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## Comparing the Effectiveness of Resilience Training and Acceptance and Commitment Therapy on Emotion Self-regulation and Self-efficacy in Employees of Shiraz Oil Companies

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### ABSTRACT

**Objective:** The objective of the current investigation was to compare the efficacy of resilience training and acceptance and commitment therapy (ACT) in enhancing the emotion self-regulation and self-efficacy among employees of Shiraz oil companies.

**Methods:** This study employed a semi-experimental design consisting of pre-test and post-test assessments with a control group. The statistical population for this study encompassed all employees of oil companies in Shiraz in 2022. A total of 75 individuals were selected through a convenience sampling method and assigned to three groups (first experimental group: 25 individuals; second experimental group: 25 individuals; control group: 25 individuals). The first experimental group underwent resilience treatment program, while the second experimental group received ACT. The control group did not receive any specific intervention. Data collection involved the utilization of emotional regulation questionnaire (Gratz & Roemer, 2004) and Sherer's General Self-Efficacy Scale (SGSES; 1982).

**Results:** The findings revealed a significant difference in emotional self-regulation between the control group and the training groups that were based on ACT and resilience. However, there was no significant difference in the impact of the ACT compared to resilience on the emotional self-regulation of the participants. Furthermore, a significant difference was observed in self-efficacy between the control group and the training groups based on ACT and resilience.

**Conclusions:** Consequently, it can be concluded that both interventions exerted a significant influence on the self-efficacy of participants. Moreover, a noteworthy distinction was found between the ACT and resilience training. In essence, it can be stated that the teaching method based on acceptance and commitment had a greater effect on the self-efficacy of the participants.

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## **Introduction**

The primary focus of oil companies is consistently directed towards the organizational performance of their employees. Within these organizations, achieving organizational performance is contingent upon individual performance. The performance of employees is subject to numerous influencing factors, including employee personality traits, responsibility, skills, knowledge, satisfaction, motivation, work environment, work relationships, and emotional regulation during work. Considering the unique circumstances surrounding employees of oil companies, it is imperative for these individuals to possess a high level of self-efficacy. Self-efficacy serves as a crucial component in enhancing employee performance (Setin and Eskom, 2018). Self-efficacy refers to individuals' belief in their ability to exert control over their performance as well as the events that impact their lives. It significantly influences personal motivation, well-being, and overall success (Chen, Ching, Lian, Song, & Tian, 2021). In essence, self-efficacy encompasses the cognitive, behavioral, and motivational aspects required to engage in specific activities, resulting in variations in individuals' approaches. Inadequate self-efficacy leads to heightened levels of stress, depression, anxiety, and helplessness, thereby impacting individuals' cognitive processes and achievements. Notably, self-efficacy beliefs can accurately predict individuals' behavior as it is shaped by their perception of their knowledge, abilities, skills, and expertise (Koshki, Keramati and Hosni, 2017).

Among the various factors influencing employee performance within any organization, emotional regulation has been identified through numerous studies as a significant determinant of social adaptation and accountability among organizational members (Hasirchaman, Shakriani and Sadeghi, 2018). Emotional regulation aids in comprehending emotional experiences and effectively managing emotions following events. Fundamentally, emotion regulation serves as a resource that empowers individuals to control their experiences and transform them into outcomes that foster positive emotions, favorable relationships, and an overall enhanced quality of life. It encompasses a psychological function inherent to human adaptation. The ability to comprehend emotional experiences and modify emotional responses allows individuals to effectively navigate environmental demands and leverage available opportunities within specific situations (Duff, Findersin, Sudokam and Wosner, 2021). To modulate emotional circumstances, individuals regulate their emotions by reassessing them in the face of events or employing distraction

techniques, all with the aim of tempering the emotional impact induced by said events (Gross, 2013).

According to research evidence, resilience training is one of the effective ways to regulate emotions and self-efficacy. Resilience makes people use their existing capacities in difficult situations and in spite of risk factors to achieve success and personal life growth and take advantage of these challenges and tests as an opportunity to empower themselves. There are many ways to increase resilience. Some of these include having a good support system, maintaining positive relationships, having a good self-image, and having a positive attitude. Those who are resilient cope with life much better and can be happier than those who are not (Robertson & Cooper et al., 2015).

One of the recent techniques employed to enhance employee performance and cope with challenging work environments is training that emphasizes commitment and acceptance. Acceptance and commitment training is an evidence-based counseling method implemented to ameliorate work performance and alleviate stress within the workplace. Drawing upon the principles of Acceptance and Commitment Therapy (ACT), which has been successfully utilized both in clinical settings and work contexts, this training method facilitates observable changes in behavior and primarily focuses on bolstering employees' psychological flexibility (Hayes et al., 2006). Its primary objective lies in cultivating psychological flexibility, namely the ability to select actions from a multitude of alternatives that are more suitable, rather than merely engaging in actions as a means to evade distressing thoughts, emotions, memories, or inclinations, or as a result of external imposition (Martinez and Gonzalo, 2022).

