

Comparison of the effectiveness of Beck acceptance and commitment therapy and cognitive therapy on students' neuroticism and introversion

feizi lafmajani M.¹, farzad V.,² Delavar A.,³ khodabakhshi A.⁴

Abstract

Introduction: The aim of this study was to compare the effectiveness of commitment and acceptance treatment and Beck's cognitive therapy on the suffering and introversion of students of Islamic Azad University, Islamshahr Branch.

Methods: The present study was a quasi-experimental study with pre-test and post-test design and follow-up with the control group and using the selection of subjects in the experimental and control groups. The statistical population of this study is students who referred to the Mental Health Counseling and Services Center of Islamic Azad University, Islamshahr Branch from April 2014 to September 2019. The sample size was 45 students who were selected by purposive sampling from the statistical population and were randomly assigned to three groups of acceptance and commitment therapy experiments (n = 15), cognitive therapy (n = 15) and control (n = 15). Both experimental groups were trained for 10 sessions of 90 minutes and no intervention was performed for the control group (third group). The content of the interventions in the ACT and CT experimental groups was presented in 10 sessions based on the training package. The content of the interventions in the ACT and CT experimental groups was presented in 10 sessions based on the training package. The research instrument included a Minnesota Multidimensional Personality Questionnaire 2- Reconstructed Form. In this research, the statistical model of repeated measures measurement has been used.

Results: The results showed that "group therapy based on acceptance and commitment" is more effective on variables, "neuroticism" and "introversion" than "Beck cognitive therapy". (0.001);

¹ - PhD Student in Counseling, Department of Counseling, Research and Sciences branch, Islamic Azad University, Tehran, Iran

² - Corresponding author, Associate Professor, Department of Psychology, Kharazmi University, Tehran, Iran, vfarzad@yahoo.com

³ - Professor, Department of Psychology, Allameh Tabatabai University, Tehran, Iran

⁴ - Assistant Professor, Department of Psychology, Khatam University, Tehran, Iran



Conclusion: Based on the findings, it is concluded that group therapy based on acceptance and commitment can be effective in improving students' neuroticism and introversion.

Keywords: Beck cognitive therapy, Commitment and acceptance, introversion, neuroticism, students

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Introduction:

Health and well-being in its broadest sense is a phenomenon that is of interest to all human beings, social groups and human societies. Health has been described and explained in a variety of discourses that are socially structured. Although the concepts of health, mind, and body have varied in different places and times, for all cultures and societies, they have played a central role in human life experiences. Considering health as a concept influenced by a complex set of biological, psychological, social, cultural, economic, religious and environmental factors, it must be acknowledged that in this sense, health is no longer the concern of medical practitioners, but of all social scientists. , Especially sociologists and psychologists are interested in studying it. The mental health dimension has received less attention in many countries of the world, especially in third world countries, due to the main focus on other health priorities, such as infectious diseases in the past or chronic diseases in the present. However, a look at the published statistics on the prevalence of mental disorders in different countries of the world indicates that the mental health situation is critical (1).

Young people, including students in any society, are the intellectual and spiritual assets of that society and are the builders of that society's future, so these people are the ones who must accept the responsibilities of that society in the future. Studying the specific issues of young people, successful education and ensuring their physical and mental health is one of the most important goals of government educational planners (2).

Students are among the effective, important and future-making social groups of any society that the development of personality and promotion of their knowledge and skills depends on recognizing the factors affecting their "living conditions and way of life" which in the current scientific literature, using the concept Quality of life is raised and evaluated (3).

One of the most important variables among students is neuroticism. Psychosis is a type of mental or behavioral illness that is not fundamentally organic. In this disease, mental anxiety occurs by maintaining a healthy mental capacity in the person (4). The second dependent variable of this research, which the researcher seeks to study, is introversion. Introversion should be seen as the

absence of extroversion rather than as anti-extroversion. Thus, introverts are more restrained than unfriendly, independent to follow, monotonous and balanced too lazy. One of the salient features of these people is curiosity (5).

The above variables are both considered as personality traits. Personality traits in students is one of the factors that, if not managed and treated in a timely manner, endangers the quality of life and disrupts the daily functions of students, has a devastating effect on their physical and mental health and causes There is a decline in their academic performance. Accordingly, the study and identification of effective factors and involvement in students' vulnerability to these personality traits is very important (6).

