

## Evaluation of the effectiveness of acceptance and commitment-based therapy on couples' flexibility during coronation

Mohammadzadeh Salahshor M<sup>\*1</sup>, Talebian Sharif G<sup>2</sup>

### Abstract

**Introduction:** Considering the spread of Corona virus and the complications caused by this disease on the mental health of families, the purpose of this research was to investigate the effectiveness of treatment based on acceptance and commitment on the flexibility of couples in the era of Corona virus.

**Method:** The method of the present study is considered as applied research in terms of purpose and in terms of data collection method is quasi-experimental research with pre-test and post-test with a control group. The statistical population of this study included all couples referring to counseling clinics in Mashhad. The selected sample consisted of 34 subjects who were selected from two counseling clinics by available sampling and then randomly assigned to the control and experimental groups. The experimental group received acceptance and commitment-based therapy but the control group did not receive any training. The instrument used in this study was the cognitive flexibility of Dennis and Vanderwall (2010).

**Results:** The data were analyzed using the statistical method of analysis of covariance. Increased cognitive flexibility in couples ( $p < 0.05$ ).

**Conclusion:** According to the obtained results, it can be stated that acceptance and commitment therapy is one of the useful treatment methods in increasing the flexibility of couples during the corona and can increase the quality of life and psychological well-being in couples. Therefore, this treatment method can be used as one of the useful treatments in this field during corona.

**Keywords:** Acceptance and Commitment Therapy, Couples, Corona, Flexibility,

Received: 4/Desamber/ 2021

Accepted: 14/June 2022

**Citation:** Mohammadzadeh Salahshor M, Talebian Sharif G.. Evaluation of the effectiveness of acceptance and commitment-based therapy on couples' flexibility during coronation, Family and Health, 2023; 12(4): 26-36

<sup>1</sup>.Corresponding Author, Master of Family Counseling, Hekmat Razavi Institute of Higher Education, Mashhad, Iran

Email: [Maryam.mz.oriflame@gmail.com](mailto:Maryam.mz.oriflame@gmail.com), ORCID: 0000-0002-3070-2534

<sup>2</sup>.Assistant Professor of Psychology, Hekmat Razavi Non-Profit Higher Education Institute, Mashhad, Iran

Email: [talebian@um.ac.ir](mailto:talebian@um.ac.ir), ORCID: 0000-0003-8173-2611

## Introduction:

The World Health Organization (WHO) diagnosed the disease known as Covid 19 after the first cases of severe acute respiratory syndrome in Wuhan (1). The disease has spread rapidly around the world and has become a global threat to public health. The Covid 19 epidemic has brought about dramatic changes in daily life, including social distance, quarantine, and the closure of public spaces. However, precautions are needed to curb the spread and reduce the impact of Covid 19. But research on Covid 19 has shown that the epidemic has been associated with increased epidemic anxiety (e.g., infection concerns, health anxiety), and increased symptoms of generalized mental distress and many other psychological problems. (2). Evidence suggests that exposure to Covid 19 has a negative effect on mental performance (3). According to a survey published by the American Psychiatric Association, 36% of Americans report that Covid 19 has a severe effect on their mental health, and 59% believe that the Corona virus has a severe effect on their daily activities (4). These drastic changes in daily life during Covid 19 may have adverse effects on individuals' psychosocial functioning. The psychosocial response to a particular situation depends on the social and cultural form of society, which changes over time. Excessive psychosocial stress may reduce a person's quality of life and increase fatigue (4). Corona is a threat to people's mental health. The disease has increased negative emotions and decreased positive emotions worldwide (5). As a result, one of the components that can be related to the prevalence of coronation in families is the relationship between individuals and cognitive flexibility (6). Flexibility enables one to deal appropriately with pressures, challenges, and other emotional and social issues. The ability to change cognitive contexts to adapt to changing environmental stimuli is a key element in defining cognitive flexibility (7). Levin (8) has defined cognitive flexibility as the degree to which an individual evaluates the controllability of circumstances, which varies in different situations. Researchers have described cognitive flexibility as a major feature of human cognition and refers to an individual's ability to simultaneously consider contradictory representations of an object or event (8). Cognitive flexibility is the ability of individuals to adjust the cognitive process to face new and unpredictable situations (9).

