journal of
Adolescent and Youth Psychological Studies
www.jayps.iranmehr.ac.ir

Spring and Summer 2022, Volume 3, Issue 1, 69-74

The Effectiveness of Acceptance and Commitment on Depression and Flexibility of Female Students with Specific Learning Disabilities in High School in Sari

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ARTICLE INFORMATION

Article type
Original research
Pages: 69-74

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Email: Maryamenayati30@gmail.com

Article history:
Received: 2022/06/03
Revised: 2022/07/30
Accepted: 2022/08/14
Published online: 2022/10/07

Keywords:
acceptance and commitment, depression, flexibility, learning disorder

ABSTRACT

Background and purpose: The student period is due to special conditions such as spending a long time in school, a large volume of courses, intensive competitions, and many other personal and social problems for students; Therefore, the present study was conducted with the aim of determining the effectiveness of treatment based on acceptance and commitment on depression and flexibility of female students with learning disabilities in the first secondary school of Sari city.. **Methods:** The current research was a semi-experimental type with a pre-test-post-test design with a control group. The statistical population includes all female students with learning disabilities in the first secondary level of Sari city, 60 of whom were selected by convenience sampling and randomly replaced in two experimental and control groups, and the intervention was implemented for the experimental group. The data were collected using depression and resilience questionnaire and were analyzed by analysis of covariance and Spss-21 software. **Results:** The results showed that the treatment based on acceptance and commitment was effective in improving depression (P<0.001) and flexibility (P<0.001) in female students with learning disabilities in the first secondary school. **Conclusion**: The research showed that treatment based on acceptance and commitment improved depression and flexibility in female students with learning disabilities in the first secondary school.

How to Cite This Article:
Enayati Shabkolai, M., Enayati Shabkolai, M. (2022). The Effectiveness of Acceptance and Commitment on Depression and Flexibility of Female Students with Specific Learning Disabilities in High School in Sari. *jayps*, 3(1): 69-74

Introduction

Most of students with learning disabilities are considered passive learners due to their psychological and behavioral characteristics. They cannot use learning strategies to solve their academic problems and do not believe in their abilities because repeated experiences of failure make them feel hopeless and ineffective. The result of this cycle is the formation of a negative perception of one's abilities and a decrease in self-esteem and motivation, which provides the basis for various problems (Maki, Floyd, & Roberson, 2015). Various studies have pointed to the general characteristics of students with learning disabilities, including creating problems in social, emotional and academic fields (Atjak et al., 2015); deficiency in social information processing (Motamadi, Rezaeimaram, & Tavallaie, 2012); limited close friends (Rytioja et al., 2019), low positive social behaviors (Russell, Chester, Watson, Nyakonawa, Child, McDermott, et al., 2018); social problems (Curry et al., 2016); depression (Gallegos et al., 2012). A complete understanding of this requires attention to a person's life's social, emotional, and behavioral domains (Curio, Leskinen, Nurmi, & Salmela-Aro, 2011).

Among the third-wave therapies, the one that has received more attention in the past few years is Acceptance and Commitment Therapy (ACT). In fact, in this type of treatment, the main goal is to create psychological flexibility; It means creating the ability to choose an action among different options that is more suitable, rather than doing an action simply to avoid disturbing thoughts, feelings, memories, or desires, or actually forcing it on a person (Pruedinzi, Graham, Clancy, Hill, O'Driscoll, Day, & O'Connor, 2021). The goal of acceptance and commitment therapy is to change the client's relationship with his thoughts and feelings so that he no longer sees them as signs. Instead of removing and removing the traumatic factor, this approach helps the client accept his controlled emotions and cognitions and free himself from the control of the verbal rules that caused his problems (Forman & Herbert, 2009). Acceptance is not a goal in itself but is used to increase activity dependent on values (Narimani et al., 2012). In committed activity, a person is encouraged to use his utmost activity and effort to achieve the goal. Empirical evidence on the effect of this treatment method on disorders such as depression (Kanter, Baruch, Gaynor, 2006), adjustment and psychological and social well-being (Twohig, Hayers, Plumb, Praitt, Collins, Hazlett, & Voidnik, 2010), improving resilience Cognitive (Zare, 2016), adaptability and quality of life (Butler & Saruchi, 2007) have been identified.