To conclude, the selection of an appropriate training approach represents a significant concern in any intervention. In accordance with the pursuit of employing the most effective intervention method, the present study endeavors to compare resilience training with training based on acceptance and commitment regarding their impact on employees' emotion regulation and self-efficacy within the subsidiaries of Shiraz oil company. The aim of this investigation is to ascertain which intervention approach proves to be more fitting in this regard.

## Materials and Methods

The current research is applied research in terms of its purpose, and in terms of data collection, it is in the category of semi-experimental studies of pre-test and post-test design with a control group. The statistical population of the current research was all the employees of the oil subsidiaries of Shiraz in 2022, and considering that it was semi-experimental research, the number of 75 employees with obvious criteria based on the aforementioned evaluations was selected as accessible sampling and in three groups (first experimental group: 25 people; second experimental group: 25 people; control group: 25 people) were assigned. The first experimental group was trained in the resilience treatment program and the second experimental group was trained in the treatment program based on acceptance and commitment, and the control group did not receive any special intervention.

The inclusion criteria included the following; Introduction by the relevant organization, having a desire to participate in the research, having at least a diploma level of education, having at least 3 years of work experience in the Shiraz refinery, having physical and mental health (according to the health file and related questionnaires). The exclusion criteria were: having more than two absent sessions, not cooperating and not completing the tasks specified in the training sessions, and unwillingness to continue attending the research.

The measurement tools used in the research were emotional regulation questionnaire (Gratz & Roemer, 2004) and Scherer's General Self-Efficacy Questionnaire (SES).

Gratz and Roemer's Emotional Regulation Questionnaire: The original Difficulty in Emotion Regulation Scale is a 41-item self-report instrument designed to assess difficulty in emotion regulation clinically by Gratz and Roemer (2004). The items of this scale were compiled and selected based on numerous conversations with colleagues familiar with emotion regulation texts. The Generalized Expectancy Scale of Negative Emotional Regulation (NMR; Satanzaro and Mearns, 1990, cited by Gratz and Roemer, 2004) has been used as a model in developing this scale. In order to assess difficulty in regulating emotions during times of agitation (when emotion regulation strategies are necessary), many DERS statements similar to NMR begin with "when I am agitated." The range of answers is on a Likert scale of 1 to 5. One means almost never (0-10%), two means sometimes (11-35%), three means half the time (36-65%), four means most of the time (66-90%) and five means almost always (91 to 100 percent). One item was removed due to its low

correlation with the whole scale and 4 items due to low or double factor loading on two factors. In this way, 36 items remained from the total of 41 initial items of the scale. Factor analysis showed the presence of 6 factors of non-acceptance of emotional responses, difficulty in performing purposeful behavior, difficulty in impulse control, lack of emotional awareness, limited access to emotional regulation strategies, lack of emotional clarity. The results indicate that this scale has a high internal consistency of 0.93 (Gratz and Roemer, 2004). All six DERS subscales have Cronbach's alpha above 0.80. Also, DERS has a significant correlation with the NMR scale and the Acceptance and Action Questionnaire (AAQ, Hayes et al.) (Gratz and Roemer, 2004). Based on the data obtained by Kermani Mamazandi and Tale Pasand (2017), the Cronbach's alpha of this questionnaire was estimated to be 0.92.

Scherer's General Self-Efficacy Questionnaire (SES): This scale was created by Scherer, Maddox, Mercandant, Prentic-Don, Jacobs and Rogers (1982). The original version of the test included 36 questions, whose creators kept the questions that had a load of 0.40 in each of the social and general factors for the analysis. Based on this, 13 questions that did not have this feature were removed and the test was reduced to 23 questions. Out of these 23 questions, 17 questions measure general self-efficacy with an average of 99.57 and a standard deviation of 12.80. The reliability coefficient was obtained through Cronbach's alpha method for the general self-efficacy subscale and social self-efficacy subscale of 0.86 and 0.71, respectively (Scherer, Maddox, Mercandant, Prentic-Don, Jacobs and Rogers, 1982). The validity and reliability of this test was confirmed by Asgharanjad, Ahmadi Deh Qutbi, Farzad and Khodapanahi (2006). These researchers reported the reliability of the self-efficacy scale with Cronbach's alpha equal to 0.79. The following two protocols have been used to implement intervention methods.

