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Comparing the Effectiveness of Dialectical Behavior Therapy and Metacognitive Therapy on Cognitive Emotional Regulation Strategies in Adolescents

Laleh Yari,[1] Nahid Zeini Hassanvand[*2], Mehdi Yousefvand[3]

Abstract

Introduction: Entering adolescence is one of the most important periods of transition in life. At this stage, leaving the safe and familiar environment of the home and facing academic challenges, the teenager faces significant tensions, which is one of the most important challenges in the field of emotion and emotional discipline, so this research aims to compare the effectiveness of dialectical behavior therapy and metacognition. Treatment was performed on cognitive strategies of emotional regulation in teenagers.

Research Method: The research method was semi-experimental with a pre-test-post-test design and follow-up with a control group. The research population included all adolescent girls aged 13 to 16 years in district 1 of Baharestan city who studied in the seventh to tenth grades in the academic year of 1402-1401, who were referred to the education counseling center in 1401, and out of these, 3 The group of 20 people was randomly divided into two experimental groups and a control group (which in the research process were reduced to dialectical behavior therapy (17 people), metacognitive therapy (18 people) and control group (20 people) by random sampling method.) and responded to the questionnaire of cognitive regulation strategies of emotion, Garnevsky, Kraich and Spinhaven in three times: pre-test, post-test and follow-up. The subjects of the experimental group were trained in dialectical behavior therapy and metacognitive therapy in a group (in the form of training and skills), for 2 months, 1 session of 90 minutes per week, but during this time, no training was given to the control group. The data was statistically analyzed with SPSS software and using the analysis of variance test with repeated measurements and a significance level of $p < 0.05$.

Results: The results showed that the effect of metacognitive therapy on the cognitive strategies of emotional regulation is significant (P=0.019). So that metacognitive therapy has significantly increased cognitive strategies in adolescents compared to dialectical behavior therapy.

Conclusion: According to the results of this research, it can be said that the goal of dialectical behavior therapy and metacognitive therapy is to increase behaviors that probably lead to emotional regulation in adolescents, which is the reward.

Keywords: Dialectical Behavior Therapy, Metacognitive Therapy, Cognitive Strategies, Emotional Discipline, Adolescents

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[1] - PhD Student in Counselling, Department of Psychology, Borujerd Branch, Islamic Azad University, Borujerd, Iran

[2] - Assistant Professor, Faculty of Humanities, Ayatollah Boroujerdi University, Boroujerd, Iran. Email: N.Hasanvand@abru.ac.ir

[3] - Assistant Professor, Department of Psychology, Faculty of Humanities, Borujard Branch, Islamic Azad University, Borujard, Iran

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Introduction:

Entering adolescence is one of the most important periods of transition in life. At this stage, the teenager faces significant tensions by leaving the safe and familiar environment of home and facing academic challenges. According to Erikson (1), schools provide an environment for teenagers to explore the available opportunities, regardless of responsibilities, and discover the roles that they can handle, and the best option that matches their talents, interests and needs choose (2).

In the process of assimilation, the person incorporates new information into the old information, while in adaptation, the person changes the old information to match the new information. People with informational style absorb new information and change their identity based on new information (3). In this way, they will have a correct understanding of reality and their compatibility will increase. In other words, from a cognitive point of view, people with information orientation, by checking the reality, realize the effect of emotion on their own and others' behavior. People with a normative style commit to the goal without checking the available options and therefore mainly use attraction. These people do not use their emotions to shape their identity and instead regulate or control their emotions defensively (4). Avoidant-confused people also lack a coherent and stable identity, and in response to environmental needs, without considering the consequences of behavior, they mainly use the adaptation process. In other words, these people are not able to manage their emotions effectively or are not aware of the impact of their behavior on the emotional responses of others (5).

