COMPARING THE EFFECT OF COGNITIVE-BEHAVIORAL THERAPY AND ACCEPTANCE AND COMMITMENT THERAPY ON HOPE, RESILIENCE, AND HAPPINESS OF VETERANS WITH PSYCHOPATHY

INTRODUCTION

War is one of the factors affecting prevalence, start time, and mental-behavioral disorders. Compared to normal people, veterans suffer from acute psychological and behavioral problems. Studies show that almost one soldier out of four war survivors suffer from severe psychological problems. The eight-year war and subsequent stress in Iran have led to psychological disorders as common problems among Iranian warriors, veterans, and their families. According to relevant studies, war survivors and their families suffer from a wide range of psychological injuries, such as post-traumatic stress disorder, mood and anxiety disorders, aggression, conflict, and depression (AHMADI et al., 2013).

Psychological pressure may disappear without leading to prolonged mental problems in some veterans, which can be taken into account as a natural adaptive reaction. However, some other veterans may experience severer psychological problems, which cause lower life expectancy among them. During their treatments, veterans face many psychological pressures that reduce their quality of life or cause anxiety, stress, and depression. The hopeful individuals fully concentrate on the problem and try to solve it actively. Moreover, those individuals who think hopefully show less distress and more adaptation while receiving therapy for their disease. Hope links target-based behaviors to the beliefs of a person to achieve goals. The higher the hope rate, the higher the wellbeing will be. Hope is increased through successful life experiences, while is reduced due to failure experiences (HASANI TABATAIE & SHAKER, 2018).

Hope is one of the foundations of the principles of balance and mental power that determines life achievements. Hope means belief in a better future. Hope with its penetrating power, stimulates an active system to acquire new experiences and create new forces in the organism. Consequently, hope encourages endeavor in humans and guides them toward better psychological and behavioral performances, and is known as one of the mental health signs (MONTAZER et al., 2017). Hope is necessary for all life stages and can be described as a powerful, dynamic, and multidimensional factor playing a vital role to adapt to deprivation and difficulties (HANI ASL HIZANI & FARNAM, 2018).

In terms of the role of resilience in the tolerance and recovery of some diseases, people with depression or other emotional or behavioral problems had lower resilience. Resilience indeed is about the successful resolution of life challenges when facing stress or harm. Resilience theory is based on the strong aspects of conflict resolution and the ability of the person to cope with risks and problems (Farahanifar et al., 2019). The improved resilience leads to people’s growth in achieving better thinking, self-management skills, and higher knowledge. Friedman (2013) defines resilience as an ability to face difficulties and overcome life situations. Experts emphasize teaching different resilience skills because positive psychological interventions not only increase happiness but also lead to more optimistic thinking and less depression. Therefore, psychological intervention and consultations can relieve diseases symptoms, slower down the disease’s development rate, retain and improve a person’s capabilities, giving the patient a chance to have a normal life (KAVIANI et al., 2020).
Moreover, resilience can protect one against depression and anxiety (TSIRIGOTIS & ŁUCZAK, 2018). Resilience construct means being recovered from a bad and hard situation to the previous state with more power and capability. Resilient people are flexible and remedial, can adapt themselves to changes and new situations, and recover from stressful situations. Once they responded to stressful events, resilient individuals have a higher capacity to regain their physiological and mental balance, as well as social communications (MAHMOODI, 2018).

Veterans with psychopathy not only experience low hope but also low happiness. Happiness is composed of cognitive, emotional, and social components. The cognitive component of happiness is a kind of thinking and information processing that leads to optimism; emotional components included positive, and cheerful moods, and social components indicate the developed relationships with others and subsequent high social support. Happy people do not think like sad ones, they have a positive attitude towards issues and set actual goals in a purposive life. Happy individuals pay attention to the attractive part of the case, do not blame them, and can control the bad situations using their cognitive ability (MOSLEM KHANI, 2018).

Therefore, some methods must be identified to solve the case of low hope and happiness among veterans with psychopathy to improve treatment procedures. Happiness, as a positive component of mental well-being, is generally defined as a subjective state of mind characterized by enjoyment and contentment reflecting an individual’s subjective well-being. People rate happiness as one of the most fundamental goals of their lives. A growing literature has emerged highlighting the health benefits of happiness. For instance, a 15-year follow-up study suggested that higher levels of happiness are related to lower mortality (VISKOVICH & PAKENHAM, 2018).

There are various psychological therapies while a few approaches with the highest effectiveness in treating different psychological problems are highlighted. Acceptance and commitment therapy (ACT) and cognitive-behavioral therapy (CBT) are approaches that provide the required criteria for treatment. ACT does not evaluate the content of thoughts and beliefs of patients but considers the processes leading to the formation of psychological pathology in the context and structure of the problem (MORADI & Dehghani, 2018). ACT seeks to bring about psychological flexibility through the following six processes: acceptance, diffusion, self as a context, contact with the present moment, values, and committed action. ACT enables the patients to improve their relationships using their subjective experiences, reduce avoidance of experience, and increase flexibility to adjust successfully. It also teaches the patients to move in a valued direction (FARAHANIFAR et al., 2019).