**Table 1.** Summary of resilience training sessions

Session	Contents
1	Familiarization of the group members with each other and with the group leader, with the goals and plans and rules of the group/pre-test including the completion of the following questionnaires: social hotness scale and psychological tolerance questionnaire/creating therapeutic unity
2	Familiarizing the audience with the concept of resilience and the characteristics of resilient people, such as acting consciously and vigilantly/ alertness and awareness of the situation, recognizing one's emotions and emotions and managing them properly/ accepting obstacles as a part of life/ having a source of internal control/ possessing from problem solving skills and solid social communication
3	Cognitive reconstruction, CBA model and familiarity with cognitive errors/recognition of relationships between events and beliefs and behaviors/types of cognitive errors. such as all or nothing thinking/exaggerated generalization/mental filter/ignoring the positive/jumping to conclusions/grossing/emotional reasoning/should error/labeling/personalization and blame
4	Cognitive restructuring: challenging irrational beliefs / A-B-C continued / How to create resilient thinking? / Talking with yourself: four ways of questioning irrational beliefs: Examining evidence / Examining alternatives / Examining impressions / Examining the usefulness of a specific type of thinking (irrational) / Recording events in the form of ABCDE
5	Resilience training against stress and anger/ Familiarity with stress and how to deal with it/ Familiarity with physical symptoms of stress/ Mental, psychological and emotional symptoms/ Behavioral and cognitive symptoms of stress/ Stress levels/ Stress stages/ Problem-oriented and emotion-oriented coping strategies with stress/anger management ways. The effect of explanatory styles on resilience, familiarity with optimistic and pessimistic explanatory styles/familiarity with the relationship between optimistic explanatory style and resilience
6	Encouraging by strengthening self-esteem and positive self-talk/ defining self-esteem/ self-image, self-concept and personal image/ positive thinking and its methods such as not paying attention to negative thoughts/ accepting one's mistakes and flaws/ encouraging oneself/ not feeling guilty about issues which are out of one's control/forgiving and forgetting/giving yourself a chance
7	Self-efficacy is a factor of resilience in people/familiarity with the concept of self-efficacy and its effect on behavior/sources of feelings of efficiency or self-efficacy such as personal experience in performing a particular behavior/observation of people who perform this behavior/verbal persuasion of others/person's physiological states
8	Time management / How to make the audience familiar with time management / The ten principles of time management include: planning, targeting activities, planning activities, prioritizing activities, daily energy curve, setting deadlines, individual management, flexibility in planning the implementation of the program, evaluation and program control
9	The effect of hope on resilience and more happiness / the effect of hope on life / what are the characteristics of hopeful people? / Familiarizing the audience with the concept of hope and the characteristics of hopeful people / A brief description of empathy and communication skills

**Table 2.** Summary of treatment sessions based on acceptance and commitment

Session	Aims	Contents	Homework
1	Acquaintance, evaluation and Treatment direction	Getting to know the group, getting details from the members, introducing therapy based on acceptance and commitment	Introduction of training concentration
2	Individual evaluations	Individual evaluation interview in order to extract sources of threats to responsibility, happiness, enthusiasm and job self-efficacy in the framework of the organization.	Planning session, integration of individual and group evaluation
3	Evaluating the costs of ineffective relational efforts	Investigating the costs of responsibility, happiness, passion and job self-efficacy in the development of creative despair	Using the metaphor of a hole and a shovel
4	Concentration and acceptance	Introduction to acceptance and concentration of senses	Practice accepting thoughts and feelings
5	Cognitive fusion	Explaining and explaining the relationship of negative thoughts for members	Bus driver practice thoughts on practice sheets
6	Thoughts observation	Developing the observer's point of view and comparing one's reactions alone and oneself in relation to colleagues and the organization	Thoughts on practice worksheets for acceptance of relationship reactions
7	Choice of values Acceptance and committed action	Helping clients to clarify and identify the direction of relationship and life values/reviewing emotional inclinations in a context of committed action	What do I want in life/relationship practice right now, funeral practice, committed action sheet work
8	Identifying the obstacles to the value of life by accepting and observing self-care towards the end	Reviewing the work of the values sheet and committed action to discuss the obstacles of life values and help the clients to move with them instead of overcoming them Revision of relationship values and committed action Revision of relationship values and committed action, readiness for committed action in the future and end of treatment	Committed action sheet work, reviewing the bus driver exercise, taking committed action sheet work at home, attention concentration exercises for practice at home

## Results

Tables 3 and 4 show the mean values and standard deviation for the experimental and control groups in the pre-test and post-test stages.

