favorable emotional outcomes.

ACT through its components helps divorced women to pay full attention to existing situations without judgment because one of the reasons that negatively affect the mental health of divorced women is the feelings of guilt and failure. Applying the ACT-based intervention due to its underlying strategies, such as the acceptance, increasing awareness, desensitization, living at the moment, observing without judgment, and encountering can increase resilience while reducing psychological symptoms. Divorced women who received coping skills training can cope with stressful events with optimism and confidence, and in general, they use their information processing systems more efficiently [29].



The effectiveness of ACT-based training to improve coping skills can be due to the mediating role of its therapeutic processes. Through the ACT process, an alternative is presented to deal with the events; for example, willingness and acceptance are introduced as the alternatives to avoidance. The willingness and acceptance components make it possible for the person to accept unpleasant internal experiences without attempting to control them. It makes unpleasant experiences seem less uncontrollable with lower impacts on his life. The processes of mindfulness used in this treatment cause remarkable changes in the subject's attention. In other words, it drives attention to provide insights into mental events that allow one to observe mental events instead of considering them as a part of his existence [30, 31].

This study had some limitations that should be considered for generalizing the results. The present study was conducted on divorced women referring to the Justice Counseling Center in Babol, therefore, the results cannot be generalized to other cities and regions. Also, due to the time limit and lack of access to the subjects, the follow-up stage was not performed. It is suggested to compare the effectiveness of cognitive-behavioral therapy with other therapeutic approaches to provide a clearer picture of the effectiveness of this treatment according to Iran's cultural context. Performing the follow-up stage after treatment to evaluate the long-term effects of ACT, stabilization of the last training sessions, and finally considering reminder sessions are recommended after the end of the treatment period to prevent the loss of treatment effects.

## Conclusion

The obtained results showed that ACT led to an increase in positive cognitive regulation, resilience, self-control, and a decrease in negative cognitive regulation in divorced women.

## Ethical Considerations

### Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages and signed the informed consent. They were also assured of the confidentiality of their information. Moreover, they were allowed to leave the study whenever they wish, and if desired, and the results of the research would be available to them.

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## Authors' contributions

All authors contributed equally in preparing all parts of the research.

## Conflict of interest

The authors declared no conflict of interest.

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