ACT approach is particularly efficient for veterans with psychopathy since as a stressful factor, war can cause many complications and consequences, so it should be assessed. ACT helps veterans to accept the war phenomenon and its destructive effects at the first stage. Seemingly, acceptance that means facing pains to achieve values instead of avoiding experience plays a vital role in reducing anxiety symptoms. Long-term experience avoidance apparently causes more anxiety symptoms. Moving through a way to achieve values of life may bring some pains and difficulties so that a valuable life will not be achieved if avoiding these experiences and pains (MOHAGHEGHI et al., 2015). Findings obtained by Kaviani et al. (2020) indicated the effect of acceptance and commitment therapy on increasing resilience and reducing inefficient attitudes of MS patients.

Falahati et al. (2019) found the effectiveness of acceptance-based and meaningful therapies on increasing happiness among spouses of veterans. Moslem Khani et al. (2018) found the effect of ACT on happiness and hope of Hamedanian Multiple Sclerosis Patients. Moghadamfar et al. (2018) found the efficacy of ACT on hope and psychological wellbeing in women with breast cancer. Marmarchi and Zoghi Paidar (2017) showed that ACT had an effect on hope, and this effect remained constant in the follow-up phase. Eisenbeck et al. (2016) found that veterans who received ACT experienced a higher quality of life and therapeutic alliance during treatment. Viskovich and Pakenham (2019) found that ACT could promote the mental health of university students. Grigori et al. (2018) found that ACT could improve interpersonal problems, experiential avoidance, avoiding care, mindfulness, and wellbeing during the time.

Alternatively, CBT is another effective therapy in the analysis of the mental needs of veterans with psychopathy. It can be explained that this approach influences the mind and thoughts of...
individuals by affecting their beliefs and replacing positive expressions and beliefs encouraging them to apply their capabilities and productivity to forget negative thoughts (MIRMOHAMMADAli, 2019). CBT is a combination of two behavioral (which is mainly based on the Pavlovian and Neo-Pavlovian conditionalization contexts) and cognitive therapy approached within two cognitive therapy and cognitive psychology o cognition knowledge. Implementation of CBT can contribute to change in cognition of these individuals, and reduce disabling signs and symptoms (HOSEINI et al., 2015).

CBT emphasizes 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. Earlier studies have shown that CBT is effective in anxiety management, depression control, and increased life satisfaction, improving mood and anxiety symptoms, enhancing patience and improving the quality of life of patients, improving relationships with peers, reducing depression, and increasing life satisfaction (MOTAMEDI et al., 2019).

CBT aims to change emotions by first changing thoughts and behaviors. CBT is targeted to change the perceptions of how and what patients think based on the basic principle that says how a person thinks has a tremendous effect on his or her emotions and behaviors (SADEGHI et al., 2017). Mohammadinia (2017) concluded that CBT is a clinical treatment used to improve symptoms in veterans with PTS disorder that can promote their mental health and quality of life.

According to all studies mentioned above, disappointment and low happiness rate among veterans who suffer from psychopathy affect their quality of life and disease. Hence, effective therapy must be applied to reduce disappointment and enhance the happiness and resilience of these patients. Due to few Iranian comparative studies on the effects of the ACT and CBT on the happiness and hope of psychopathy patients in Iran, an extant study was conducted to examine this topic. A study on the effectiveness of ACT and comparing it with CBT indicates the efficacy of this approach to a new treatment for patients with psychopathy that do not respond to current therapies.

**METHOD**

The extant study was a quasi-experimental research with pretest, posttest, follow-up, and control group. The statistical population of the study comprised all veterans with psychopathy living in Dezful referring to three counseling and psychological-psychiatric services centers in this city. Regarding the time limit and potential loss in the number of respondents due to the long waiting time, it was not possible to select subjects and assign them to therapy groups randomly. Hence, a convenient sampling method was used in this research.

After experts working in three centers where veterans with psychopathy referred were asked for collaboration, about 50 patients were introduced to the researcher during the study. After clinical interviews were done, a primary appointment was set to hold a justification session and collect pretest; of 52 patients, 48 members signed consent letters to participate in therapeutic intervention courses. The selected patients were assigned to three intervention groups: 17 patients in ACT groups, 15 in the CBT group, and 16 in the control group. It must be mentioned that two members of the first and second group and one member of the control group left the study up to the posttest phase.