When a person does not have cognitive flexibility, he or she is impulsively confronted with environmental conditions and often makes mistakes and does things impulsively and makes poor decisions, so with cognitive flexibility, fundamental changes can be made in re-presenting thought and analyzing the problem (10).

So far, few methods have been proposed to increase cognitive flexibility, such as the method of increasing emotional intelligence skills, cognitive-behavioral methods, metacognitive awareness training method. Due to the limited treatment methods, and due to the fact that the method of acceptance and commitment during the treatment period emphasizes on the psychological components of the individual. It can improve cognitive flexibility in individuals. One of the processes to improve people's lives to achieve peace, and get better results from their lives; The method is acceptance and commitment (11).

Commitment and acceptance therapy has entered the field of psychology since 1990 and is one of the third wave therapies of behavioral therapy and a branch of new psychological therapies which are also called acceptance therapies. Acceptance and commitment therapy is a behavioral therapy that uses mindfulness, acceptance, and cognitive failure skills to increase psychological resilience (12). This treatment includes a combination of metaphor, mindfulness skills, a wide range of experimental exercises, and behavioral interventions guided by the therapist's reference values. The goal of this treatment is to help clients achieve a more valuable and satisfying life by increasing psychological flexibility and reducing impulsivity, which is to improve the ability to relate to present experiences and to make practical choices from the various options that are most appropriate, not merely to choose from disturbed thoughts, feelings, memories or desires. The usual is more efficient (13). According to the above, the purpose of this study is to investigate the effectiveness of acceptance and commitment-based therapy on couples' flexibility in the corona.

### Research Methods:

The method of the present study is a quasi-experimental study with pre-test and post-test design with a control group. The statistical population of this study included all couples referring to counseling clinics in Mashhad. The selected sample consisted of 34 subjects who were selected from the two centers of Jihad University and Astan Mehr in Mashhad by available sampling. Then, 17 people in the experimental group and 17 people in the control group were randomly selected. During the sessions, 2 subjects withdrew from the sessions and also 2 people were randomly removed from the control group. The experimental group received admission-based training and the control group did not receive any program. Inclusion criteria included people who were married, willingness to attend meetings, and exclusion criteria included dissatisfaction and unwillingness to continue cooperation, having a history of a specific mental patient, and attending other psychological courses. Research tools:

**Cognitive Flexibility Questionnaire:** This questionnaire was developed by Dennis and Vanderwall (10) to measure cognitive flexibility, which has 20 questions that are scored on a 7-point Likert scale. This questionnaire consists of three dimensions: The desire to understand difficult situations as controllable situations, the ability to understand several alternative justifications for human life events and behavior, and the ability to create multiple alternative solutions to difficult situations. The retest validity coefficients for the whole scale were 0.92 and for the subscales of controllability perception, perception of different options and perception of behavior justification were 0.89, 0.80 and 0.89, respectively. The concurrent validity of this questionnaire with Beck depression was -0.39 and its convergence validity with Martin and Robin cognitive flexibility scale was 0.75. Kahandani and Abolmaali (15) in their research stated that the internal consistency of the total score of this questionnaire and the two factors of problem solving processing, and the perception of controllability were equal to 0.89, 0.77 and 0.81, respectively. In the study of convergent validity, the total score of the Cognitive Flexibility Questionnaire and its two factors, problem solving processing and controllability perception, had a significant

relationship with the total score of the Beck Depression Test, which was equivalent to -0.66, -0.577, and 0.597, respectively. - was (15). In the present study, the reliability of this questionnaire by Cronbach's alpha method was 0.83.

## Results:

A review of the collected data shows that 23% (7 people) of the statistical sample are between 15 and 25 years old; 44% (13 people) were between 26 and 35 years old and 33% (10 people) were between 36 and 45 years old. 33% (10 people) of the statistical sample had no children; 30% (9 people) have a child; 27% (8 people) had two children and 10% (3 people) had three children. 22% (5 people) of the statistical sample between 1 to 5 years; 35% (8 people) between 6 and 10 years; 22% (8 people) between 11 and 15 years, 17% (4 people) between 16 to 20 years and 4% (1 person) have lived together for more than 20 years.