The necessity of the current research is that identifying and diagnosing the symptoms of depression in teenagers and taking action to treat and solve their problems is something that should be paid attention to by families and especially those involved in education. On the one hand, despite expanding the scope of research in the field of the effect of acceptance and commitment therapy, unfortunately, less research has been done on it in the target statistical population of the upcoming research. On the other hand, parents, teachers, and education officials will not be able to properly plan in this field until there is comprehensive research on methods and techniques effective in improving depression and resilience. Therefore, to prevent future problems, it seems necessary to pay attention to these children and perform timely and preventive interventions. The present study aimed to determine the effectiveness of acceptance and commitment therapy on depression and flexibility of female students with learning disabilities in the first secondary level of Sari city.

Method

The current research was semi-experimental with a pre-test-post-test design with a control group. The statistical population is all female students with specific learning disabilities in the first secondary level of Sari city who were referred to learning disability and counseling centers in the academic year of 2017-2018. First, randomly between two city districts, one district, and then 60 people (30 people in the experimental group and 30 people in the control group) were selected through available sampling and randomly in the control and experimental groups. Based on the effect size of 0.25, alpha of 0.05, and power of 0.80 in the two groups, the minimum number of samples to achieve the desired power was determined to be 30 people in each group and 60 people in total. The criteria for entering the research include suffering from one of the special learning disorders (reading, writing, math), female gender, being a student of the first secondary level, and not suffering from other severe mental disorders such as schizophrenia or bipolar. The exclusion criteria from the study included the absence of more than two sessions,

suffering from a debilitating physical illness, and providing incomplete information. Before the intervention, Dennis and Vanderwal's flexibility test and Beck's depression test were taken from both groups. After that, the experimental group was influenced by the independent variable for eight sessions of 120 minutes, and the control group did not receive any training. Then again, tests were conducted for both groups by the researcher to evaluate the effect of the training. Ethical considerations in this research were that the subject's participation was completely voluntary, and there was no compulsion. Before the beginning and participation of each subject in the project, they were familiarized with the specifications of the project and its regulations.

Tools

1. Beck Depression Inventory (BDI): This questionnaire was introduced in 1961 by Beck and his colleagues and was revised in 1996 (Wang et al., 2013) and in the following years, for easier use of this, A 13-item questionnaire was extracted from it. Each subject has four options, and the subject must choose one with 0 to 3. A higher score means higher depression. In another study (Kumar et al., 2012), Cronbach's alpha of the questionnaire was reported as 0.88. The concurrent validity of the questionnaire was measured by comparing the Montgomery Asberg rating, and the correlation between the two was calculated as 0.76 (22). The validity and reliability of this scale in the present study were obtained as 0.79 and 0.83, respectively.

2. Cognitive Flexibility Inventory: Cognitive flexibility refers to the score the subject receives from answering the questions of the 20-question Cognitive Flexibility Questionnaire by Dennis and Vanderwaal (CFI). This questionnaire has a 5-point Likert scale. This questionnaire has three subscales: alternatives (19, 12, 5, 14, 20, 13, 3, 6, 18, 16); control (11, 7, 17, 2, 4, 9, 15, 1); They are alternatives to human behavior (10,18). The sum of the scores of all the questions gives the total score of the cognitive flexibility test. The sum of the scores of the questions specific to all three subscales shows the score of that subscale. The highest score on this questionnaire is 140, and the lowest score is 20. A higher score indicates greater cognitive flexibility, and a lower score close to 20 indicates low cognitive flexibility. In the research of Dennis and Vanderwal (2010), the concurrent validity of this questionnaire with the Beck Depression Inventory (BDI-II) was equal to -0.39, and its convergent validity with Martin and Robin's cognitive flexibility scale was 0.75. In Iran, Taghizadeh and Farmani (2012) reported Cronbach's alpha of the whole scale as 0.79.

Results

The average age of the experimental group was 16.51±0.451, and the control group was 16.12±0.730 years, and the two experimental and control groups were similar in terms of age, field status, and educational level ($p<0.05$).