Students who go to counseling centers certainly have special injuries and problems that must be effectively identified, counseled and treated. In counseling centers, various counseling and psychotherapy methods are used to eliminate injuries and problems specific to students. Utilizing new therapies in the field of psychotherapy and counseling such as commitment and acceptance therapy along with other psychological and socio-cultural factors, can be effective in improving the mental status of students with psychological disorders (7).

Acceptance and commitment therapy is a process-oriented approach that is known as one of the third wave psychotherapy. ACT is the only psycho-empirical intervention in which acceptance and mindfulness strategies are used along with commitment and behavioral change strategies to increase psychological flexibility (8). The focus of ACT is to increase the flexible response to the environment and the adaptation of personal values to the environment to reduce anxiety in the individual (9). ACT targets the core of problems and its overall goal is to increase psychological flexibility as well as the ability to fully communicate with the present and change behavior in order to employ values (10). Psychological flexibility is built and stabilized through 6 cores. Each of these nuclei is a psychological skill. The perspective of psychological resilience in ACT treatment can lead to reduced anger, hostility and aggression (11). Recent research also shows that an important feature of flexibility in ACT treatment can lead to reduced aggression and hostility (13, 12 and 14). In addition, the effectiveness of ACT treatment has been confirmed in many psychological problems including anxiety (15), depression (16), reduction of emotions and negative thoughts (17).

Another therapeutic approach in this field can be cognitive therapy. In the approach of therapy based on acceptance and commitment, unlike traditional cognitive therapy (BAC), the content of patients' thoughts and beliefs are not evaluated, instead, the processes of formation of psychological pathology in the context and problem context are considered. (18). The most important principle of cognitive therapy is that the human condition is the result of his cognitions and thoughts. It all depends on the outcome of your attitude; And it depends on how you interpret the events and what justification you have from others and from objects. It is due to negative thoughts that you become depressed and heavy and experience feelings of failure (19). In cognitive

therapy, it is necessary for the dominant anomalous methods in information processing to move towards normal methods and for people to become more aware of their information processing and, if necessary, try to change the data and adapt it to existing schemes instead. Match their schemas with the data (20). According to Beck, misconceptions are usually formed in childhood and remain latent and passive as a cognitive schema in long-term memory, and a change in this schema requires a change in cognition (21). There is little research on cognitive therapy. These include: Gaudiano, Nolen, Brown, Epsenin Lobo, and Miller (2013) in a study of 14 people with major depression who concluded that not only cognitive therapy It is very useful for treating people with major depression; It also increases the psychosocial performance of these people. The results of many studies show that cognitive therapy is effective in reducing the symptoms of psychiatric pathology (23, 22, 21 and 24). Also, Khaneh Zar (1398) showed in a study that cognitive therapy can be suggested as an effective method in improving depression and self-acceptance of patients with inflammatory bowel disease. Azizi (2013) in the study "The effectiveness of group cognitive therapy on reducing depression and anxiety in elderly women in Kermanshah", treated cognitive therapy on depression and anxiety. The results showed that cognitive therapy is effective in reducing depression, overt and covert anxiety in older women.

Another therapeutic approach in this field can be cognitive therapy. In the approach of therapy based on acceptance and commitment, unlike traditional cognitive therapy (BAC), the content of patients' thoughts and beliefs are not evaluated, instead, the processes of formation of psychological pathology in the context and problem context are considered. (18). The most important principle of cognitive therapy is that the human condition is the result of his cognitions and thoughts. It all depends on the outcome of your attitude; And it depends on how you interpret the events and what justification you have from others and from objects. It is due to negative thoughts that you become depressed and heavy and experience feelings of failure (19). In cognitive therapy, it is necessary for the dominant anomalous methods in information processing to move towards normal methods and for people to become more aware of their information processing and, if necessary, try to change the data and adapt it to existing schemes instead. Match their schemas with the data (20). According to Beck, misconceptions are usually formed in childhood and remain latent and passive as a cognitive schema in long-term memory, and a change in this schema requires a change in cognition (21). There is little research on cognitive therapy. These include: Gaudiano, Nolen, Brown, Epsenin Lobo, and Miller in a study of 14 people with major depression who concluded that not only cognitive therapy It is very useful for treating people with major depression; It also increases the psychosocial performance of these people. The results of many studies show that cognitive therapy is effective in reducing the symptoms of psychiatric pathology (23, 22, 21 and 24). Also, Khaneh Zar (1398) showed in a study that cognitive therapy can be suggested as an effective method in improving depression and self-acceptance of patients with inflammatory bowel disease. Azizi in the study "The effectiveness of group cognitive therapy on reducing depression and anxiety in elderly women in Kermanshah", treated cognitive therapy on depression and anxiety. The results showed that cognitive therapy is effective in reducing depression, overt and covert anxiety in older women.