Finally, there were 15 patients in each ACT, CBT, and control group. In this step, the control group attended a three-hour workshop in which initial information about the disease was provided to follow research ethics and remove non-specific effects of therapy (e.g., participation in the group and encountering therapist, or treatment expectations). However, no strategy was suggested. It is worth noting that all respondents in three groups participated in the study voluntarily and were free to leave the study at any time they wanted. Inclusion criteria were being married, having a diploma degree and above, and being a man. Exclusion criteria included being single, more than two sessions absence, and suffering from other diseases except for psychopathy.
INSTRUMENTS

Oxford Happiness Questionnaire (OHQ): OHQ was designed by Argyle and Lu (1989). Since Beck’s test (1961) was one of the most successful depression scales, Argyle and Lu consulted with Beck and decided to reverse items of Beck’s depression scale. In doing this, 21 items were prepared, and then 11 items were added to cover aspects of happiness. After that, this 32-item list was implemented for eight students asking them to sort options and judge the validity of items. The case changed some items and three were deleted. Therefore, the final version of OHQ includes 29 items. OHQ that was used widely in the UK included four-choice items scored from 0 to 3 in form of A) 0, B) 1, C) 2, and D) 3. The Sum of scores of 29 items indicates the overall score of OHQ. According to the overall score range of 0-78, interpretation is done on a scale with two extremes of high happiness and no happiness of respondents. Therefore, the greater the score rather than the average score of 44, the higher the happiness, and vice-versa. The validity and reliability of this questionnaire were obtained based on two studies. According to Argyle and Crossland (1989), the correlation rate of OHQ equaled 0.43, while correlations rates of 0.64 and 0.49 were reported by Valiant (1993). Argyle (2001) reported reliability of this questionnaire equal to 0.90 based on the alpha coefficient, while Fahrenhem and Browning (1990), Francis (1998), and Golzari (2003) reported alpha coefficients of 0.87, 0.92, and 0.92, respectively. The present paper obtained Cronbach’s alpha coefficient of 0.83.

Miller Hope Scale: Miller Hope Scale (1988) is a diagnostic test that was used first to assess hope rate in American heart patients. This scale includes 48 aspects of hope and helplessness that its items have been selected based on the explicit and implicit behavioral manifestations in hopeful and hopeless individuals. In the Miller test, the scores are ranged between 40 and 200. Miller and Powers (1988) reported validity of this questionnaire equal to 0.61 and reported its reliability rates equal to 0.90 and 0.89 with two Cronbach’s alpha and bissection methods, respectively. The validity and reliability of this scale were approved by Abdi and Asadi Laari (2011) in Iran. Darvishi (2009) carried out a study on women with breast cancer and reported a validity rate of 0.79, as well as reliability rates of 0.89 and 0.90 for this scale using Cronbach’s alpha and bissection methods, respectively. The extant study reported Cronbach’s alpha of 0.96.

Resilience Scale: This study used Connor-Davidson Resilience Scale (2003) that was normaliz and translated into Persian by Mohammadi (2005) in Iran. This scale comprised 25 items, and respondents should answer the items based on a five-point Likert scale ranging from strongly disagree (0) to strongly agree (4). The highest and lowest scores on the resilience scale equal 0 and 100, respectively. Connor and Davidson (2003) reported reliability rates of 0.89 and 0.78 based on Cronbach’s alpha and retest methods, respectively for the resilience scale. Dolores Serrano-Parra et al. (2013) obtained reliability of the Spanish version of this scale equal to 0.81 using Cronbach’s alpha method. Baek et al. (2010) reported Cronbach’s alpha coefficient of 0.93 for the reliability of the Korean version of the resilience scale. Singh and Yu (2010) obtained Cronbach’s alpha coefficient of 0.89. Mohammadi (2005) reported Cronbach’s alpha coefficient of 0.89 for the reliability of the Connor-Davidson Resilience Scale (2003). Shakerinia and Mohammadpoor (2010) reported Cronbach’s alpha coefficient of 0.95. The present study calculated the reliability of the resilience scale by using Cronbach’s alpha method and the reported rate of 0.87.

Intervention Methods

The ACT-based package was designed based on the training course of Dr. Esmat Danesh in Iran’s Psychology Association (2015) for the ACT group. The training course was performed within 10 90-minute sessions, a session per week for the experimental group.
**Table 1. Summary of ACT-based sessions**