Table 1: Description of research dependent variables in different groups

	Mean	SD	Skewness	kurtosis
Pre-test of the experimental group	4.3	0.57	-0.64	-0.37
Pre-test of the control group	3.92	0.17	0.66	0.19
Post-test of the experimental group	4.91	0.36	-0.35	-0.38
Post-test of the control group	3.96	0.23	-0.38	0.54

One of the presuppositions of analysis of covariance is the normality of the distribution of scores of the experimental groups. In this study, we used Klotmogorov-Smirnov and Shapiro-Wilk tests to investigate the distribution of score normality. If the significance level of these tests is higher than the error level of 5%, it indicates a normal distribution of variables.

Table 2: Investigation of the distribution of variables in different groups

Groups		K-S		S-W		Distribution status
		Statistics	P value	Statistics	P value	Normal
experimental Group	Cognitive flexibility pre-test	0.172	0.20	0.935	0.321	Normal
	cognitive flexibility post-test	0.159	0.20	0.956	0.617	Normal
control group	Cognitive flexibility pre-test	0.192	0.050	0.922	0.205	Normal
	cognitive flexibility post-test	0.121	0.20	0.977	0.944	Normal

One of the presuppositions of analysis of covariance is the homogeneity of variances of the experimental groups. Therefore, Levin test was used to examine the homogeneity of variances in both control and experimental groups.

Table 3: Homogeneity of group variances (experimental and control)

dependent variable	Levine test	Df 1	Df 2	P value
cognitive flexibility Post-test	0.028	1	28	0.87

The most important assumption of analysis of covariance is the homogeneity of the regression slope. Here the interaction between the independent independent variable and the covariate variable should not be significant. In other words, the main condition of analysis of covariance is

that the regression slope of the dependent variable is not different at different levels of the independent variable.

Table 4: Results of one-variable analysis of covariance to evaluate the homogeneity of regression slopes in post-test scores

Variable	Indicators Source of changes	Total squares	Df	Average squares	F	P value
cognitive flexibility	Pre-test $\times$ group	0.112	1	0.112	1.845	0186

As can be seen in the table, the interaction between the group and the pre-test of cognitive flexibility scores is not significant (Significance level is more than 0.05). In other words, the data support the hypothesis of homogeneity of regression slopes. That is, the regression gradient of scores in both groups is homogeneous.

Considering all the assumptions of covariance analysis, the results of covariance analysis are expressed in the table below.

Table 5: Mean and adjusted mean scores of dependent variables

Variable	Groups			Post- test	Adjusted average
		Mean	SD	Mean	SD
Cognitive flexibility	Experimental group	4.91	0.36	4.83	0.07
	Control group	3.96	0.23	4.04	7.07

The table above shows the adjusted variables of the effect of acceptance and commitment therapy on cognitive flexibility. That is, the effect of the scatter variable is statistically eliminated. This means that the mean cognitive flexibility scores of the experimental group are higher than the mean of the control group.

Table 6: Summary of covariance analysis results

Variable	Indicators Source of changes	Total squares	Df	Average squares	F	P value	Effect Size	Statistical power
cognitive flexibility	Pre- test	0.87	1	0.87	13.96	0.001	0.34	0.95
	independent variable	3.86	1	3.86	61.95	0.000	0.7	1

The value of F in the pre-test shows the effect of the confusion variable, which is significant for the scores of the dependent variables because it is smaller than the error level of 0.05. And it can be said that the selected variable has an effect on the proposed model and its selection is done correctly. Also, pre-test scores have a 70% relationship with cognitive flexibility scores ( $p < 0.05$ ). Therefore, by controlling the effect of this variable, it is observed that there is a significant difference between the adjusted mean of the experimental group and the control group in the flexibility scores of the subjects. ( $p < 0.05$ ). In other words, by controlling the effect of pre-test, acceptance and commitment-based education is effective on cognitive flexibility. The difference also indicates the effectiveness of acceptance and commitment-based education at 34% on cognitive flexibility.