Successful use of counseling with students referring to university counseling centers requires recognizing their normal and abnormal personality traits. (28) When counselors and psychotherapists in the process of psychological assessment with a diagnostic-therapeutic approach to accurately identify the psychological pathology of the subject, determine the extent and severity of psychological complications before the application of therapeutic processes. The more the severity of the subject's psychological symptoms decreases and the severity of his psychological damage heals, the more the effectiveness of the treatment can be observed (29).

The present study can be considered new and innovative in terms of examining and comparing the effectiveness of the two models of therapy and counseling on students' neuroticism and introversion, because according to the research background, it can be seen that previous research in the subject of the research, either studied one of these models or researched the characteristics of students that are other than the personality traits considered in this research.

Given that some researchers in the field of commitment and acceptance therapy - some of which have been presented in research and the above - believe that this treatment is more effective than first-generation therapies, so this study intends To test this claim in the experimental plant, the researcher seeks to answer the question of whether there is a difference between the effectiveness of group therapy based on acceptance and commitment and Beck cognitive therapy on neurosis and introversion of students of Islamic Azad University, Islamshahr Branch. ?

Method:

The present study is quasi-experimental research with pre-test and post-test design and follow-up with the control group and using the selection of subjects in the experimental and control groups. The statistical population of this study is students who referred to the Mental Health Counseling and Services Center of Islamic Azad University, Islamshahr Branch from April to September 2017. There were about 473 of them, of which 251 were girls and 222 were boys. The sample size is 45 students who were selected by purposive sampling from the statistical population. In this way, a questionnaire was given to the students who referred to the counseling center due to a problem, and then 45 of them, who obtained a high score on the MMPI-2RF questionnaire and introversion scales, announced their readiness in Participated in the research project. In the next stage, after matching in terms of age, sex, etc .; Fifteen patients were assigned to the acceptance and commitment therapy experimental group, 15 to the Beck cognitive therapy experimental group, and 15 to the control group.

Minnesota Multidimensional Personality Questionnaire: In this study, from the subscales of the Minnesota Multidimensional Personality Questionnaire, a version of the Minnesota Multidimensional Personality Questionnaire 2- A reconstructed form was selected. This version has 338 questions, which includes 8 narrative scales and 42 main scales (29).

The research method used in this research is a quasi-experimental and field method in which the effectiveness of two independent variables (Beck acceptance and commitment therapy and cognitive therapy) on dependent variables (neuroticism and introversion) was examined. Accordingly, three groups of students were selected. First, they were pre-tested. Then, the selected students were randomly divided into three groups. Subsequently, the independent variables of acceptance and commitment therapy were applied to experimental group 1 and Beck cognitive therapy was applied to experimental group 2 and the control group did not receive any intervention. After that, the changes of the dependent variable were measured and a follow-up step (one week after the end of the post-test) was performed from the two groups exposed to the independent variable. Both experimental groups were trained for 10 sessions of 90 minutes, at 10 to 12 days, at the Mental Health Counseling and Services Center of the Islamic Azad University, Islamshahr Branch, and no intervention was performed for the control group (third group). The content of interventions in ACT and CT experimental groups was presented in 10 sessions based on the training package.

