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Investigating and Comparing the Effectiveness of Cognitive-Behavioral Therapy and Acceptance and Commitment Therapy on Emotional Self-efficacy of Family Headed Women

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Abstract

Although emotions are the evolutionary mechanism, it has been attempted to control and direct these evolutionary programs. One of the ways to control emotions is to promote emotional self-efficacy. The purpose of this study was to investigate and compare the effectiveness of CBT and ACT on emotional self-efficacy of the family-headed women. For this purpose, 200 women were selected from among female-headed families under the auspices of the Imam Khomeini Relief Committee (IKRC) of Tehran. They were tested by emotional self-efficacy questionnaire. The control group did not receive any intervention. The experimental groups went through nine training sessions, respectively, on the CBT and ACT. The collected data were analyzed using SPSS-23 software and one-way covariance analysis. Results showed that both of the approaches were effective in the dependent variable, but there was no significant difference between them. Based on the results of the research, emotional self-efficacy of the family headed women can be increased by group-based CBT and ACT approaches.

Keywords: Acceptance and Commitment Therapy, Cognitive-Behavioral Therapy, Emotional Self-Efficacy, Family headed women.

Introduction

The evolutionary origins of emotions are rooted in Darwin's studies. He believed that there was a continuum of emotional demonstrations between humans and non-human beings (Oatley, Keltner, & Jenkins, 2006). The evolutionary psychology perspective recommends that emotion is a coordinating mechanism whose evolved role is to organize a diversity of programs in the mind and body in the service of resolving a specific adaptive issue (Al-Shawaf & Lewis, 2017). For example, fear is a coordinating evolutionary program to avoid danger or escaping from it, the hate is a regulating mechanism for preventing infectious disease, and sexual stimulation is a psychological and physiological coordination program for obtaining a mating opportunity (Al-Shawaf & Lewis, 2017). Referring to the coordinating role of emotions, Cosmides and Tooby (2000) presented a list of programs that are regulated by emotions. This list includes perceptual mechanisms, attention, memory, classification, motivational preferences, goal setting, the adaptation of information gathering, learning processes, and others.

Given the vital role of emotion in human life, attempts to manage it have begun. One of the emotions management approaches is the Emotional Intelligence System, which was first proposed by Meyer and Sowley (Mayer, Caruso, & Salovey, 2016). Emotional intelligence refers to the mental ability to identify and control the emotions of one's self and others. This construct, formulated in four dimensions includes self–awareness, self-regulation, empathy and relationship

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management (Mayer et al., 2016). Another approach in the control and direction of emotions is the belief in the ability to control emotions that are rooted in the emotional self-efficacy construct. Qualter et al. (2015) have identified emotional self-efficacy as individual beliefs about managing their emotions follow Bandura and considering the role of self-efficacy in the processing of emotional information.

The recent studies have shown that there is a relationship between behavioral disorders and social injuries with the ability of individuals to analyze own self, lack of control and self-efficacy to confront difficult situations (Taromian, 2007).

One of the most important mechanisms of influence on oneself is self-efficacy (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). Bandura et al. (2001) defined self-efficacy as a person's belief and judgment of his ability to perform a particular assignment. There are certain types of self-efficacy, including emotional self-efficacy, creative self-efficacy, and social self-efficacy. Emotional self-efficacy means a person's perception of his ability to control and manage emotions and negative thoughts (Muris, 2001). Individuals with high emotional self-efficacy have more appropriate reactions to negative emotions (Willemse, Van Wyk, & Smith, 2011).

Typically, people who have a high level of emotional self-efficacy are sensitive to the emotions of others, and they are open to acceptance of negative experiences, as well as being able to change the emotions to a flexible and adaptable state. A high level of emotional self-efficacy leads to a sense of life satisfaction in general, positive beliefs, and emotional control ability (Goroshit & Hen, 2014).

Many studies have shown that low emotional self-efficacy people have less mental and physical health. These people cannot cope with stress. On the contrary, high emotional self-efficacy people can cope with stress. Low self-efficacy is associated with low mental health (Bandura et al., 2001). Dogan, Totan, and Sapmaz (2013) reported that there is a positive and significant relationship between self-esteem, psychological well-being, emotional balance, emotional self-efficacy, and happiness.

Several interventions have been used to enhance the emotional self-efficacy, including Cognitive-Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT). Cognitive-behavioral therapy is an approach that is used to improve a wide range of psychological issues. In this approach, the emphasis is placed on the continuity of thoughts, feelings, and behavior. It is believed that individuals can counter psychological stresses by rebuilding their thoughts. In this approach, individuals are encouraged to experience better feelings and behave more appropriately by recognizing their negative thoughts and cognitive distortions, challenging them, and resuming their thoughts (Prochaska, Norcross, & DiClemente, 1994).