Therefore, emotion regulation is a process that plays a significant role in the formation of coherent identity and through it, people manage their emotions in order to achieve desirable outcomes (6). In addition, emotion regulation strategies are the main focus of understanding the behavioral and emotional correlates of stress and negative emotional events. In other words, in some aspects of order seeking, excitement is similar to confrontation (7). Researches show that adaptive emotion regulation strategies improve interaction with others and academic performance and will lead to mental health (8); On the other hand, maladaptive emotion regulation strategies play a significant role in the formation and continuation of mental injuries (9). Different theorists believe that people who cannot manage their emotional responses when faced with everyday events will experience severe emotional disorders, including borderline personality disorder, major depressive disorder (10) and generalized anxiety disorder (11). cited. Therefore, emotion regulation strategies can act as risk or protective factors against psychological injuries. People use different methods to regulate their emotions, one of the most common of which is the use of cognitive emotion regulation strategies (12). These strategies are cognitive processes that people use after experiencing a stressful event to manage their emotions and emphasize the cognitive aspect of coping. Among the strategies of cognitive emotion regulation, we can mention the strategy of self-blame, rumination, blame of others, catastrophizing and positive re-evaluation, acceptance and refocusing on planning, each of these strategies will have consequences on people's mental health. (13).

In this way, the lack of emotion regulation, on the other hand, plays a significant role in the occurrence of psychological injuries. Research results show that people with an information orientation use more problem-oriented coping when dealing with daily stressful events, cope better with stress and anxiety, and suffer from anxiety disorders less

often and establish a better emotional relationship with others (14). Due to the importance of adolescence and its important role in the formation of a healthy personality, as well as considering the cognitive strategies of emotional regulation at this age and the resulting costs for the family and society, there should be a suitable treatment for the formation of a healthy identity and appropriate emotions in addition to attachment. to be healthy in the society (15).

One of the most common treatment methods that can be widely used in the field of behavioral disorders and is currently receiving the attention of researchers is dialectical behavior therapy. Dialectical behavior therapy is a cognitive-behavioral approach that was first invented to treat borderline personality disorder. This approach combines interventions related to cognitive, behavioral and support treatments based on the principle of change with the teachings and techniques of Eastern Zen philosophy based on the principle of acceptance, and based on this, it proposes four intervention components in its group therapy method (16). In this treatment, comprehensive awareness and tolerance of suffering and anxiety are the components of acceptance and emotional regulation and interpersonal efficiency as the components of change in dialectical behavior therapy (17). In fact, the theoretical orientation of the dialectical behavior therapy approach is a combination of these three theoretical perspectives, behavioral sciences, dialectical philosophy, and Zen practice. This treatment is an approach that combines the acceptance and empathy of references with cognitive-behavioral problem solving and social skills training (18).

Metacognition is known as a powerful strategy for increasing the behavioral skills of adolescents and also as one of the most important variables and effective strategies in the field of problem solving. Metacognition includes awareness and regulation of one's thinking process. This is a deliberate reflection on cognitive function. Metacognition plays an important role in communication, language comprehension, social cognition, attention, self-regulation, and problem solving and personality development. As a theoretical structure, metacognition is not equivalent to learning or growth, but it is equivalent to the conscious and deliberate regulation of that learning and growth. Metacognition increases with practice. The next logical step in promoting social and emotional health is the deliberate attention to metacognition, not only as an educational strategy, but also as a mental health support strategy facilitated by teachers (19). Metacognitive therapy applies a new paradigm to emotional disorders. This model was formed in order to modify and eliminate the gaps in cognitive theories (20), which were introduced by Wells and Matweez in 1996 by combining the schema approach and information processing, the metacognitive model based on the self-regulation executive function model to explain and treat emotional disorders. 21). In order to understand thinking processes, it is necessary to pay attention to a person's beliefs about thinking and individual strategies about control, and also to emphasize the type of his metacognitive beliefs. What is emphasized in metacognitive therapy are the factors that control thinking and change the state of mind, not challenging thoughts and cognitive errors or long-term and repeated exposure to beliefs about trauma or physical symptoms (22).