Table 1. Content of ACT therapy sessions

| meetings | Content |
|-----------------|---|
| 1 | -Familiarity with group members and establishing a therapeutic relationship -Description of group rules, familiarity and general description of the therapeutic approach. |
| 2 | -General assessment and examination of disturbing thoughts and feelings in group members -Measuring ways to control these thoughts and emotions -Make a list of the advantages and disadvantages of troubleshooting methods -Second session feedback |
| 3 | -Review of the assignments of the previous session -Specify the inefficiency of controlling negative visas with -Metaphors and teaching the tendency towards negative emotions and experiences -Study of the outside world and its law in the treatment of ACT |
| 4 | -Review the assignments of the previous session -Teaching group members to accept their thoughts and feelings without judging whether they are good or bad -Emotions and their difference with thoughts and feelings -Emphasis on the principle of acceptance, feedback and homework on how much we accept ourselves and the feelings of others. |
| 5 | -Review the assignments of the previous session -Examining the values of each individual, specifying the values, goals, practices and internal and external barriers and deepening these concepts |

| | |
|-----------|---|
| | -Task Feedback: Prepare a list of obstacles to achieving values |
| 6 | -Review the assignments of the previous session -Understanding fusion and faulting using metaphors and allegories -Performing experimental exercises to understand the concept of fault: In this session, practice "Walk with your mind". -Feedback and assignment of mindfulness techniques along with acceptance |
| 7 | -Review the assignments of the previous session -Introducing the types of fusion, self-conceptualizing and learning how to break it, using descriptions instead of evaluating between sentences -A reference to values and a review of compliance score. -Task Feedback: Provide a list of types of blends in the group. |
| 8 | -Check the homework of the previous session -Relation to the present, specifying the concept of self-observer (chess board) -Feedback, assignment: Record the cases in which people have been able to observe thoughts using mindfulness techniques. |
| 9 | -Review the assignments of the previous session -Search for unresolved issues in group members by identifying behavioral plans for accepted matters and creating a commitment to act on them. -Feedback, Assignment: A report of the steps of pursuing value and thinking about the achievements of the sessions. |
| 10 | An overview of the content presented, a summary of the mechanism reviewed during the sessions, feedback and post-test |

Table 2. Content of cognitive therapy sessions

| meetings | Content |
|-----------------|---|
| 1 | -Familiarity with group members and establishing a therapeutic relationship -Description of group rules, familiarity and general description of the therapeutic approach |
| 2 | Behavioral interviews and taking an initial history of situations that annoying thoughts come to mind and how each of them copes with the situation, summarizing the meeting and doing homework |
| 3 | -Review of the assignments of the previous session -Explain specific cognitive beliefs and their types |

| | |
|-----------|--|
| | -Summarize the contents of the meeting and do homework |
| 4 | -Review the assignments of the previous session -Teach the stimulus-thought-feeling-behavior relationship -Summarize the contents of the meeting and do homework |
| 5 | -Review the assignments of the previous session -Identify thoughts and teach the incident event, goal and outcome behavior, discuss hidden and overt motivators. Pay attention to the consequences of each action -Summarize the contents of the meeting and do homework |
| 6 | -Review the assignments of the previous session -Talk about self-talk and thoughts, inflexible and flexible thoughts. -Summarize the contents of the meeting and do homework |
| 7 | -Review the assignments of the previous session -Training and practicing relaxation, examining role play with a focus on self-talk and inflexible and flexible thoughts. -Summarize the contents of the meeting and do homework |
| 8 | Review pre-session summaries and practice relaxation and feedback |
| 9 | Problem-solving and relaxation exercises, courage training with explanations about primary and secondary feelings Positive feedback |
| 10 | An overview of the content presented, a summary of the mechanism reviewed during the sessions, feedback and post-test |

Before conducting the questionnaire and at the beginning of the research process, all students participating in this research were acquainted with the process of participating in this research and submitted their written consent form. All students participating in this research were fully assured that the information Collected from questionnaires and interviews and research stages are considered completely confidential and are used in research and scientific affairs.

The method of data analysis in this study is that first the mean and standard deviation of research dependent variables in the ACT and CT experimental groups of Beck cognitive therapy and the control group in the pre-test, post-test and follow-up stages are calculated and then for statistical analysis SPSS software and statistical model of repeated measures were used.