Table 2. Investigation of depression and social adjustment during the study to separate the experimental and control groups

Variable	Phase	Control group		Experimental group	
		Mean	SD	Mean	SD
Depression	Pre-test	20/53	3/14	20/47	3/25
	Post-test	21/07	3/33	12/27	3/06
	Follow-up	20/87	3/07	12/13	2/75
Cognitive flexibility	Pre-test	77/97	13/65	78/60	15/50
	Post-test	76/87	13/90	102/23	16/07
	Follow-up	77/53	13/18	101/23	15/56

Univariable analysis of covariance was used to check the effectiveness of the treatment. The results of the presumptions of covariance analysis showed that the assumption of normality of the data in the measured traits at the error level of 0.05 under the Shapiro-Wilk and Kolmogorov-Smirnov test was correct ($P<0.05$). Also, the assumption of equality and the mean in the pre-test stage has been checked and confirmed ($P < 0.05$); the assumption of homogeneity of the variance of the variables examined during the study has been established ($P < 0.05$); the assumption of linearity between the pre-test and post-test, as well as the post-test-follow-up and the pre-test-follow-up were significant at the error level of 0.05 ($P<0.05$). The slope of the regression line was so that the F value obtained from the interaction effect of the trait pre-test

score with the group effect was not significant at the error level of 0.05 (P<0.05).

The covariance results from Table 2 showed that in the post-test phase, the pre-test variable was significant as a covariate in the model for all variables (p<0.01). Examining the total depression score also showed that the effect size of ACT treatment in Total depression is equal to 0.817, and according to the results of F test in covariance analysis and mean values in Table 1, this variable has a significant decreasing trend (P<0.001). The changes in the follow-up phase compared to the post-test and the follow-up compared to the pre-test were also measured. The effectiveness of ACT treatment in the follow-up phase compared to the pre-test phase in depression was significant (p<0.001), and the effect size was 0.853. In order to determine the stability of the treatment, a comparison of the follow-up phase was made concerning the post-test phase, and the changes made at this point in the two groups were not significant (p<0.05).

The results showed that the flexibility variable in the post-test stage compared to the pre-test, the effect size of the ACT treatment was equal to 0.814, and according to the results of the f test in the analysis of covariance and the mean values in Table 4, the increasing trend of this variable was significant (0.001 /0>p). The changes in the follow-up phase compared to the pre-test also showed that active treatment was effective in the follow-up phase compared to the pre-test phase (p<0.001), and the effect size was 0.735. In order to determine the stability of the treatment, a comparison of the follow-up stage with the post-test stage was made, and the changes made at this point in the two groups were not significant (p<0.05) .

Conclusion

The present study aimed to determine the effectiveness of acceptance and commitment therapy on depression and flexibility of female students with learning disabilities in the first secondary level of Sari city. The findings showed that ACT effectively affected the depression and flexibility of female students with learning disabilities.

In explaining the effectiveness of acceptance and commitment therapy on increasing cognitive flexibility, it can be said that this therapy aims to help clients achieve a more valuable life through psychological flexibility. Cognitive flexibility means that a person is entirely in touch with the present moment and, based on the requirements, changes or continues their behavior based on their chosen values. The ACT process helps people to accept the responsibility of behavioral changes and to change or persist whenever necessary, and in fact, this treatment seeks to balance the methods appropriate to the situation. In areas that can be changed, such as overt behavior, it focuses on change, and in areas where change is not possible, such as blood pressure, it focuses on acceptance and mindfulness exercises. Mindfulness helps people adopt adaptive and less avoidant coping strategies.

In explaining the effectiveness of the ACT on reducing depression, it can be said that this treatment helps the treated people to reduce experimental avoidance. Also, acceptance exercises and discussions about goals and values, identifying and focusing on ruminations and getting rid of them, non-judgment, and reaction to unpleasant experiences reduce students' depression. Therapy based on acceptance and commitment, with a special structure that teaches the client to accept thoughts and feelings, teaches him that he can live despite the various feelings he has without the need to control these thoughts, feelings, and beliefs or try to eliminate them. By experiencing mindfulness and its techniques, they enjoy the present, perform better (Fletcher & Hayes, 2010), and act according to their values. Creating flexibility through focusing on the context related to thoughts and feelings leads to desirable behaviors and also reduces the believability of depressed people. One of the causes of depression is negative knowledge about one's abilities.

Every research comes with limitations that can affect the research results. In this research, the following limitations can be mentioned: the impossibility of controlling intervening variables such as the economic-social and family status of the students and other individual characteristics, the use of available sampling methods, and the lack of investigation into the effectiveness of acceptance and commitment therapy on male students. Based on the findings of this research, it is suggested that in other studies, for more accuracy, the mentioned demographic variables should be controlled so that the results can be considered the results of the treatment program. In general, according to the results related to both

hypotheses based on the positive effect of acceptance and commitment therapy on depression and flexibility, it is suggested that this training be provided in the form of public training and through CDs or brochures. All students should be placed in different grades, which should be taught to school counselors.

Conflict of Interest

The authors of this article have no conflict of interest in conducting and writing it.

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