**Table 3.** Mean and standard deviation of pre-test and post-test scores of emotional self-regulation and components

Variable	Group	Pretest		Posttest	
		Mean	Sd	Mean	Sd
Not accepting emotions	Control	۲۱/۰۰	۱/۳۲	۲۰/۶۰	۱/۲۹
	ACT	۲۰/۶۸	۱/۲۸	۱۸/۷۶	۲/۱۱
	RT	۲۰/۰۲	۱/۳۳	۱۷/۴۴	۱/۹۸
Goal-oriented behaviors	Control	۱۶/۰۴	۱/۳۴	۱۰/۷۶	۱/۲۳
	ACT	۱۰/۷۶	۱/۳۶	۱۳/۴۰	۲/۰۰
	RT	۱۰/۶۴	۱/۰۰	۱۳/۷۶	۲/۳۰
Impulse control	Control	۱۹/۶۴	۱/۴۷	۱۹/۲۴	۱/۴۲
	ACT	۱۹/۰۸	۱/۰۸	۱۶/۹۲	۱/۷۸
	RT	۱۹/۱۶	۱/۴۰	۱۰/۸۰	۲/۲۴
Weakness in emotional awareness	Control	۱۳/۰۴	۱/۹۰	۱۲/۷۲	۱/۷۴
	ACT	۱۲/۸۰	۱/۸۹	۱۱/۴۴	۱/۹۴
	RT	۱۳/۰۰	۲/۰۲	۱۱/۳۲	۲/۰۳
Failure to achieve strategies	Control	۲۶/۴۴	۱/۸۷	۲۶/۰۸	۱/۸۹
	ACT	۲۶/۰۰	۲/۰۰	۲۲/۶۴	۳/۲۰
	RT	۲۰/۸۸	۱/۷۰	۲۰/۷۲	۳/۹۰
Clarity in emotions	Control	۷/۶۰	۱/۶۱	۷/۲۸	۱/۶۷
	ACT	۷/۱۲	۱/۰۱	۶/۴۴	۱/۰۳
	RT	۷/۴۸	۱/۴۸	۶/۰۶	۱/۸۹
Total self-regulation	Control	۱۰۴/۸۴	۴/۶۹	۱۰۲/۶۸	۴/۹۲
	ACT	۱۰۲/۳۶	۰/۲۴	۹۰/۴۸	۶/۱۳
	RT	۱۰۲/۷۶	۴/۶۳	۸۶/۶۰	۸/۳۱

**Table 4.** Mean and standard deviation of pre-test and post-test scores of self-efficacy and components

Variable	Group	Pretest		Posttest	
		Mean	Sd	Mean	Sd
Desire to initiate behavior	Control	۲۰/۷۶	۱/۶۴	۲۰/۳۲	۱/۸۴
	ACT	۲۶/۲۰	۱/۴۴	۳۲/۹۲	۳/۳۸
	RT	۲۶/۸۸	۱/۰۶	۲۸/۸۴	۱/۹۰
Willingness to try to complete the assignment	Control	۲۰/۲۴	۲/۰۰	۱۹/۷۶	۲/۶۸
	ACT	۲۰/۲۰	۲/۲۲	۲۴/۴۴	۲/۲۰
	RT	۲۰/۷۶	۲/۰۰	۲۱/۷۶	۱/۷۹
Different in facing obstacles	Control	۹/۷۲	۱/۱۰	۹/۲۸	۰/۸۹
	ACT	۹/۷۲	۰/۹۴	۱۲/۹۲	۱/۷۳
	RT	۹/۹۶	۱/۱۴	۱۰/۷۲	۱/۳۱
Total self-efficacy	Control	۰۰/۷۲	۳/۲۱	۰۴/۳۶	۳/۷۰
	ACT	۰۶/۱۲	۳/۱۷	۷۰/۲۸	۰/۰۰
	RT	۰۷/۶۰	۳/۲۰	۶۱/۳۲	۲/۹۰

**First research hypothesis:** There is a significant difference between the effectiveness of training based on acceptance and commitment and resilience training approach on the emotional self-regulation of employees of Shiraz oil subsidiaries.



Multivariate Analysis of Covariance (MANCOVA) was used to compare the effectiveness of education based on acceptance and commitment and resilience education approach on the emotional self-regulation of employees of Shiraz oil subsidiaries. The results obtained are presented in Table 5. It should be noted that before conducting MANCOVA, its assumptions including normality of data, homogeneity of covariance matrix, homogeneity of variance of dependent variables were checked and confirmed.

**Table 5.** The results of the multivariate covariance analysis test on the emotional self-regulation and components

Test	Value	F	Hypothesis DF	Error DF	p	Effect size
<b>Pillai's Trace</b>	.628	4.411	24.000	568.000	.000	.157

According to Table 5, there is a significant difference between the groups in the total score and dimensions of emotional self-regulation. To examine the differences more precisely, the mean of the groups was tested by Bonferroni's post hoc test (Table 6).

**Table 6.** Results of post hoc Bonferroni test of total score and dimensions of emotional self-regulation

Variable	I-Group	J-Group	Mean difference	Std. Error	p
Not accepting emotions	Control	Act	1.0267*	0.40	0.04
		RT	2.0667*	0.40	0.00
	Act	Control	-1.0267*	0.40	0.04
		RT	1.0400*	0.40	0.04
	RT	Control	-2.0667*	0.40	0.00
		Act	-1.0400*	0.40	0.04
Goal-oriented behaviors	Control	Act	1.3200*	0.44	0.01
		RT	1.1733*	0.44	0.03
	Act	Control	-1.3200*	0.44	0.01
		RT	-.1467	0.44	NS
	RT	Control	-1.1733*	0.44	0.03
		Act	.1467	0.44	NS
Impulse control	Control	Act	1.2933*	0.42	0.01
		RT	2.1467*	0.42	0.00
	Act	Control	-1.2933*	0.42	0.01
		RT	.8533	0.42	0.14
	RT	Control	-2.1467*	0.42	0.00
		Act	-.8533	0.42	0.14
Weakness in emotional awareness	Control	Act	.6800	0.55	0.66
		RT	.8533	0.55	0.38
	Act	Control	-.6800	0.55	0.66
		RT	.1733	0.55	NS
	RT	Control	-.8533	0.55	0.38
		Act	-.1733	0.55	NS
Failure to achieve strategies	Control	Act	2.0533*	0.71	0.02
		RT	3.2933*	0.71	0.00