Results:**Table 3. Statistical indicators of "Neuroticism" scale in students of Islamshahr University**

| Maximum score | Minimum score | Slenderness ratio | Slope coefficient | Standard deviation | Average | Levels | Variable |
|---------------|---------------|-------------------|-------------------|--------------------|---------|------------------|------------|
| 85 | 75 | -1/46 | -0/21 | 3/65 | 80/73 | pre-exam | test (ACT) |
| 85 | 74 | -1/37 | -0/23 | 3/73 | 79/93 | Post-test | |
| 85 | 74 | -1/35 | -0/15 | 3/71 | 79/73 | Follow up | |
| 87 | 74 | -1/64 | 0/17 | 4/67 | 80/13 | pre-exam | test (CT) |
| 87 | 73 | -1/58 | 0/15 | 4/80 | 79/86 | Post-test | |
| 87 | 73 | -1/58 | 0/13 | 4/93 | 79/73 | Follow up | |
| 87 | 74 | -1/21 | 0/49 | 4/25 | 79/73 | pre-exam | Control |
| 86 | 75 | -1/46 | 0/51 | 4/32 | 79/80 | Post-test | |
| 87 | 75 | -1/35 | 0/54 | 4/34 | 79/80 | Follow up | |

Table 4. Statistical indicators of "Introversion" scale in students of Islamshahr University

| Maximum score | Minimum score | Slenderness ratio | Slope coefficient | Standard deviation | Average | Levels | Variable |
|---------------|---------------|-------------------|-------------------|--------------------|---------|------------------|------------|
| 87 | 75 | 9/70 | -2/82 | 2/87 | 84/53 | pre-exam | test (ACT) |
| 86 | 73 | 9/90 | -2/92 | 3/08 | 83/26 | Post-test | |
| 86 | 73 | 10/12 | -2/93 | 3/01 | 83/06 | Follow up | |
| 92 | 79 | 2/21 | 0/78 | 2/99 | 84/40 | pre-exam | test (CT) |

| | | | | | | | |
|----|----|-------|-------|------|-------|------------------|---------|
| 92 | 78 | 1/74 | 0/52 | 3/24 | 84/13 | Post-test | |
| 91 | 78 | 1/20 | 0/30 | 3/07 | 84 | Follow up | |
| 88 | 78 | -0/79 | -0/76 | 3/36 | 83/80 | pre-exam | Control |
| 88 | 78 | -0/81 | -0/65 | 3/33 | 84 | Post-test | |
| 89 | 77 | -0/28 | -0/66 | 3/53 | 84/06 | Follow up | |