Earlier studies have shown that CBT is effective in anxiety management, depression control, and increased life satisfaction (McHugh, Hearon, & Otto, 2010), improving mood and anxiety symptoms, enhancing patience and improving the quality of life of patients (Sugarman, Nich, & Carroll, 2010), improving relationships with peers, reducing depression (Osilla, Hepner, Muñoz, Woo, & Watkins, 2009), increasing life satisfaction (Driessen & Hollon, 2011), and strengthening women's self-concepts after divorce (Nili ahmadabadi, Arian, & Sadipoor, 2015).

On the other hand, the ACT is a functional contextual intervention based on relational framework theory. In this approach, it is believed that human suffering comes from his psychological inflexibility, which is reinforced by cognitive fusion and experiential avoidance. In this way, people try to avoid or change many of the most disturbing emotions, feelings, or thoughts. These efforts are ineffective and paradoxically lead to intensified feelings, emotions, and thoughts (Hayes & Strosahl, 2004). The purpose of this approach is to create psychological flexibility through the six processes of acceptance, defusion, self as a context, contact with the present moment, values, and committed action. Psychological flexibility means that one can live in the present rather than in the past and the future, identifying their values and goals. A person instead of avoiding negative thoughts, feelings, memories or desires, takes the behavior that is consistent with his/ her values and goals (Hayes et al., 2004).

Previous studies have shown that ACT is effective on marital satisfaction and interpersonal and psychological anxiety (Peterson, Eifert, Feingold, & Davidson, 2009), couple distress (Amanollahi, Haryan Fard, Khojasteh Mehr, & Imani, 2014), emotional wellbeing and marital satisfaction (Narimani & Bakhshaiesh, 2014), depression and suicidal thoughts (Walser et al., 2015), acceptance of pain and anxiety (Anvari, Ebrahimi, Neshat Doost, Afshar, & Abedi, 2014), obsessive-compulsive symptoms (Twohig & Whittal, 2008), depression (Hor, Aghaie, Abedi, & Attari, 2013), psychosis (Bach & Hayes, 2002), mental and physical illnesses (Mantovani, Simpson, Fallon, Rossi, & Lisanby, 2010), chronic pain (Johnston, Foster, Shennan, Starkey, & Johnson, 2010), symptoms of generalized anxiety and quality of life (Ebrahimi, Rezaeian, Khorvash, & Zargham, 2013).

Although Both of CBT and ACT are cognitive focused, and they are on the same side, there are some differences, however, between them. CBT is the second generation of cognitive-behavioral therapies, while the ACT is the third generation of cognitive therapies. In this treatment, unlike CBT, most focus is on accepting problems and dealing with them in a non-judgmental way without attempting to change behavior and cognition. So comparing these two approaches and their effectiveness can be challenging and useful. Since both CBT and ACT approaches have shown their effectiveness separately on variables such as quality of life and general self-efficacy, the present study aimed to investigate the effectiveness of these approaches on promoting emotional self-efficacy in female-headed households.

Considering the above mentioned and also after searching the researches, no study was found to investigate the simultaneous effects of both ACT and CBT on emotional self-efficacy. Therefore, the purpose of the present study was to compare the effects of these two methods on the emotional self-efficacy of family-headed women.

Material and Methods

The statistical population of this research is all headed-family women under the protection of Imam Khomeini Relief Committee of Tehran, region 16. An accessible sampling method was used considering the number of the headed family women referral to the Committee for counseling, cooperation to attend the training sessions, as well as the easy of informing them about training sessions and organizing the training sessions. For this purpose, among the women who were supported in the region 16, after responding to the emotional self-efficacy questionnaire, 45 women were selected as participants and assigned in three groups including

two experimental and one control group. In this way, 45 of those who received low scores were randomly assigned to two experimental and one control groups. Subsequently, each of the experimental groups received CBT and ACT for 9 sessions of 1.5 hours. But the control group did not receive any training. In the pre-test and post-test, the emotional self-efficacy questionnaire was distributed among participants in the three groups. In regards to the research ethics, after the completion of the research, the control group was also trained. The inclusion criteria were the scores that are lower than the average in the emotional self-efficacy questionnaire, the age range of 30 to 50 years old, being headed family, supported by the Relief Committee and having a minimum fifth degree of elementary school education. Exclusion criteria were also the diagnosis of clinical disorders and severe physical illness, reluctance to continue treatment, long-term use of antipsychotics drugs, absences in more than one session, and no complete the questionnaire.