	Act	Control	-2.0533*	0.71	0.02	
		RT	1.2400	0.71	0.25	
	RT	Control	-3.2933*	0.71	0.00	
		Act	-1.2400	0.71	0.25	
	Clarity in emotions	Control	Act	.6400	0.44	0.46
			RT	.5867	0.44	0.57
Act		Control	-.6400	0.44	0.46	
		RT	-.0533	0.44	NS	
RT		Control	-.5867	0.44	0.57	
		Act	.0533	0.44	NS	
Emotional self-regulation	Control	Act	7.0533*	1.47496	.000	
		RT	10.0933*	1.47496	.000	
	Act	Control	-7.0533*	1.47496	.000	
		RT	3.0400	1.47496	.129	
	RT	Control	-10.0933*	1.47496	.000	
		Act	-3.0400	1.47496	.129	

According to Table 6, the difference between the average score in the total score and emotional self-regulation dimensions of the subjects in the control group is significant with the average score of the ACT and RT groups ( $P < 0.05$ ); Therefore, it can be said that two methods, ACT and RT, had a significant effect on the emotional self-regulation dimensions of the research sample. There is a significant difference between the ACT and RT groups in terms of not accepting emotions, controlling impulses, and not achieving strategies ( $P < 0.05$ ); It can be said that the effect of RT method compared to ACT on the dimensions of non-acceptance of emotions, control of impulses and failure to achieve strategies of the subjects was greater. Also, regarding general self-regulation, it can be said that there is no significant difference between ACT and RT groups ( $P > 0.05$ ).

**Second research hypothesis:** There is a significant difference between the effectiveness of training based on acceptance and commitment and the resilience training approach on the self-efficacy of employees of Shiraz oil subsidiaries.

In order to compare the effectiveness of training based on acceptance and commitment and resilience training approach on the self-efficacy of employees of Shiraz oil subsidiaries, the multivariate analysis of covariance test (MANCOVA) was used. The results obtained are presented in Table 7. It should be noted that before conducting MANCOVA, its assumptions including normality of data, homogeneity of covariance matrix, homogeneity of variance of dependent variables were checked and confirmed.

**Table 7.** Results of multivariate covariance analysis on self-efficacy scores and its components

Test	Value	F	Hypothesis DF	Error DF	p	Effect size
<b>Pillai's Trace</b>	.638	9.723	12.000	432.000	.000	.213

According to Table 7, there is a significant difference between the groups in the scores of self-efficacy scores and its components. To examine the differences more precisely, the mean of the groups was tested by Bonferroni's post hoc test (Table 8).

**Table 8.** Bonferroni post hoc test results of self-efficacy and its components

Variable	I-Group	J-Group	Mean difference	Std. Error	p
Desire to initiate behavior	Control	Act	-5.4400*	.53795	.000
		RT	-3.4000*	.53795	.000
	Act	Control	5.4400*	.53795	.000
		RT	2.0400*	.53795	.001
	RT	Control	3.4000*	.53795	.000
		Act	-2.0400*	.53795	.001
Willingness to try to complete the assignment	Control	Act	-3.3333*	.50747	.000
		RT	-2.1867*	.50747	.000
	Act	Control	3.3333*	.50747	.000
		RT	2.1467	.50747	.001
	RT	Control	2.1867*	.50747	.000
		Act	-2.1467	.50747	.001
Different in facing obstacles	Control	Act	-2.2933*	.29374	.000
		RT	-1.3333*	.29374	.000
	Act	Control	2.2933*	.29374	.000
		RT	.9600*	.29374	.005
	RT	Control	1.3333*	.29374	.000
		Act	-.9600*	.29374	.005
General self-efficacy	Control	Act	-11.0933*	.94014	.000
		RT	-6.9200*	.94014	.000
	Act	Control	11.0933*	.94014	.000
		RT	4.1733*	.94014	.000
	RT	Control	6.9200*	.94014	.000
		Act	-4.1733*	.94014	.000

According to Table 8, there is a significant difference between the control group and the ACT and RT groups in terms of self-efficacy. ( $P < 0.05$ ); Therefore, it can be said that ACT and RT methods have had a significant effect on self-efficacy dimensions. Also, there is a significant difference between ACT and RT groups ( $P < 0.05$ ); Based on this, it can be said that the effect of ACT method compared to RT on subjects' self-efficacy dimensions was more significant. Regarding the overall score of self-efficacy, a significant difference is also observed between the ACT and RT groups

( $P < 0.05$ ); In fact, it can be said that the effect of the ACT method compared to RT on the subjects' self-efficacy was greater.