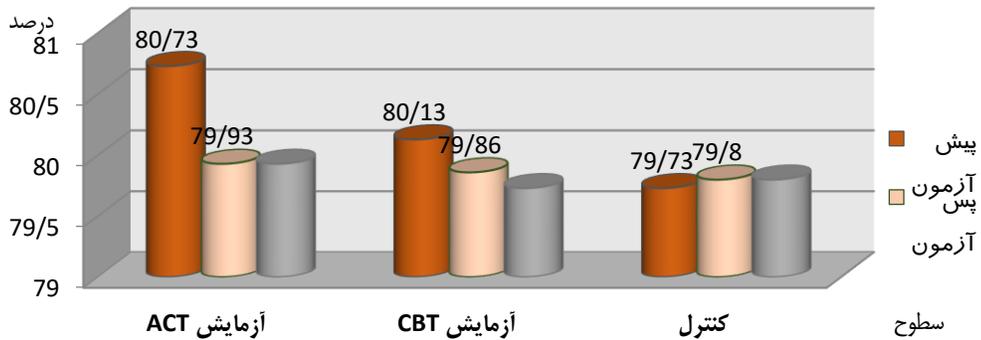


Figure 1. "Neuroticism" variable

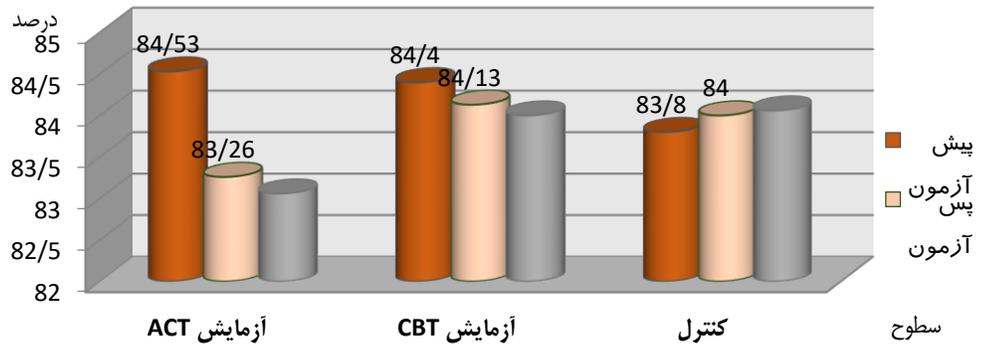


Figure 2. "Introversion" variable

Table 5. Comparison of the effect of group therapy "based on acceptance and commitment" with "Beck cognitive therapy" on "neuroticism" of students of Islamic Azad University, Islamshahr Branch

| meaningful level | measure F | measure | Multivariate tests | Effect |
|------------------|-----------|---------|--------------------------|--------------------------------|
| 001/0 | 588/10 | 341/0 | Effect of Filay | Treatment effectiveness |
| 001/0 | 588/10 | 659/0 | Lambdai Wilks | |
| 001/0 | 588/10 | 516/0 | The effect of Hottling | |
| 001/0 | 588/10 | 516/0 | The largest root of zinc | |

Using quadruple multivariate tests (Filey tracking, Wilkes lambda, Hotling tracking and the largest zinc root), a significant relationship at the level of $\alpha = 0.01$ between the measurement levels of "neuroticism" dependent variable in three stages (pre-test, post-test and follow-up). With an emphasis on the effectiveness of treatment. Therefore, the accuracy of the research data can be emphasized and there is a positive relationship between the scores of each subject in three stages and represents the relationship between experimental data within the subject in three stages of pre-test, post-test and follow-up with emphasis on the dependent variable "neuroticism". Is.

Table 6. Muscle sphericity test to determine the normality of the dependent variable "neuroticism" in three stages: pre-test, post-test and follow-up

| Low limit | Hawin Feldt | Green House Geezer | meaningful level | Degree of freedom | Approximate square | Mussel test | Inner subject |
|-----------|-------------|--------------------|------------------|-------------------|--------------------|-------------|---------------|
| | 500/0 | 736/0793/0 | 001/0 | 2 | 167/18 | 642/0 | |

According to the musculoskeletal test of sphericity, it can be said that the value of muscular w is (0.642) and by referring to the basis of the squared logarithm of the approximate theoretical distribution which is the figure (18.167), it can be said that at the level of 0.01 $A = 0$, the Mussel test is significant and the normal distribution of multivariate is observed and the assumption of using the statistical model of repeated measures measurement is observed and the test of repeated measures can be used.

According to the table above and emphasizing the F-score obtained from the effectiveness of commitment and acceptance group therapy (ACT) and Beck cognitive therapy (CT) on

"neuroticism" with emphasis on three groups (experimental group therapy based on commitment) And acceptance, Beck cognitive therapy and control), there is a significant difference at the level of $\alpha = 0.01$ between the three groups. Therefore, Benferoni post hoc test is used to compare the effectiveness of the two groups.

According to the above table and emphasizing the values obtained between the differences between the means of "neuroticism" in the three groups (experiments with group therapy based on commitment and acceptance, Beck cognitive therapy and control), it can be said that there is a significant difference in Level $\alpha = 0.05$ exists between the two groups of commitment and acceptance with control and cognitive Beck with control and. Therefore, the effectiveness of treatment on reducing "neuroticism" has been obtained. Emphasizing on comparing the effectiveness of the two groups, it was stated that although the effectiveness of commitment and acceptance treatment is higher than Beck's cognition, but this difference is not statistically significant.

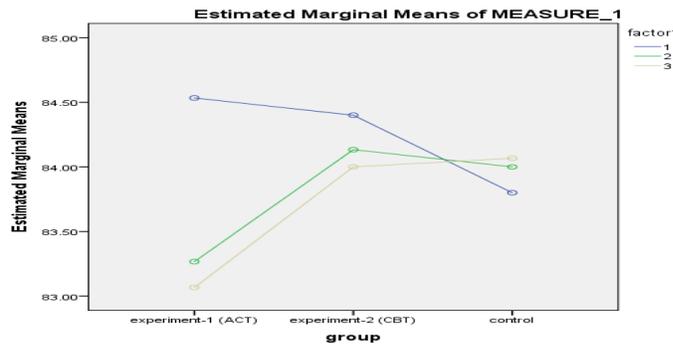


Figure 3. Comparison of the effect of group therapy "based on acceptance and commitment" with "Beck cognitive therapy" on "neuroticism" of students of Islamic Azad University, Islamshahr Branch

