Comparison of the effectiveness of cognitive-behavioral education and acceptance and commitment-based education on distress tolerance in self-harming adolescents

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Abstract

Aim: In this study, the effectiveness of cognitive-behavioral education and education based on acceptance and commitment on tolerating distress in self-harming high school students was studied. Method: The quasi-experimental research design was test-post-test and follow-up with a control group. The statistical population of this study was self-injurious adolescents (second grade high school students in district one) in Sari who were studying in the academic year of 2021-2022, of which 45 were targeted by sampling. The sample was selected and randomly divided into two experimental groups and one control group (15 people in each group). The first experimental group, during 8 sessions of 90 minutes per week based on the behavioral cognitive training package (Beck, 1976) and the second experimental group, during 8 sessions of 90 minutes per week based on the training package based on acceptance and commitment (Hayes et al., 2013). Data collection tools included Simmons and Gaher (2005) Distress Tolerance Questionnaire and Klonsky & Glenn (2011) Self-Injury Questionnaire. Data were analyzed using SPSS-21 software and statistical tests of repeated measures analysis of variance and two-factor analysis of variance. Results: The results showed that cognitive-behavioral education and education based on acceptance and commitment had an effect on distress tolerance (F = 6.57, P = 0.002) of self-harming students and the effectiveness of cognitive-behavioral education and training. Acceptance and commitment based on the studied variables were the same. Conclusion: It can be concluded that cognitive-behavioral education and education based on acceptance and commitment had an effect on the tolerance of self-harming students and both educations can be used to improve the problems of adolescents with self-harm.

Keywords: Cognitive-behavioral therapy, Acceptance and commitment therapy, Anxiety tolerance, Adolescents.
Introduction
Adolescent boys are one of the most vulnerable groups of society against risky behaviors. According to the statistics of the forensic medicine of the country, the most common causes of death of young people and adolescents under 25 years of age in Iran are primarily traffic injuries, followed by alcohol poisoning, drug poisoning, suicide, and finally cancer. (Bose et al., 2015). Most teenagers have challenges with their family, society and relatives, and the pressure of these problems may push the teenager towards risky behaviors in the decision-making stage. Today's society confronts teenagers and families with many needs (Glayov et al., 2018). Another psychological factor that can be mentioned in self-harming people is distress. Distress is a common construct in research related to emotional disorder, which is expressed as a meta-emotional construct, and as a person's ability to experience and resist negative emotional states. This structure, which may be created as a result of cognitive or physical processes in a person, is an emotional state that is often characterized by practical tendencies to reduce the negative effects of emotional experience (Kils et al., 2020). Moreover, tolerance of distress has a multidimensional nature and includes many dimensions, including the ability to tolerate, evaluate and accept the emotional state, the way of emotion regulation by the individual and the amount of attention attracted by negative emotions and the amount of its contribution to the occurrence of dysfunction. (Hong and Peltzer, 2017).
Distress tolerance affects the evaluation and consequences of experiencing negative emotions, in such a way that people who have less distress tolerance compared to others, show a stronger reaction to stress (Padiyab and Fayazbakhsh, 2020). In addition, these people show weaker coping abilities against distress, and as a result, they try to avoid such emotions by using strategies aimed at reducing negative emotional states (Choi and Jueng, 2019). One of the new approaches of psychology and discussed in this research is education based on acceptance and commitment. It is an effective approach based on the communication framework theory and considers human psychological problems mainly as psychological inflexibility. Scientists believe that this type of treatment can create more psychological flexibility in a person (Kamani et al., 2018).
When behavioral therapy and cognitive therapy are combined, it equips people with powerful tools to stop the symptoms of illness and gain a more fulfilling direction in their lives. In cognitive-behavioral therapy, the patient is helped to change his defined patterns and dysfunctional behaviors, for which regular discussions and precisely organized behavioral assignments are used (Palmo et al., 2017).
The present study tries to compensate for the lack of studies in this field by examining this counseling and cognitive-behavioral counseling on self-harming students, which can be mentioned as the necessity of conducting the present study. The current research sought to answer the following questions:
1- Was cognitive behavioral training and training based on acceptance and commitment effective on distress tolerance in self-harming teenagers in the post-test stage?
2- Was cognitive behavioral training and training based on acceptance and commitment on suffering distress in self-harming teenagers stable in the follow-up phase?

**Method**
The quasi-experimental research design was test-post-test and follow-up with a control group. The statistical population of this study was self-injurious adolescents (second grade high school students in district one) in Sari who were studying in the academic year of 2021-2022, of which 45 were targeted by sampling. The sample was selected and randomly divided into two experimental groups and one control group (15 people in each group). The first experimental group, during 8 sessions of 90 minutes per week and based on the behavioral cognitive training package (Beck, 1976) and the second experimental group, during 8 sessions of 90 minutes per week and based on the training package based on acceptance and commitment (Hayes et al., 2013). Data collection tools included Simmons and Gaher (2005) Distress Tolerance Questionnaire and Klonsky & Glenn (2011) Self-Injury Questionnaire. Data were analyzed using SPSS-21 software and statistical tests of repeated measures analysis of variance and two-factor analysis of variance.

**Results**
The participants in this research were between 15 and 17 years old. The average age (standard deviation) in the experimental group was 16.79 (4.73) and the control group was 16.86 (4.71).

According to the averages, it was observed that the distress tolerance scores of the experimental groups decreased significantly in the post-test of both treatments and remained stable in the follow-up phase.

Before performing the analysis of variance test with repeated measurements between groups, the presumption of normality of the data was performed with the Shapiro-Wilk test.

The difference between the scores of distress tolerance components in three stages of the research is significant (P<0.01). The mean scores of distress tolerance components in both experimental and control groups are significant (P<0.05). The results show that individual differences in distress tolerance components are related to the difference between the two groups. In addition, the interaction between research stages and group membership is also significant in distress tolerance components (P<0.01); In other words, the difference between the scores of distress tolerance components in three stages of the research in two groups is significant, so it can be concluded that cognitive-behavioral therapy and acceptance and commitment therapy have been effective in improving the distress tolerance components. According to the results obtained in the table above, the difference between the pre-test, post-test and follow-up stages in these variables is significant.

The difference between the pre-test stage and the two post-test and follow-up stages in the acceptance and commitment treatment group was significant (p<0.01). However, in the control group, the difference between the scores of the pre-test stage and the post-test and follow-up stages and the difference between the scores of the post-test stage and the follow-up scores in the components of distress
tolerance are not significant (p<0.05). The effectiveness of cognitive behavioral training and training based on acceptance and commitment on distress tolerance is not different (p<0.000).

**Conclusion**

In this research, the effectiveness of cognitive-behavioral training and training based on acceptance and commitment on distress tolerance in self-harming students of the second year of high school was discussed and investigated. The effectiveness of cognitive-behavioral training and training based on acceptance and commitment on distress tolerance in self-injuring students of the second year of high school is different. The observed results showed that the amount of cognitive behavioral training and training based on acceptance and commitment on distress tolerance is not different. In explaining these findings, it can be stated that teaching acceptance and commitment by emphasizing psychological flexibility, clarifying values and discussing the fact that change is possible can increase the tolerance of distress by people. (Gilen et al., 2019). By paying attention and resorting to cognitive-behavioral training, it is possible to correct cognition, creation, behavior, physiological processes, environmental events and thoughts, which by affecting each other will lead to an increase in the tolerance of psychological distress of people and a decrease in self-injury of self-harming people.

**References**