| Session | Content |
|---------|---------|
| First   | Early introduction to references and making appropriate relationship, implementing questionnaires and pretest of therapeutic contract (informed agreement: providing a general description of ACT principles), giving a chance to patients to become familiar with each other and therapy aims, setting the change agenda using “creative hopelessness” practice to find why we attended this group, main rules, introductions, reviewing therapy and goals of the program, reviewing fundamentals of the program, homework (taking 10 minutes daily to think about therapy options. What can you do for a mental illness that is supposed to be with you for the entire life?) |
| Second  | Reviewing homework of the previous session, introducing the if-then subjective framework and control techniques (using metaphor of the man in the well, rope-pulling with a minister, and hungry tiger metaphor to find control techniques and their shortcomings), the relationship between pain, mood, functioning, and mindfulness, the function of these metaphors, mitigating the client’s focus on the type of psychopathy, and become aware of control difficulty, which is called “creative helplessness” in ACT |
| Third   | Reviewing homework of the previous session, using metaphors to show control inefficiency (polygraph and jelly donut metaphors), responding to inner events with open, non-defensive, and flexible behavior (two scales metaphor, distinguishing between two pure and impure emotions), accepting physical problems, cognitive defusion (milk, milk, milk exercise, and the “Passengers on the bus” metaphor), value (funeral metaphor), mindfulness exercise, and homework reviewing |
| Fourth  | Reviewing the homework, discussion values, and barriers to values, goals, and action, mindfulness exercise; this session aimed to specify values |
| Fifth   | Reviewing homework of the previous session, what “if”, “yes”, and “but”, and other mind tricks, mindfulness. Review the previous week. Whether your actions stem from your mental statements instead of what values tell you. Is it possible to change these actions based on your values? B) Choose one or two actions to do most of the days from now to the next session. Write down the result of your performance regarding your values. C) Practicing mindfulness …minutes daily and writing down the observations and outcomes. |
| Sixth and Seventh | Reviewing homework of previous session and progress report. In this session, homework of the previous session was assessed then the greater and more stable mood of committed action was taught. In this session, exposure was used to achieve goals based on the values. In this step, obstacles to committed action were described by mentioning some examples about experiential obstacles, such as difficult emotions, memories, thoughts, and environmental barriers (e.g., lack of social skills, lack of support, supportive resources, and non-supportive partner), and then clients were asked to give similar examples of their life experiences. |
| Eighth and Ninth | Reviewing homework of previous session, consent (willingness), commitment to action and values even in presence of obstacles, mindfulness. Continue your committed actions based on your values and goals. You can continue the mindfulness exercise. |
| Tenth   | Reviewing homework of the previous session, negative incidents and preventing recurrence, appreciating group members, saying goodbye, and performing posttest. |

**Source:** Search data.

CBT group received 10 90-minute sessions of CBT based on the book "Cognitive Therapy: Basics and Beyond" written by Beck (2010) translated by Fata and Farid Hosseini (2013). The content summary of this intervention has been reported in Table 2.

**Table 2. Summary of CBT sessions**

| Session  | Content |
|----------|---------|
| First    | Greetings and introduction, an overview of sessions and main principles of the group, introducing to and familiarity with groups members, discussion on roots, internal and external causatives of stress, anxiety, and depression |
| Second   | Assessment of homework: discussing homework and linking thoughts with feelings and behaviors, identifying stress-related automotive thoughts (i.e., problematic future and I cannot do anything to control it). |
| Third    | Assessment of homework: discussing homework and linking thoughts with feelings and behaviors, introducing and identifying logical errors |
| Fourth   | Assessment of homework: discussing identified thoughts and logical errors in exercise papers. Training: teaching confirming and rejecting evidence technique to cope with automotive thoughts and logical errors |
| Fifth    | Assessment of homework: analysis of recorded thoughts and how to challenge these thoughts; discussing the identified presumptions and fundamental beliefs |
| Sixth    | Assessment of homework: discussing problem-solving technique. Training: practicing mental imagination regarding imaginative challenge with fundamental presumptions and beliefs, teaching communicational skills, necessity and importance of relationship in life, teaching destructive communication patterns, teaching listening skills, teaching communicational styles, and concept of courage |
| Seventh  | Assessment of homework: discussing the use of communicational skills, continue to challenge inefficient beliefs and attitudes, reviewing communicational skills training to deepen the course, and using behavioral activation technique |
| Eighth and Ninth | Assessment of homework: discussing the use of problem-solving technique and prepared list of pleasant activities, completing behavioral activation technique and discussing its consequences, discussing how to do pleasure actions and plan to do such activities |
| Tenth    | Assessment of homework: discussing behavioral activation technique, and consequences and effects of pleasures, reviewing all learned skills and exercises, comparing pre-treatment coping strategies and thought with those learned from intervention to integrated therapy |

**Source:** Search data.
RESULTS

Descriptive results of the study comprised some statistical indicators such as mean and standard deviation (SD) of variables that have been reported in tables 3, 4, 5.

Table 3. Central and dispersion indicators of resilience scores in three CBT, ACT, and control groups

| Group  | N | Pretest | Posttest | Follow-up |
|--------|---|---------|----------|-----------|
|        |   | Mean    | SD       | Mean      | SD        | Mean     | SD       |
| ACT    | 15| 67.80   | 12.85    | 90.26     | 10.20     | 88.66    | 9.61     |
| CBT    | 15| 68.60   | 13.87    | 81.06     | 11.25     | 79.66    | 10.02    |
| Control| 15| 67.93   | 12.91    | 66.80     | 12.54     | 66.53    | 12.77    |

Source: Search data.

According to Table 3, there is a significant difference between mean scores of posttest in the ACT (60.55), CBT (74.5), and control (74.75) groups. The difference results from the higher resilience score of veterans with psychopathy in CBT and ACT groups. Moreover, comparative mean scores of groups in the follow-up phase indicated endurance of this difference within time.