According to the above table and emphasizing the values obtained between the differences between the means of "introversion" in the three groups (experiment with group therapy based on commitment and acceptance, Beck cognitive therapy and control), it can be said that there is a significant difference in level There is $\alpha = 0.05$ between the two groups of commitment and acceptance with control and Beck with cognition with control. Therefore, the effectiveness of treatment on reducing "introversion" has been obtained. Emphasizing on comparing the effectiveness of the two groups, it was stated that although the effectiveness of commitment and acceptance treatment is higher than Beck cognitive, but this difference is not statistically significant.

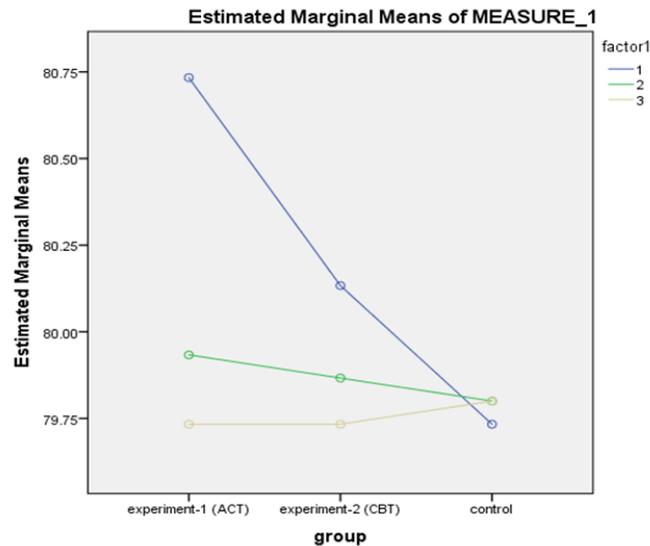


Figure 4. Comparison of the effect of "group therapy based on acceptance and commitment" with "Beck cognitive therapy" on "introversion" of students of Islamic Azad University, Islamshahr branch

Discussion and conclusion:

The aim of this study was to compare the effectiveness of Beck commitment and acceptance therapy and cognitive therapy on the suffering and introversion of students of Islamic Azad University, Islamshahr Branch. The results showed that "group therapy based on acceptance and commitment" is more effective on the variable "neuroticism" than "Beck cognitive therapy" (0.001). Also, the results of repeated measures analysis of variance showed that the results obtained in the follow-up stage are constant and the results are close to the results of the post-test stage. In this regard, as far as the researcher examined, similar studies were not found to compare these two treatments. However, the finding that "group therapy based on acceptance and commitment" is more effective on the variable "neuroticism" than "Beck cognitive therapy", with the results of research by Ebrahimi Moghadam (2017), Aman Elahi, Zare and Rajabi (2017), Naimi and Mazaheri (2017), Wessrel et al. (2011), Hayes et al. (2013), Hoffman et al. (2014), Yadaviap, Hayes and Wildraga (2014), Dawson et al. (2016), Donahue et al. (2017), Dukas et al. (2018), Bai et al. (2020) are somewhat consistent. Explaining the above, it can be said that the acceptance and commitment therapy approach is a behavioral therapy that uses mindfulness, acceptance and cognitive failure skills to increase psychological flexibility. In ACT therapy, cognitive flexibility is the increase in the ability of clients to relate to their experience in the present and, based on what is possible for them at that moment, to act in a way that is consistent with their chosen values (30). In this treatment, behavioral commitment exercises along with failure and acceptance