### **Discussion**

According to the findings, two intervention methods based on acceptance and commitment and resilience educational approach had a significant effect on emotional self-regulation dimensions. Based on this, a significant difference was observed between the two groups of education based on acceptance and commitment and resilience education approach in the dimensions of non-acceptance of emotions, control of impulses and failure to achieve strategies. Findings was consistent with the results of Azandriani et al. (2022), Ismailzadeh et al. (2021), Mohebi et al. (2017), Grab et al. (2021), Sandra et al. (2015). In explaining the findings of this study, it can be said that the treatment based on acceptance and commitment uses cognitive impairments such as evaluation and familiarity with concepts such as worry and frustration to improve emotional regulation, so the employees who have been offered the treatment of acceptance and commitment are more aware of their worries and concerns. According to Peng et al.'s (2014), one of the assumed conceptual paths to defend the explanatory and interpretive power of the psychological resilience training program in increasing positive emotional experiences and reducing negative emotional experiences can be emphasized on the obvious role of emotional regulation styles. In other words, cognitive dominance, patterns of self-empowering interpretations versus display of self-disempowering interpretations and the undeniable necessity of using compromised cognitive evaluations and a challenge against non-compromising and threatening cognitive evaluations through strengthening intra-individual-extra-individual coping resources in the face of stressful situations increase consequences positive emotion and decrease the level of negative emotional experiences. In addition, research results show that in the face of weakness in emotional awareness, commitment to using self-empowering interpretations against self-disabling interpretations prevents people from falling into the abyss of motivation by preventing negative emotions (Seifert, 2004).

Resilient people against stress generally have an internal source of control, that is, they can take responsibility for their situations and issues, have positive self-knowledge and are optimistic about life (Garmez, 1991). Therefore, people with these characteristics use efficient and effective solutions against stressful situations. Also, one of the reasons and explanations for the impact of

interventions in the field of resilience is that most of these interventions make changes in people's behavior style. It seems that resilience through re-evaluating the amount in stressful situations causes a change in the behavior style and emotions of people in the heart of the incident. Resilience reduces the magnitude of the threat in its assessment and increases one's expectation that one's efforts will be fruitful. People with high resilience are able to cope with stress in a more appropriate way and also re-regulate and interpret their conflicting experiences (Bigby, 1995). Resilient people can reach a balance and a suitable situation through the skills necessary to solve problems in crisis and stress situations by using positive emotions and reducing negative emotions.

High levels of resilience help a person to use positive emotions and emotions in order to overcome adverse experiences and return to a favorable situation. Resilience through increasing levels of positive emotions strengthens self-esteem and successfully copes with negative experiences.

According to the another part of findings, two methods based on acceptance and commitment and resilience educational approach had a significant effect on self-efficacy dimensions. Based on this, there is a significant difference between the two groups of education based on acceptance and commitment and the resilience education approach in terms of self-efficacy. The findings are consistent with the results of Aghili and Amiri (2001), Tawfighi et al. (2019), Sadat (2010), Rezaei (2011), Haji-Aqanzad et al. (2011), Salehi et al. (2011), and Moto et al. (2011).

In explaining the effectiveness of treatment based on acceptance and commitment on employees' self-efficacy, this issue can be explained from several points of view. First, the effective process of this treatment is to introduce an alternative to control, that is, willingness and acceptance. The willingness and acceptance component made it possible for people to accept unpleasant internal experiences without trying to control them, and doing this made those experiences seem less threatening and have less impact on a person's life.

Mindfulness processes used in this treatment caused significant changes in the way clients use their attention. In other words, it directs attention to create a perspective on mental events that allows a person to observe mental events, instead of considering these events as a part of his existence. In this treatment, behavioral commitment exercises along with fault and acceptance techniques as well as discussions about individual values and goals and the need to declare values led to improvement of self-efficacy. The purpose of placing so much emphasis on people's desire

for inner experiences is to help people to experience their thoughts as just a thought and to become aware of the dysfunctional nature of their current plan and instead of responding to it, to do what is important to them in life and it is in line with their values. By replacing themselves as clients, the treated people can easily experience unpleasant internal events in time and be able to separate themselves from unpleasant reactions, memories and thoughts. In fact, the goal is to increase people's cognitive flexibility.

Also, regarding the effectiveness of resiliency training on employees' self-efficacy, it should be mentioned that resiliency can bring a person to inner self-fulfillment and based on that, get a specific orientation in life. These people have a supportive role in relation to others and themselves and have positive inner strength. In addition, resilience has many positive consequences, including self-efficacy. All of these processes cause employees to transform their cognitive and thinking paths and draw new paths for themselves based on self-actualization and the feeling of self-efficacy resulting from resilience training, and show higher self-efficacy through this process. However, it should be noted that according to Buckman et al. (2019), resilience by using effective coping strategies such as: active strategies, seeking social support, self-encouragement and positive thoughts, increases a person's endurance and endurance, and in addition unhelpful coping strategies such as depressive reactions reduce passive and avoidant problem solving strategies.