Table 7: Paired comparisons between groups

dependent variable	Group (I)	Group (J)	Mean difference (I-J)	standard error	df	Low limit	upper line
cognitive flexibility	Control group	Experimental group	-0.79	0.10	0.000	-0.99	-0.59

The table above shows the pairwise comparisons. As can be seen, there is a significant difference between the control and experimental groups ( $0.05 > \text{Bon Boeroni significance level}$ ). Considering the negative difference of the mean in the cognitive flexibility variable, it can be said that the subjects in the experimental group had better scores than the subjects in the control group. In other words, people who were trained in acceptance and commitment therapy had better cognitive flexibility than those who were not tested.

### **Discussion and conclusion:**

As the study showed, acceptance and commitment-based therapy increases the couple's psychological flexibility. In other words, couples who participated in acceptance and commitment therapy sessions were able to increase their flexibility. This result is consistent with the research findings of Scott (12), Levin (9), Trum Peter et al. (16). Explaining the research results, it can be said that the avoidance of experiences is associated with a wide range of behavioral and psychological problems. In fact, avoiding human experiences makes them more vulnerable to stressors. People who are more willing and willing to imprison and suppress such experiences, when stress and anxiety arise at school, at work, conflicts with and for a spouse, trying to control them, aggravates them.

Also, in explaining the research hypothesis, one of the most important techniques of this treatment is to specify values and commit action. In this stage of treatment, people learn not to look at life and activities as a goal or outcome, but as a process or a path. It is observed that people take steps towards their personal values or something else. By encouraging participants to identify the values they achieve using funeral metaphors. The next step is to identify goals and perform actions that are in line with goals and values. Participants encounter barriers that fall into two categories: internal barriers that can be overcome with commitment-based and acceptance therapy, and external barriers that can be removed using problem-solving skills. Making a commitment to take action to achieve goals and move in the direction of values, despite the problems, leads to happiness while achieving goals leads to life satisfaction. And getting them caught up in a circle of negative thoughts and feelings such as anxiety, stress, despair, and depression, which in turn increases the severity of problems, Which has led to psychological flexibility. Therefore, increasing psychological flexibility in the treatment of acceptance and commitment can increase the patient's ability to cope with problems. This treatment emphasizes trying to accept what cannot be changed directly as a means of identifying and changing things that can be changed. The results of some studies (16) showed that treatment based on acceptance and commitment of psychological flexibility indirectly reduces the catastrophe of the individual. Palinas et al. (17) show that in the treatment of acceptance and commitment, being in the here and now prevents one from engaging in judgments about unpleasant past and future experiences. The process of contact with the moments of life helps a person to endure the situation and to accept the experience of the real moments of their life, which causes her to move towards psychological flexibility (17). Another process of this treatment that contributes a lot to its effectiveness is the creation of a self-observer with itself as a context in references through the application of faulting skills, mindfulness and present communication. In fact, the observer is an alternative to the conceptualized self, the self defined by thoughts, feelings, memories, and bodily sensations. In general, the goal is to separate the client from his or her inner experiences, including rumination and memories and feelings and bodily feelings, Because when an intellectual like me is a shy person, she has to deal with me as a person without self-confidence, and she acts like a shy person or without self-confidence. And in



the case of self-knowledge, it becomes conceptualized and acts as a context according to the present, which causes the person to move in the direction of her values and psychological flexibility (18). Therefore, according to the research results, acceptance and commitment therapy is an effective way to increase couples' flexibility during coronation. In this therapeutic approach, people can reduce their destructive beliefs and unhealthy behaviors by accepting their feelings and emotions, and ultimately increase their flexibility and resilience to injuries and problems.

### **Research application**

According to the research hypothesis and confirmation of the effectiveness of treatment based on acceptance and commitment on the flexibility of couples during the corona, it is suggested that organizations and centers related to welfare and psychology of this treatment protocol to treat and improve the flexibility of individuals during the corona Use.

### **Acknowledgments**

Many thanks to the officials of the counseling centers and the couples in question who helped us in carrying out this research.

### **Ethical considerations**

In this research, ethical criteria include; The principle of respect and confidentiality, preventing the disclosure of information obtained by the subjects with their real names, the authority and freedom of the subjects to participate or leave the training, obtaining written consent from the subjects has been observed.

### **Research Limitations**

Due to the prevalence of corona and members' concerns about the transmission of the disease, holding and coordinating meetings was difficult and it was not possible to follow up on the results.