techniques as well as detailed discussions about the values and goals of the individual and the need to clarify the values all led to a reduction in the severity of neuroticism in students. In this treatment, the purpose of emphasizing people's desire for inner experiences was to help them experience their disturbing thoughts as just a thought, to become aware of the ineffective nature of their current plan, and instead to respond to it. , To do what is important to them in life and in line with their values. Here, by substituting themselves as a context, clients were able to easily experience unpleasant internal events in the present, and were able to separate themselves from unpleasant reactions, memories, and thoughts. In fact, the goal was to increase the psychological resilience of these people. This approach, as the statistical results showed, led to a significant reduction in depression and anxiety in these patients. In fact, the central ACT processes taught people how to let go of the thought of holding back, to get rid of annoying thoughts; Instead of being conceptualized, they reinforce the observer, accepting internal events instead of controlling them, articulating their values, and addressing them. In this therapy, people learn to accept their feelings rather than distance themselves from them and focus more on their thoughts and thought processes through mindfulness and link them to goal-oriented activities. In short, acceptance and commitment therapy seek to teach people to experience their thoughts and feelings; Instead of trying to stop them, people are asked to work towards their goals and values and to experience their thoughts and feelings. As a result, their neuroticism is reduced.

The results also showed that "group therapy based on acceptance and commitment" is more effective on the variable "introversion" than "Beck cognitive therapy" (0.001). Also, the results of repeated measures analysis of variance showed that the results obtained in the follow-up stage are constant and the results are close to the results of the post-test stage. In this regard, as far as the researcher examined, similar studies were not found to compare these two treatments. However, the finding that "group therapy based on acceptance and commitment" is more effective on the variable "introversion" than "Beck cognitive therapy", with the results of research by Naeemi and Mazaheri (2017), Yasai, Shafiabadi and Farzad (2017), Sharifipour (1397), Moshtaghi (1397), Shahrzadnia (1397), Azizi, Rasoulzadeh Tabatabai and Jan Bozorgi (1398), Bohlmjir et al. (2011), Hoffman et al. (2014), Yadaviap, Hayes and Wildraga (2014), Eisenbeck , Sheitz and Zuckers (2017), Dukas et al. (2018), Bai et al. (2020) are somewhat consistent. Explaining the above, it can be said that the main goal of acceptance and commitment therapy is to maximize the individual's potential for a richness and give meaning to life. The theory of acceptance and commitment therapy believes that you accept what is beyond your personal control and commit to the action that enriches your life. The purpose of this treatment is to help clients to create a rich, complete and meaningful life; While accepting the suffering that life inevitably brings with it. The metaphors and exercises of this therapy are used to integrate psychological processes to focus on psychological resilience as a whole. Psychological resilience can be defined as the connection to the present moment as a conscious human being, completely and without defense, as it is and not what one states, and the continuity or change in behavior, in the service of selected values. (31).

This is the main goal of the acceptance and commitment therapy model, and all six of the above processes work together to create psychological flexibility. In general, the researcher used this treatment to encourage clients to recognize, reduce the beneficial struggle with psychological content, and create a more accepting position so that they can move in a valuable direction. Overall, acceptance and commitment therapy teach clients to end their anxiety-related discomfort and gain control by engaging in activities that bring them closer to their life choice goals (values). Apply. Acceptance and Commitment Therapy, instead of teaching more and better strategies for change by reducing unwanted thoughts and feelings, teaches clients the skills to become aware and observe unpleasant thoughts and feelings as they are. Thus, the degree of introversion will be reduced (32).

Despite the obtained results, the present study has some limitations that can be pointed out to the limitation in the (purposive) sampling method, which was not possible with the random study method. It is suggested to use random sampling method in future research.

The results showed that "group therapy based on acceptance and commitment" is more effective on the variables of "neuroticism" and "introversion" than "Beck cognitive therapy";

Acknowledgments

All students participating in the present study as well as esteemed officials are thanked and appreciated.

Statements

Ethical approval and consent of the participants

This article is taken from the doctoral dissertation in the field of counseling at the Islamic Azad University, Research Sciences Branch of Tehran, approved by the Graduate Studies Council of the University. The participants of the present study received manuscripts including a statement about their approval to participate in the intervention and moral satisfaction, and assured them of the confidentiality of the research information, as well as about the intervention process and how to answer the questionnaires in the pre-test stages. Post-test and follow-up were explained to them.

Satisfaction for publication

This is not applicable.

Conflict of interest

The authors declare that they have no conflict of interest.

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Contribution of authors

The first author participated as a facilitator, the second author as a supervisor and the third and fourth authors as consulting professors.

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