The effect of resilience training on increasing self-efficacy is also derived from the process. Because resilience expands a person's cognitive capacity and endurance and causes a person to experience more self-efficacy by using positive thoughts. Considering the meaning and concept of self-efficacy, which refers to people's beliefs about their ability to organize motivations, cognitive resources, and exercise control over a certain event, and one of the basic aspects of self-efficacy is the belief that a person can exercise control over the consequences of life to have an effect on oneself, especially when facing stressful factors, having a sense of control over the situation is an important factor in adapting to various situations.

#### **Data availability statement**

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

#### **Ethics statement**

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

### Author contributions

P.A, N.A, K.R and M.B contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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### Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## References

- Agili, Siddmjatbi. Amiri, Muhaddith. (2022). The effectiveness of treatment based on acceptance and commitment on self-efficacy, job stress, emotion regulation and primary blood pressure of teachers, studies of organizational industrial psychology, volume 9, number 2.
- Asgharanjad, Tahereh; Ahmadi deh Qutb al-Dini, Mohammad; Farzad, Wali Allah; Khapnahi, Mohammad Karim. (2006). A study of the psychometric properties of Scherer's General Self-Efficacy Scale. *Journal of psychology*. 39 (10), 3. 132-148.
- Azandriani Mehri, Khoynejad Gholamreza, Akbari Amarghan Hossein. Comparing the effectiveness of emotion-based therapy and acceptance and commitment-based therapy on emotional self-regulation, psychological well-being and resilience of couples. *Islamic lifestyle with a focus on health*. 2022; 6 (2): 153-160
- Backmann J, Weiss M, Schippers MC, Hoegl M. Personality factors, student resiliency, and the moderating role of achievement values in study progress. *Learning and Individual Differences*, 2019; 72: 39-48.
- Bandura, A. , & Wood, R. (1989). Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of personality and social psychology*, 56 (5), 805 .
- Brändas, E. J. (2021). The Fourier-Laplace Transform—A Conjugate Link Between the Material Brain and the Conscious Mind. *Frontiers in Human Neuroscience*, 15, 736761.
- Çetin, F. , & Aşkun, D. (2018). The effect of occupational self-efficacy on work performance through intrinsic work motivation. *Management Research Review*, 41 (2), 186-201 .

- Chen, Y., Cheng, L., Lian, R., Song, Z., & Tian, J. (2021). COVID-19 vaccine research focusses on safety, efficacy, immunoinformatics, and vaccine production and delivery: a bibliometric analysis based on VOSviewer. *Bioscience trends*, 15(2), 64-73.
- Dauth, W., Findeisen, S., Suedekum, J., & Woessner, N. (2021). The adjustment of labor markets to robots. *Journal of the European Economic Association*, 19(6), 3104-3153.
- Fredrickson, B. L., & Cohn, M. A. (2008). *Positive emotions*. In M. Lewis, J. Haviland-Jones & L. F. Barrett (Eds.), *Handbook of emotions* (pp. 777–796). (3rd Ed.). New York: Guilford Press.
- Gatezadeh, A. Babolmard, M. (2021). Comparing the effectiveness of mindfulness-based cognitive therapy (MBCT) and Acceptance and Commitment Therapy on body image anxiety and emotional self-regulation, *Journal Of Thoughts and Behavior in Clinical Psychology*, Volume 15, Issue 58, January 2021, Pages 37-46
- George, B. Guzman, RG de. (2015). Effectiveness of acceptance and commitment therapy based intervention program (ACTP) on perceived stress and emotion regulation among alcoholics in Kerala, *Indian Journal of Positive Psychology; Hisar Vol. 6, Iss. 1, (Mar 2015): 10-18.*
- Grabbe, L. Melinda Higgins, Dorothy Jordan, Lauren Noxsel, Barbara Gibson & Jordan Murphy. (2021). The Community Resiliency Model®: a pilot of an interoception intervention to increase the emotional self-regulation of women in addiction treatment, *International Journal of Mental Health and Addiction* volume 19, pages793–808.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, 26, 41–54.
- Haji Akhanjad, Yasser. Zare Nistank, Mohammad. Tabatabai, Fatemeh Sadat. Dadashi, Mehdi (2022). The effectiveness of family resilience training on the effectiveness of military families, *Scientific Quarterly of Military Sciences and Techniques*, Volume 18, Number 59, Serial Number, 59, 244-227.
- Hasirchaman, A. , Shakerinia, I. , & Sadeghi, A. (2018). Relation Ship Between Communication Skills, Responsibility and Emotional Regulation with Mental Health at the Empeloe of Melli Bank. *Career and Organizational Counseling*, 10 (34), 23-43 .