Ethical issues: The informed consent of the participants to enter the research was obtained. Information about the method of implementation and the purpose of the research, the possible harms, benefits, nature, and duration of the research were given to the participants. Participants announced that they could withdraw the research at any time. It also informed participants that their information would consider confidential and would not be disclosed.

The data collection tool was emotional self-efficacy questionnaire. This questionnaire, developed by Kirk, Schutte, and Hine (2008), is a single-factor instrument with 32 items. Items are scored on a 5-point Likert scale. Its reliability was reported as 0.96 based on Cronbach's alpha and 0.85 based on the test-retest method in Iran (Mohammadi Dehaghani & Yousefi, 2016). Khodayari Fard, ManzariTazakoli, and Farahani (2012) studied the psychometric properties of it. The results indicated that both exploratory and confirmatory factor analysis confirmed the single factor structure of the emotional self-efficacy questionnaire. The internal consistency of the scale in terms of Cronbach's alpha was 0.79 (Khodayari Fard et al., 2012). In the current study, the internal consistency of the questionnaire was 0.79 using Cronbach's alpha.

Table1. Description of training sessions based on ACT

Session	Aim	Activities	Assignments
1	Establishment of therapeutic relation, introduce the research subject to participants, pre-test	Introduction and familiarity, the expression of research goals and research process, the number of sessions and group rules, pre-test implementation	describe their goals of participating in the research by the participants
2	Introduction emotional self-efficacy to the experimental group	Reviewing the assignments of the previous session and discussing about the aims of the participants, providing explanations on the emotional self-efficacy and its role in life	Identify the emotional self-efficacy effects in personal and social life by participants
3	Review inefficient control strategies and create creative helplessness	Reviewing the assignments of the previous session. Reviewing the control strategies used by individuals to deal with the problems, and examining the effectiveness and inefficiency of them, assisting participants to identify the futility of control strategies using the metaphor of the well	Identification of control strategies and their impact on personal and social life

4	Mindfulness and acceptance training	Reviewing the assignments of the previous session and discussing the futility of the control strategies, explaining about avoiding painful experiences and its consequences, introducing the mindfulness and acceptance, introducing the steps of acceptance, practicing the acceptance of thoughts and feelings	Implementing mindfulness exercises during the week and studying their impact on personal and social life
5	Cognitive defusion training	Explaining cognitive fusion and expressing the relationship between emotions, cognitive functions and observable behavior, cognitive defusion training and distance from thoughts, observing thoughts without judgment, action independent of subjective experiences using train metaphor	Implementing cognitive defusion exercises during the week and studying their impact on personal and social life
6	self-known as "self-as-context"	Reviewing the assignments of the previous session and examining the effect of cognitive defusion training in the participants' lives, explaining the role, context, and types of self, moving towards a valuable life with a receptive and observer self-using the metaphor of chess board	Practicing awareness of different feelings and separating from subjective content ones, examining their effects in personal and social life
7	Values: Discovering what is most important to oneself	Reviewing the assignments of the previous session, discussing about the effects of observing thoughts in the lives of participants, explaining the concept of values, motivating to change and empowering client for better life.	Identify the values and prioritize them in the ten areas: family, marriage, friendship, occupation, education and personal growth, recreation and entertainment, spirituality, social life, environment and nature and health
8	Committed action	Reviewing the assignments of the previous session and discussing about the values and barriers to action based on them, creating flexible behavioral patterns consistent with values, and creating committed action in line with goals and values and passing the barriers using passengers on the bus metaphor	Identifying and implementing behavioral plans in accordance with values and examining their impact on personal and social life
9	Sessions summarizing, Post-test performing	Reviewing the assignments of the previous session and discussing about the consequences of action based on values, reviewing constructive changes during the training course and learning how to consolidate them, presenting a summary of treatment sessions and receiving feedback from participants, performing post-tests and completing training sessions	