Metacognition is any kind of knowledge or cognitive process that participates in evaluating, monitoring or controlling cognition. Therefore, metacognitive beliefs (that

people have about their thinking and cognitive processes and experiences) can be a hidden force motivating harmful thinking styles and lead to long-term emotional distress. Metacognitive therapy includes wide content areas. This means that every disorder within these areas has its own specific content. For example, positive metacognitive beliefs include beliefs related to beneficial engagement in specific cognitive activities such as worry, rumination, etc. On the other hand, negative metacognitive beliefs are beliefs related to the uncontrollability, meaning, importance and dangerousness of cognitive thoughts and experiences. The metacognitive approach is based on the belief that people are caught in the trap of emotional discomfort because their metacognitions lead to a specific pattern of responding to internal experiences, which causes the continuation of negative emotions and the strengthening of negative beliefs. This pattern is called the cognitive symptoms of attention, which includes worry, rumination, fixed attention and self-regulation strategies or maladaptive coping behaviors. Therefore, the present study was conducted with the aim of comparing the effectiveness of dialectical behavior therapy and metacognitive therapy on the cognitive strategies of emotional regulation in adolescents.

Research method:

The research method was semi-experimental with a pre-test-post-test design and follow-up with a control group. The research population included all adolescent girls aged 13 to 16 years in district 1 of Baharestan city who studied in the seventh to tenth grades in the academic year of 1402-1401, who were referred to the education counseling center in 1401, and of these, 3 The group of 20 people was randomly divided into two experimental groups (dialectical behavior therapy and metacognitive therapy) and a control group, which in the research process was divided into dialectical behavior therapy (17 people), metacognitive therapy (18 people) and the control group. (20 people) were reduced) and responded to the cognitive emotion regulation strategies questionnaire, Garnevsky, Kraich and Spinhaven (2002) in three times: pre-test - post-test and 1-month follow-up. The entry criteria included female students aged 13 to 16 who were studying in the seventh to tenth grades and were residents of Baharestan city, and the exit criteria included having more than two absences. It was the lack of cooperation and not doing the assignments specified in the class and the unwillingness to continue participating in the research process.

The subjects of the experimental group were trained in dialectical behavior therapy and metacognition therapy in a group (in the form of training and skills), for 2 months, 1 session of 90 minutes per week, but no training was given to the control group during this period.

Ethical considerations of this research included the following: a) all participants participated in the research by their choice and desire. b) According to the principles of secrecy and confidentiality of the identity of the participants, they were assured that all information will remain confidential c) At the end, the participants of the research were thanked. d) Participants can withdraw from participation at any time. The data was statistically analyzed with SPSS software and using the analysis of variance test with repeated measurements and a significance level of $p < 0.05$.

In order to collect data, the following tools were used: (1) Emotional Regulation Cognitive Strategies Questionnaire: In the present study, the Cognitive Emotion

Regulation Strategies Questionnaire by Garnofsky, Kraich and Spinhaven (23) was used. This version includes 9 subscales. It represents 9 cognitive regulation strategies of emotion. Each of them has four items of this questionnaire and is scored based on the Likert scale from 1 (never) to 5 (always). The sub-scales of the Persian version of the cognitive regulation of emotion questionnaire have been reported as 0.76 to 0.92 internal consistency and 0.51 to 0.77 retest methods. Mashhadi et al. (25) evaluated the validity of the test as good and reported the total reliability of the test as 0.87. Cronbach's alpha coefficient in the present study was 0.82.

Treatment protocol based on dialectical behavior therapy: In the present study, dialectical behavior therapy was conducted based on the treatment protocol of Mito McKay, Jeffrey Wood and Jeffrey Brantley (26) during two months in eight sessions, one session every week for one and a half hours.

Table 1. Treatment protocol based on dialectical behavior therapy

Skill	Content of each session
Sessions 1 and 2 Introduction and comprehensive awareness training	In the first session, after getting familiar with the goals and rules, the group members swim with three mental states: logical, emotional, and rational, in the comprehensive awareness skills section. It was explained to the group members that mental states in this plan meant three mental states: logical, emotional, and rational.
	This session, in addition to practicing the mental states of the previous session, was dedicated to training the "what" and "how" skills of comprehensive awareness, including observing, describing, and participating, and "how" skills, including adopting a non-judgmental position, being self-aware, and acting efficiently.
Sessions 3 and 4 Emotional regulation training	In this session, in addition to reviewing the exercises of the previous sessions, part of the emotional regulation skills was taught, including the definition of emotion and its components.
	In this session, another part of emotional regulation skills was taught, including the pattern of identifying emotions and labeling them, which led to an increase in the ability to control emotions.
Sessions 5 and 6 Distress tolerance training	In this session, part of the distress tolerance component was taught, which was survival strategies in a crisis, including the skills of distraction and self-soothing with the five senses.
	In this session, while reviewing the previous pieces of training, the group practically practiced the skills of making the most out of the moments and the technique of profit and loss when faced with failure or feeling angry about survival strategies in a crisis. Moreover, training on how to generalize skills outside the treatment session was considered.
Sessions 7 and 8	Interpersonal relationship skills training, key interpersonal skills training, training and practice to identify interpersonal values, identifying obstacles to the use of individual skills, identifying annoying and aggressive strategies and their effectiveness in escalating the problem of interpersonal relationships, practicing