- 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 .
- Hayes, S. C. , Strosahl, K. D. , & Wilson, K. G. (2011). *Acceptance and commitment therapy: The process and practice of mindful change*. Guilford press .
- Ismailzadeh, Leila. Gholamali Lavasani, Massoud. Ghasemzadeh, Sogand. (2021) Comparing the effectiveness of schema therapy educational program and acceptance and commitment based therapy on the difficulty of emotional self-regulation of gifted teenagers, *Social Health*, Volume 8, Number 3, 452-444.
- Joyce, S. , Shand, F. , Bryant, R. A. , Lal, T. J. , & Harvey, S. B. (2018). Mindfulness-based resilience training in the workplace: pilot study of the internet-based Resilience@ Work (RAW) mindfulness program. *Journal of medical Internet research*, 20 (9), e10326 .
- Kermani Mamazandi, Zahra; Astrologer, Siavash. (2017). Psychometric properties of emotion regulation difficulty scale in Semnan University students. *Education and evaluation scientific research journal*. 11 (32), 117-132.
- Koshki, Mahmoud; Karamati, Hadi; Hosni, Jafar. (2017). The effectiveness of self-efficacy training on academic stress and social skills of female students. *School psychology*. 7 (2). 196-217.
- Mohabi, Samia. Sugar, hope. Hosseinpour, Shahriar. (2017). The effect of resilience training program on cognitive evaluations, coping and emotions, *Iranian Psychologists' Scientific Research Quarterly Journal of Developmental Psychology*, Volume 15, Number 57, 83-99.
- Muto, T., Hayes, S. C., & Jeffcoat, T. (2011). The effectiveness of acceptance and commitment therapy bibliotherapy for enhancing the psychological health of Japanese college students living abroad. *Behavior therapy*, 42(2), 323-335.
- Peng, L., Li, M., Zuo, X., Miao, Y., Chen, L., Yu, Y., Liu, B., & Wang, T. (2014). Application of the Pennsylvania resilience training program on medical Students. *Personality and Individual Differences*, 61–62, 47–51.

- Rezaei (2022) to investigate the effectiveness of academic resilience training on self-concept and academic self-efficacy of students of Payam Noor University, Hamedan, master's thesis, Payam Noor University, Hamedan Province, Payam Noor Center, Hamedan.
- Robertson, I. T. , Cooper, C. L. , Sarkar, M. , & Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of occupational and organizational psychology*, 88 (3), 533-562 .
- Rowe, G., Hirsh, J. B., & Anderson, A. K. (2007). Pos-itive affect increases the breadth of attentional se-lection. *Proceedings of the National Academy of Sciences of the United States of America*, 104 (1), 383–388.
- Sadat, Seyedah Mansoura. (2021). Comparing the effectiveness of positive parenting and therapy based on acceptance and commitment on the sense of self-efficacy and happiness of mothers with children aged 6-10 in Neka city, Master's thesis, Rozbahan Institute of Higher Education, Faculty of Humanities.
- Salehi, Ketayoun. Farhad Beigi, Parvaneh. Ganji, Nima Karimi, Negar. Mahmoudi, Zahra. (2021). The effect of resilience skills based on Henderson and Milstone's model with psychological well-being and self-efficacy of women heads of households: a semi-experimental study, *Journal of Alborz University of Medical Sciences*, Volume 11, Number 1, 62-53.
- Sandra L. Ramey, RN, Yelena Perkhounkova, and Amanda A. Anderson, (2017). Testing a Resilience Training Program in Police Recruits: A Pilot Study, *Journal Of International Medical Research*, Volume 19, Issue 4, <https://doi.org/10.1177/1099800417699879>
- Seifert, T. L. (2004). Understanding student motiva-tion. *Educational Research*, 46(2), 137-149.
- Sherer, M., Maddux, J. E., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. W. (1982). The self-efficacy scale: Construction and validation. *Psychological reports*, 51(2), 663-671.
- Tawfighi, Zahra. Mr. Asghar Golparvar, Mohsen. (2019). Comparing the effectiveness of resilience training and emotion regulation on the quality of life and self-efficacy of mothers with children with cerebral palsy, *Journal of the Faculty of Medicine*, Volume 63, Number 4, Series 4, 2525-2541.

- Washburn, M. , Yu, M. , & Rubin, A. (2022). Benchmarks for Group Acceptance and Commitment Therapy: Tools for Social Work Professionals. *Research on Social Work Practice*, 10497315221105470.
- Werner K, Gross, J. J. (2010). *Emotion regulation and psychopathology: A conceptual framework*. In: Kring AM, Gross JJ. (editors). *Emotion regulation and psychopathology: A trans-diagnostic approach to etiology and treatment*. New York: Guilford.
- Wetherell JL, Liu L, Patterson TL, Afari N, Ayers CR, Thorp SR, Stoddard JA, Ruberg J, Kraft A, Sorrell JT, Petkus AJ. Acceptance and commitment therapy for generalized anxiety disorder in older adults: A preliminary report. *Behavior therapy*. 2011;42(1):127-34.
- Zimmerman, P., & Iwanski, A. (2018). Development and timing of developmental changes in emotional reactivity and emotion regulation during adolescence. In P. Cole & T. Haldenstein (Eds.) *Emotion regulation. A matter of time*, London: Routledge; pp.117-139.