Table2. Description of cognitive-behavioral training sessions

Session	Aim	Activities	Assignments
1	Establishment of therapeutic relation, introduce the research subject to participants, pre-test	Introduction and familiarity, the expression of research goals and research process, the number of sessions and group rules, pre-test implementation	describe their goals of participating in the research by the participants
2	Self-awareness	Reviewing the previous session assignments, discussion about the goals of participants of attending the research plan, the empowerment of the members in the field of self-awareness and recognize the characteristics, needs, desires, goals, values and identity	Identify and note positive and negative features, needs, desires, and values
3	Identify and change of cognitive distortion	Reviewing the previous session assignments, discussion about the problems of the participants on the path of self-awareness and reviews the needs and desires, introducing the relationship between thought, feeling and behavior and familiarity with spontaneous thoughts cognitive distortions, and challenging cognitive distortions	Diary events, thoughts and feelings following them and identify the cognitive distortions
4	Familiarity with the concept of attribution	Reviewing the previous session assignments, discussion about identified cognitive distortion and its effect on the thoughts, feelings and behavior concept of in clients, knowing the attribution and recognizing the causes of misinterpretation and training techniques to change attributions	Recognizing the attributions of bad events in life and try to change wrong attributions
5	Introduction to problem solving skills	Reviewing the previous session assignments, discussion about the effect of attribution change in behavior, thoughts and feelings, problem-solving skills training includes the definition of the problem, alternative solutions, evaluation solutions, selection and implementation of the selected solution and evaluate the applied solution	Check one of the problems faced by client and applying problem solving skill about it
6	Introduction of communication and negotiation skills	Reviews of assignments of previous session and discussion about the impact of applying the problem-solving skills in personal and social life, the definition of the communication and its elements, introducing the effective communication skills and its features, training effective negotiation styles and solving the controversy	Practice communication skill during the week and reviewing its consequences
7	Introduction of assertive behavior	Reviews of assignments of previous session, discussion about the impact of applying effective communication practices in personal and social life, introducing the assertive behavior, practical activities and role playing to learn communication skill	Practice assertive behavior during the week and reviewing its consequences
8	Reviewing the constructive changes and consolidating them	Reviewing of previous session assignments, discussion about the impact of applying the assertive behavior in social and personal life, reviewing the constructive changes during the treatment sessions, highlighting the success of talk about consolidation	Notes the positive and negative points of trainer, training method and research design

		of changes	
9	Summarizing the sessions and performing the posttest	Provide a summary of the training sessions and an overview of trained skills, discussion about the positive points and weakness of therapist, training plan and get feedback from the participants, performing the posttest.	

Results

The descriptive statistics of mean and standard deviations were used to describe the dependent variable and to test the hypothesis of the research; one-way covariance analysis was also used. The number of participants in this study was 45 headed-family women sponsored by the Relief Committee, who were ranging from 28 to 49 years old. The mean age for the ACT group was 37 years, for the CBT group was 41 and for the control group was 40 years. The mean and standard deviation of emotional self-efficacy scores in the three groups are presented in Table 3.

Table3. The mean and standard deviation of emotional self-efficacy in pre-test and post-test in research groups

Variable	Group	Pretest		Posttest	
		Mean	SD	Mean	SD
Emotional self-efficacy	Control	60.53	3.33	61.53	2.53
	ACT	59.53	3.68	78.20	8.52
	CBT	61.53	2.74	81.86	12.31

It should be noted that before the covariance analysis, the assumptions, which includes the homogeneity of variances and normality were performed. It was found according to the result of the Kolmogorov-Smirnov test that the value of Z was 0.127, and the value of P was 0.12, of which the normality of data was confirmed. Also, Levine test was used to check the homogeneity of variances. It was found that the value of P for the emotional self-efficacy was 0.44 and the F value was 1.08, which, homogeneity of variances was confirmed. The results of covariance analysis are presented in Table 4.

Table4. The results of the covariance analysis of the effects of ACT and CBT on emotional self-efficacy

Sources	SS	DF	MS	F value	P.	Eta
Corrected model	3576.03	3	1192.01	15.27	0.001	0.53
Group	3485.08	2	1742.54	22.33	0.001	0.52
Error	3199.16	41	78.02			
Total	252308	45				
Corrected total	6775.20	44				

As shown in Table 4, the results of covariance analysis by controlling the effect of pre-test showed that there is a significant difference between the three groups. Bonferroni's post hoc test was used to compare the emotional self-efficacy scores of the three groups in the post-test. The

results of Bonferroni's post hoc test showed that there is a significant difference between the control group and ACT and CBT in the emotional self-efficacy (P <0.001). Based on this result, ACT and CBT caused a significant increase in the emotional self-efficacy of family-headed women compared with the control group. However, there was no significant difference between the two methods of intervention in post-test scores (table 5).