Table 4. Central and dispersion indicators of happiness scores in three CBT, ACT, and control groups

| Group  | N | Pretest | Posttest | Follow-up |
|--------|---|---------|----------|-----------|
|        |   | Mean    | SD       | Mean      | SD        | Mean     | SD       |
| ACT    | 15| 31.60   | 5.86     | 56.33     | 6.58      | 52.93    | 7.40     |
| CBT    | 15| 30.00   | 5.09     | 49.26     | 8.53      | 45.93    | 6.67     |
| Control| 15| 31.33   | 5.81     | 32.93     | 6.08      | 32.33    | 6.05     |

Source: Search data.

According to Table 4, there is a significant difference between mean scores of posttest in the ACT (56.33), CBT (49.26), and control (32.93) groups. The difference results from the higher happiness score of veterans with psychopathy in CBT and ACT groups. Moreover, comparative mean scores of groups in the follow-up phase indicated endurance of this difference within time.

Table 5. Central and dispersion indicators of hope scores in three CBT, ACT, and control groups

| Group  | N | Pretest | Posttest | Follow-up |
|--------|---|---------|----------|-----------|
|        |   | Mean    | SD       | Mean      | SD        | Mean     | SD       |
| ACT    | 15| 104.46  | 16.34    | 171.26    | 20.52     | 167.40   | 19.95    |
| CBT    | 15| 104.33  | 17.77    | 153.46    | 22.80     | 148.66   | 20.96    |
| Control| 15| 105.20  | 18.14    | 106.66    | 23.85     | 105.86   | 24.41    |

Source: Search data.

According to Table 5, there is a significant difference between mean scores of posttest in the ACT (171.26), CBT (153.46), and control (106.66) groups. The difference results from the higher hope score of veterans with psychopathy in CBT and ACT groups. Moreover, comparative mean scores of groups in the follow-up phase indicated endurance of this difference within time. Data analysis was done using repeated measures ANOVA and Befroni’s post hoc test. In the first step, Levene’s test presumption was assessed and the results were reported in Table 6.

Table 6. Results of Levene’s test (regarding homoscedasticity assumption) for resilience, happiness, and hope scores in three CBT, ACT, and control groups

| Variables | Tests | F   | df1 | df2 | Sig. | Result               |
|-----------|-------|-----|-----|-----|------|---------------------|
| Resilience| Pretest| 0.041| 2   | 42  | 0.96 | H₀ is accepted (homoscedasticity) |
|           | Posttest| 0.671| 2   | 42  | 0.51 | H₀ is accepted (homoscedasticity) |
|           | Follow-up| 1.24| 2   | 42  | 0.29 | H₀ is accepted (homoscedasticity) |
| Happiness| Pretest| 0.419| 2   | 42  | 0.66 | H₀ is accepted (homoscedasticity) |
|           | Posttest| 1.30| 2   | 42  | 0.23 | H₀ is accepted (homoscedasticity) |
|           | Follow-up| 0.211| 2   | 42  | 0.81 | H₀ is accepted (homoscedasticity) |
| Hope      | Pretest| 0.214| 2   | 42  | 0.80 | H₀ is accepted (homoscedasticity) |
|           | Posttest| 0.279| 2   | 42  | 0.75 | H₀ is accepted (homoscedasticity) |
|           | Follow-up| 0.298| 2   | 42  | 0.74 | H₀ is accepted (homoscedasticity) |

Source: Search data.
According to Table 6, the F-value of Levene’s test (homoscedasticity assumption) of variables was not significant at the level of 0.05. Hence, the homoscedasticity assumption of scores of CBT, ACT, and control groups was confirmed, so this assumption was observed. To examine the difference between resilience mean scores of three CBT, ACT, and control groups, repeated-measures ANOVA was used within pretest, posttest, and follow-up phases. Pillai’s Trace was used to examine the effect of CBT, ACT, and control on resilience. Table 7 reports the relevant results.

Table 7. Results of Pillai’s Trace in repeated measures ANOVA

| Variable | Test       | Value | F     | Trace df | Error df | Sig.    | Partial Eta-squared |
|----------|------------|-------|-------|----------|----------|---------|---------------------|
| Resilience | Time       | 0.46  | 17.78 | 2        | 41       | 0.0001  | 0.46                |
|           | Time*group | 0.38  | 4.92  | 4        | 84       | 0.0001  | 0.19                |
|           | Time       | 0.82  | 93.46 | 2        | 41       | 0.0001  | 0.82                |
|           | Time*group | 0.66  | 10.34 | 4        | 84       | 0.0001  | 0.33                |
|           | Time       | 0.78  | 0.31  | 2        | 41       | 0.0001  | 0.78                |
|           | Time*group | 0.66  | 0.71  | 4        | 84       | 0.0001  | 0.33                |

Source: Search data.