### **Contribution of authors**

All authors have been involved in writing, submitting and following this article. The financial support of this research was carried out at personal expense and did not have the financial support of a specific organization or institution.

### **Referencess**

1. World Health Organization. World Health Organization coronavirus disease (COVID-19) dashboard. World Health Organization. 2020.
2. Xiong J, Lipsitz O, Nasri F, Lui LM, Gill H, Phan L, Chen-Li D, Iacobucci M, Ho R, Majeed A, McIntyre RS. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. Journal of affective disorders. 2020 Aug 8.

3. Yildirim M, Solmaz F. COVID-19 burnout, COVID-19 stress and resilience: Initial psychometric properties of COVID-19 Burnout Scale. *Death Studies*. 2020 Sep 10:1-9.
4. Poll N. COVID-19 impacting mental Well-being: Americans feeling anxious, Especially for Loved ones; older adults are less anxious. *American Psychiatric Association-News Releases*. 2020.
5. Sorokin P, Richard MP. *Social and cultural dynamics: a study of change in major systems of art, truth, ethics, law, and social relationships*. Routledge; 2017 Sep 29.
6. Bhattacharjee B, Acharya T. The COVID-19 pandemic and its effect on mental health in USA—a review with some coping strategies. *Psychiatric Quarterly*. 2020 Aug 23:1-1.
7. Perpina C, Segura M, Sánchez-Reales S. Cognitive flexibility and decision-making in eating disorders and obesity. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*. 2017 Sep;22(3):435-44.
8. Preiss M, Kucerova H, Lukavsky J, Stepankova H, Sos P, Kawaciukova R. Cognitive deficits in the euthymic phase of unipolar depression. *Psychiatry research*. 2009 Oct 30;169(3):235-9.
9. Levin ME, Haeger J, Pierce B, Cruz RA. Evaluating an adjunctive mobile app to enhance psychological flexibility in acceptance and commitment therapy. *Behavior modification*. 2017 Nov;41(6):846-67.
10. Dennis JP, Vander Wal JS. The cognitive flexibility inventory: Instrument development and estimates of reliability and validity. *Cognitive therapy and research*. 2010 Jun;34(3):241-53.
11. Coumans JM, Danner UN, Ahrens W, Hebestreit A, Intemann T, Kourides YA, Lissner L, Michels N, Moreno LA, Russo P, Stomfai S. The association of emotion-driven impulsiveness, cognitive inflexibility and decision-making with weight status in European adolescents. *International Journal of Obesity*. 2018 Apr;42(4):655-61.
12. Scott W, Hann KE, McCracken LM. A comprehensive examination of changes in psychological flexibility following acceptance and commitment therapy for chronic pain. *Journal of contemporary psychotherapy*. 2016 Sep;46(3):139-48.
13. Hayes SC, Strosahl KD. *A practical guide to acceptance and commitment therapy*. Springer Science+ Business Media; 2005.
14. Alavizadeh F, shakerian A. The Effectiveness of Acceptance and Commitment Therapy on Reducing Stress, Anxiety and Depression in Married Females Experiencing Infidelity (Emotional- Sexual). *IJPN*. 2017; 4 (6) :8-14
15. Kohandani, M., Abolmaali Alhosseini, K. Factor structure and psychometric properties of Persian version of cognitive flexibility of Dennis, Vander Wal and Jillon. *Psychological Methods and Models*, 2017; 8(29): 53-70.
16. Trompetter HR, Bohlmeijer ET, Fox JP, Schreurs KM. Psychological flexibility and catastrophizing as associated change mechanisms during online Acceptance & Commitment Therapy for chronic pain. *Behaviour research and therapy*. 2015 Nov 1; 74: 50-9.

17. Paliliunas D, Belisle J, Dixon MR. A randomized control trial to evaluate the use of acceptance and commitment therapy (ACT) to increase academic performance and psychological flexibility in graduate students. Behavior analysis in practice. 2018 Sep;11(3):241-53.
18. Lin J, Klatt LI, McCracken LM, Baumeister H. Psychological flexibility mediates the effect of an online-based acceptance and commitment therapy for chronic pain: an investigation of change processes. Pain. 2018 Apr 1;159(4):663-72.