Table5. Pairwise comparisons of emotional self-efficacy scores in post-test of three groups by Bonferron's post hoc test

Variable	Factor (i)	Factor (j)	Mean differences	SD	P.
Emotional self-efficacy	Control	ACT	-17.008	3.25	0.001
		CBT	-19.99	3.52	0.001
	ACT	CBT	-2.98	3.33	0.68

Discussion

The results showed that ACT is effective in increasing the emotional self-efficacy of family headed women. The results of the present study are consistent with previous studies (Ebrahimi et al., 2013; Lee & Ha, 2018; Narimani & Bakhshaiesh, 2014; Walser et al., 2015). The emotional self-efficacy is defined as one's belief in the emotional function. Saarni (1999) points out that the importance of emotional self-efficacy is in challenging emotional experiences. The consequence of one's capacity for emotional self-efficacy is that he/she can succeed in challenging negative emotional experiences to manage the intensity, frequency, and duration of them. People with high emotional self-efficacy are capable of managing negative emotions and they are not overwhelmed by these emotions.

One of the topics taught in the ACT is "Cognitive Defusion" which plays an important role in the management of thoughts and feelings. In acceptance and commitment therapy, it is believed that product thoughts are a normal process of mind. What converts thoughts to beliefs is the person's caught up with the content of thoughts. When one acts according to the content of a thought, it means that he/she was caught up with the content of that thought, and the result of this process is ineffective beliefs. ACT helps clients to avoid submission to their thoughts through cognitive defusion interventions and, instead, find ways to interact more effectively with the world they are experiencing directly (Peterson et al., 2009).

Cognitive defusion interventions include exercises that break the literal meaning of internal events. The purpose of these exercises is to teach clients to think about thoughts just as thoughts, emotions just as emotions, memories just as memories, and physical sensations just as physical sensations. None of these internal events, when experienced, are inherently harmful to human health. Their trauma is because they are seen as traumatic, unhealthy, and bad experiences and therefore should be controlled and eliminated (Hayes & Strosahl, 2004). Acceptance and commitment-based treatment techniques emphasize the reduction of cognitive fusion. When cognitive fusion is reduced, that is, cognitive defusing occurs and the person can see one thought just as one thought (acceptance) and not as a truth, and therefore not act accordingly. If he has not done anything due to unpleasant thoughts or emotions and now he is acting on those thoughts and feelings, he will realize that he is capable of doing so and his self-efficacy will increase.

The findings also showed that CBT increases the emotional self-efficacy of the family headed women. Findings are in line with earlier studies (Driessen & Hollon, 2011; McHugh et al., 2010; Nili ahmadabadi et al., 2015; Osilla et al., 2009; Sugarman et al., 2010).

According to Bandura (1997) social cognition theory, one of the pieces of training applied to clients in enhancing emotional self-efficacy is the use of role-playing, modeling and the training of assertiveness skills. Self-rewarding techniques were used to increase awareness of their abilities. Also, each member of the group rated the positive traits from the perspective of the other members of the group, intending to make the participants know their positive abilities and characteristics from the perspective of the others. They were thus encouraged to reinforce their understanding as per their abilities. Problem-solving skills training was also part of the intervention program to enhance participants' ability to solve the problems. Therefore, these skills increase participants' sense of empowerment and self-efficacy.

According to Taylor (2006), cognition is the foundation of behavior and emotion, so that after the cognitive change, behavior modification, and emotion regulation will be more permanent. Performing psychological interventions focusing on attribution style modification, challenging irrational beliefs, relaxation, and coping skills training are therapeutic strategies based on cognitive-behavioral approaches that not only improve negative emotional outcomes but also moderate levels of negative emotions. Cognitive-behavioral therapy can have a better role in increasing self-efficacy and improving quality of life. Increasing self-efficacy makes people feel inner satisfaction and this in turn increases happiness, mental well-being and quality of life (Taylor, 2006).

Researchers believe that using methods used in this treatment, such as relaxation and mental imagery, can lead to a better understanding of their thoughts and better coping with their emotions (van der Heijden, van Dooren, Pop, & Pouwer, 2013).

Finally, by coping with unpleasant emotions, cognitive-behavioral training enables individuals to identify their own and others' emotions. When people are aware of the impact of emotions on their behavior, this causes them to have good feedback on different emotions and feelings, which in turn improves their emotional self-efficacy.

The results of this study showed that ACT and CBT increase the emotional self-efficacy of family headed women. Due to the role of emotional self-efficacy in the quality of life of these women, it is recommended to family counselors and psychologists to use these pieces of training.

In addition to the findings, the present study has some limitations that should be considered in generalizing the findings. One of these limitations was the low socioeconomic levels of the participants so that financial and economic issues reduced the motivation for attending training sessions. Also, available sampling and the use of self-report questionnaires have limited the generalization of the results of this study. Finally, in this study, there was no follow-up period due to time limitation. It is recommended that a follow-up period be considered in future studies to determine the extent of treatment effects.

Conflict of Interest: The authors declare that they have no competing interests.

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