According to Table 7, there was a significant difference between experimental and control groups in terms of resilience within pretest, posttest, and follow-up phases (F(2,41)=17.78, p=0.0001, $\eta^2=0.46$) and time*group ($F(4,84)=4.92$, p=0.0001, $\eta^2=0.19$) based on the Pillai’s Trace test. Moreover, there was a significant difference between experimental and control groups in terms of happiness within pretest, posttest, and follow-up phases (F(2,41)=93.46, p=0.0001, $\eta^2=0.82$) and time*group ($F(4,84)=10.34$, p=0.0001, $\eta^2=0.33$) based on the Pillai’s Trace test. In terms of hope, the Pillai’s Trace test indicated a significant difference between pretest, posttest, and follow-up phases (F(2,41)=71.31, p=0.0001, $\eta^2=0.78$) and time*group ($F(4,84)=10.32$, p=0.0001, $\eta^2=0.33$) in experimental and control groups.

Sphericity assumption (equal variances of all possible pairs of repeated measures) was examined by using Mauchly’s test. In the case of significant Mauchly value, adjusted Greenhouse-Geisser dfs were reported as F values, and in the case of insignificant Mauchly value, adjusted sphericity dfs were reported as F values. Table 8 reports the results of repeated measures ANOVA (with Mauchly value report) of variables in pretest, posttest, and follow-up phases.

Table 8. Results of repeated measures ANOVA of variables in pretest, posttest, and follow-up phases

| Variable | coefficient of variation | Chi-square of Mauchly’s test | Sig. level of Mauchly’s test | Sum of squares | df | Mean squares | F     | P   | $\eta^2$ |
|----------|--------------------------|-------------------------------|------------------------------|----------------|----|-------------|-------|-----|---------|
| Resilience | Time                     | 0.14                          | 0.0001                       | 3475.66        | 1.07| 3233.41     | 30.82 | 0.0001 | 0.42    |
|           | Time*group               |                               |                              | 2653.81        | 4.15| 1234.42     | 14.28 | 0.0001 | 0.77    |
|           | Error                    |                               |                              | 4735.20        | 45.15| 104.88      | 1.14  | 0.29 | 0.0001  |
| Happiness | Time                     | 0.24                          | 0.0001                       | 5995.79        | 1.14| 5262.41     | 14.28 | 0.0001 | 0.77    |
|           | Time*group               |                               |                              | 2596.78        | 2.28| 1139.58     | 31.68 | 0.0001 | 0.60    |
|           | Error                    |                               |                              | 1721.42        | 47.85| 35.97       | 0.09  | 0.60 | 0.0001  |
| Hope      | Time                     | 0.09                          | 0.0001                       | 42536.64       | 1.05| 40440.76    | 124.93| 0.0001 | 0.75    |
|           | Time*group               |                               |                              | 21681.36       | 2.10| 10306.54    | 31.84 | 0.0001 | 0.60    |
|           | Error                    |                               |                              | 14300.67       | 44.18| 323.71      | 0.09  | 0.60 | 0.0001  |

Source: Search data.

According to Table 8, there is a difference between scores of time (F=30.82, p=0.0001, $\eta^2=0.42$), time*group interaction of resilience ($F=11.77$, p=0.0001, $\eta^2=0.36$), between scores of time ($F=14.28$, p=0.0001, $\eta^2=0.77$), time*group interaction of happiness ($F=31.68$, p=0.0001, $\eta^2=0.60$), and between scores of time ($F=124.93$, p=0.0001, $\eta^2=0.75$), time*group interaction of hope ($F=31.84$, p=0.0001, $\eta^2=0.60$). Intergroup ANOVA was used to reveal the difference between three groups. Table 9 reports the intergroup ANOVA results.
Comparing the effect of cognitive-behavioral therapy and acceptance and commitment therapy on hope…

### Table 9. Results Intergroup ANOVA

| Variable | Sum of squares | df | Mean squares | F  | Sig. | \( \eta^2 \) |
|----------|----------------|----|--------------|----|------|-------------|
| Resilience | 5262.86        | 2  | 2631.43      | 8.48 | 0.001 | 0.28        |
| Happiness | 5038.24        | 2  | 2519.12      | 29.02 | 0.001 | 0.58        |
| Hope      | 41572.01       | 2  | 20786.007    | 21.99 | 0.001 | 0.51        |

Source: Search data.

According to Table 9, there was a significant intergroup effect for resilience (F=8.48, \( p=0.001 \), \( \eta^2=0.28 \)), happiness (F=29.02, \( p=0.0001 \), \( \eta^2=0.58 \)), and hope (F=21.99, \( p=0.0001 \), \( \eta^2=0.51 \)). Befroni’s post hoc test was used to determine the accurate differences of variables in three groups. Table 10 reports the relevant results.

### Table 10. Results of Befroni’s test to find group differences

| Dependent variable | Groups       | Mean differences | Standard deviation error | P       |
|--------------------|--------------|------------------|-------------------------|---------|
| Resilience         | ACT          | 5.80             | 3.71                    | 0.38    |
|                    | CBT          | 15.15            | 3.71                    | 0.0001  |
|                    | Control group| 9.35             | 3.71                    | 0.05    |
| Happiness          | ACT          | 5.22             | 1.96                    | 0.03    |
|                    | CBT          | 14.76            | 1.96                    | 0.0001  |
|                    | Control group| 9.53             | 1.96                    | 0.0001  |
| Hope               | ACT          | 12.22            | 6.48                    | 0.19    |
|                    | CBT          | 41.80            | 6.48                    | 0.0001  |
|                    | Control group| 29.57            | 6.48                    | 0.0001  |

Source: Search data.

According to Table 10, Befroni’s test showed a significant difference between the ACT and CBT groups with the control group. Accordingly, the mean difference of resilience between the ACT and control group equaled 15.15, and the mean difference of resilience between CBT and the control group equaled 9.35. However, there was not any significant difference between the ACT and CBT groups in terms of resilience (5.80). Befroni’s test showed the significant difference between the ACT and CBT groups, as well as the difference between the ACT and CBT groups with the control group. Accordingly, the mean difference of happiness between ACT and the control group equaled 14.75 at the significant level of \( p=0.03 \), and the mean difference of happiness between ACT and CBT groups equaled 5.22 at the significance level of 0.0001. Moreover, the mean difference of happiness between the CBT and control group equaled 9.35 at the significance level of 0.0001. Befroni’s test showed a significant difference between the ACT and CBT groups with the control group. Accordingly, the mean difference of hope between the ACT and the control group equaled 41.80 at the significance level of 0.0001, and the mean difference of hope between CBT and the control group equaled 29.57 at the significance level of 0.0001.

### DISCUSSION AND CONCLUSION

The extant study aimed at examining the effectiveness of ACT and comparing it with CBT in enhancing hope, resilience, and happiness among patients with psychopathy. The results indicated better performance of ACT rather than CBT in enhancing the resilience of veterans with psychopathy living in Dezful, Iran. The mentioned finding was consistent with studies conducted by Kaviani et al. (2020), Viskovich and Pakenham (2019), Eisenbeck et al. (2016), and Grigori et al. (2018).

Using value clarification, as a part of the ACT procedure, the therapist encouraged the patient to give more information about their precious values as a measure to create motivation for acceptance, willingness, and committed action enabling the person to control his/her life. Moreover, all exercises of this therapy including behavioral commitment, diffusion, and acceptance, as well as discussion on values and objectives of person and values clarification led to enhanced resilience of psychopathy patients. Resilient individuals sow different attitudes towards stressful situations by not giving up and being passive, but they encounter stressful situations more effectively without avoiding them.

To do this, resilient individuals should identify environmental conditions, so ACT enables them to concentrate on the current situations without any judgment by increasing their mindfulness. Individuals use coping strategies to encounter stressful incidents optimistically and
confidently, see events controllable, and apply their information processing system more effectively. Therapists indeed help the client to accept feelings and experience thoughts instead of emphasizing the content deformation. They emphasize the correction of attention of awareness of clients by using mindfulness techniques. This behavioral therapy uses mindfulness, acceptance, and cognitive diffusion skills to improve psychological flexibility. Acceptance and commitment therapy enables clients to make a relationship with their experience in the present bases on what is possible for them now. In this therapy, behavioral commitment exercises, diffusion, and acceptance, as well as discussion on values and goals and values clarification lead to a higher resilience rate in psychopathy patients. ACT brings higher resilience due to its implicit mechanisms, including acceptance, awareness, desensitization, momentary presence, observation without judgment, confrontation, and release.

The results also indicated better performance of ACT rather than CBT in increasing hope of veterans with psychopathy in Dezful. The mentioned finding was in line with results obtained by Moslem Khani (2018), Moghadamfar et al. (2018), Marmarchi and Zoghi Paidar (2017), Viskovich and Pakenham (2019), Eisenbeck et al. (2016), and Grigori et al. (2018). By integrating acceptance and mindfulness intervention with commitment and change strategies, ACT helps patients to have a happy, purposive, and meaningful life. ACT does not aim to change or increase annoying feelings but tends to improve psychological flexibility, ability to touch all life moments, to change and stabilize a behavior regarding the situation and values of the individual. ACT is a pragmatic situational intervention based on the communicational system theory and introduces psychological flexibility as the source of grief. ACT helps individuals to grow based on cognitive fusion and experiential avoidance, to become conceptualized, to improve observing self, and to accept events instead of controlling them. Therefore, ACT aims to find alternatives for four cognitive flexibility factors (i.e., fusion, evaluation, avoidance, and reason-giving).

The alternatives are 1) acceptance: it means that person accepts the unwanted internal experiences and unchangeable external events, as they are not what they must be. For instance, accepting the thought (I am sick) only as a thought, not that thought says (I am not able to). 2) Choose: it means a person selects value directions and goals instead of thinking about negative events. 3) Action: after choosing goals, the person is committed to taking action. In general, it can be explained that behavioral commitment exercises, values clarification, valued behaviors identification techniques, expressing metaphors, diffusion, and acceptance all led to higher hope.

According to the effectiveness of ACT and CBT, the first one had better performance in enhancing happiness among veterans with psychopathy living Dezful. The mentioned finding was matched with results obtained by Felahati et al. (2019), Moslem Khani (2018), Marmarchi and Zoghi Paidar (2017), Viskovich, and Pakenham (2019), Eisenbeck et al. (2016), and Grigori et al. (2018). The therapist used techniques for the identification of cognitive impairment and mindfulness to facilitate the process of helping the client achieve cognitive impairment as a means to encourage higher flexibility in behavioral responses. The process included helping the client to recover from the effects of negative thoughts not trying to adapt or replace the content or frequency of them by reducing the importance of thought.

Furthermore, the therapist used the cognitive feature of control as the problem to help the client understand that control strategies, in terms of private events (thoughts and feelings), may intensify those thoughts and feelings that he/she have for self-management. The therapist helped the client to see what rules may serve as a source of problems, and this strategy could increase happiness level in life. Additionally, this therapy can enhance happiness if the person tries to face issues with a new approach, accept feelings and thoughts caused by events, and adapt self to new situations instead of isolation and loneliness. The actions mentioned above could bring happiness and pleasure to a person. ACT helps the person to choose a positive and creative strategy in life instead of struggling with negative thoughts; such strategy leads to higher psychological flexibility, which in turn brings happiness in life.

ACT helps the client to adapt to the current situation based on the acceptance and willingness to experience thoughts and feelings, and providing a solution to improve flexibility level.
Moreover, ACT forms commitment and adherence to values and goals and improves motivation and happiness by changing life values. ACT makes a person committed to moving towards values and tendency to experience undesired thoughts and feelings resulting from life problems and situations. In the ACT, a person observes feelings and thoughts and tends to experience these feelings instead of avoiding reality.

The present paper was conducted on veterans with psychopathy living in Dezful; hence, caution must be taken while generalizing the results to other groups. Due to issues caused by time and facilities limits, both studied therapies were done by the researcher, while the better choice was the implementation of therapies by two therapists who were not aware of research goals. The target group of the study comprised veterans with psychopathy; hence, specific inclusion and exclusion criteria were required. The sample size was small owing to the time limit. It is recommended to carry out the study on a wider range of both male and female patients in different cities to generalize findings to other patients. It is recommended that further studies examine interventional methods to increase tolerance of psychopathy patients against others’ behaviors and attitudes to make a relationship with other people. It is also suggested to hold workshops on the enhancement of hope, resilience, and happiness among psychopathy patients.

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Comparing the effect of cognitive-behavioral therapy and acceptance and commitment therapy on hope, resilience, and happiness of veterans with psychopathy

Resumo
Este estudo teve como objetivo comparar o efeito da terapia cognitivo-comportamental (TCC) e da terapia de aceitação e compromisso (AT) na resiliência, felicidade e esperança dos veteranos com psicopatia. O presente estudo foi aplicado em termos de propósito, uma pesquisa pré-teste, pós-teste e acompanhamento em termos de método, e um design quase experimental em termos de natureza. Os resultados mostraram diferença entre os escores médios de resiliência, felicidade e esperança nos três grupos de terapia de aceitação e comprometimento, terapia cognitivo-comportamental e controle dentro de etapas pré-teste, pós-teste e acompanhamento. Havia uma diferença entre os efeitos do ACT e da TCC na resiliência, felicidade e esperança de veteranos com psicopatia vivendo em Dezful. Além disso, o ACT teve melhor desempenho do que TCC em termos de resiliência, felicidade e esperança entre veteranos com psicopatia vivendo em Dezful, Irã.

Keywords: Cognitive-Behavioral Therapy (CBT). Acceptance and Commitment. Resilience. Happiness. Hope.

Palavras-chave: Terapia Cognitivo-Comportamental (TCC). Aceitação e Compromisso. Resiliência. Felicidade. Esperança.

Abstract
This study aimed to compare the effect of cognitive-behavioral therapy (CBT), and acceptance and commitment therapy (AT) on resilience, happiness, and hope of veterans with psychopathy. The present study was applied in terms of purpose, a pre-test, post-test, and follow-up research in terms of method, and a quasi-experimental design in terms of nature. The results showed a difference between the mean scores of resilience, happiness, and hope in the three acceptance and commitment therapy, cognitive-behavioral therapy, and control groups within pre-test, post-test, and follow-up steps. There was a difference between the effects of ACT and CBT on resilience, happiness, and hope of veterans with psychopathy living in Dezful. Moreover, ACT performed better rather than CBT in terms of resilience, happiness, and hope rate among veterans with psychopathy living in Dezful, Iran.

Keywords: Cognitive-Behavioral Therapy (CBT). Acceptance and Commitment. Resilience. Happiness. Hope.

Palabras-clave: Terapia Cognitivo-Conductual (TCC). Aceptación y Compromiso. Resiliencia. Felicidad. Esperanza.