Interpersonal efficiency training	registering conflicts and identifying annoying methods, identifying passive relationship strategies (shyness), identifying disturbing emotions, training and practice of warning behaviors and emotions (warning system), training to identify needs and barriers to identifying needs, familiarity with fear and knowing the cause of fear, performing the first exercise of identifying fear (risk assessment), the second exercise of identifying fear (planning for risk-taking), completing the risk-taking form, planning for risk-taking, training courage skills, getting to know the 4 myths that disable relationships.
	Self-knowledge training, training to identify your emotions, training to identify what you want, training to value yourself and write your rights, learning about the intensity of desires, practicing adjusting the intensity of desires, learning about the skill of making a simple request, practicing making a simple request.

Metacognitive therapy training: The Metacognitive protocol based on Wells' Metacognitive protocol was conducted in eight weekly 90-minute sessions over two months.

Table 2. Metacognitive therapy protocol

Number of sessions	**Content of each session**
First session	Introduction of therapist and participant, implementation of pre-tests, preparation and introduction of metacognitive therapy, definition and introduction of attachment style, identity, types of identity and emotion, presentation of metacognitive therapy logic, and presentation of homework.
Second session	Reviewing the assignments of the previous session, getting familiar with the cognitive-attention syndrome and how it affects the persistence of mental disorders, introduction and training of the attention training technique, a selection of the attention training technique summary sheet, and presentation of homework.
Third session	Reviewing the assignments of the previous session, identifying and challenging negative beliefs related to anxiety and uncontrollability and analyzing their advantages and disadvantages, performing the test of losing control in the therapy session, introducing and practicing mindfulness, and providing homework.
Fourth Session	Reviewing the assignments of the previous session, identifying and challenging positive beliefs related to worry and uncontrollability and analyzing their advantages and disadvantages, performing a thought suppression experiment, practicing attention training techniques, increasing the level of difficulty, and providing homework.
Fifth meeting	Reviewing the assignments of the previous session, identifying and challenging positive and negative beliefs related to rumination and analyzing their advantages and disadvantages, identifying the triggers and applying a faulty awareness, and presenting homework.

Sixth session	Reviewing the tasks of the previous session, introducing worry postponement and rumination, coping with worry and active rumination by implementing worry postponement and rumination in the therapy session, practicing attention training techniques, teaching the technique of refocusing attention on the situation, and providing homework.
Seventh session	Reviewing the assignments of the previous session, and presenting a summary of the assignments presented in all therapy sessions.
Eighth session	Answering the questions and problems in using these techniques, giving thanks and getting feedback from the meetings, conducting the post-test.

This research was conducted following ethical considerations. All participants were willing to participate, and they were assured of the confidentiality of their personal information. They were also informed of the possibility of study withdrawal at any research stage. At the end, the participants of the control group were also invited to receive the treatment. This research had the code of ethics IR.IAU.B.REC.1401.025.

The data were analyzed in SPSS22 software using descriptive statistics (mean and standard deviation) and repeated measures ANOVA.

Findings: In this research, there were 55 participants in three groups of dialectical behavior therapy (17 people), metacognitive therapy (18 people) and control group (20 people). In the metacognitive therapy group, the mean and standard deviation of the age of the participants were 15.17 and 4.08 years respectively, in the dialectical behavior therapy group they were 15.13 and 4.14 years respectively, and in the control group they were 20.20 years respectively. He was 15 and 43.4 years old.

Table 3 shows the average (standard deviation) and the Shapiro-Wilk index (significance level) of the cognitive strategies of emotional regulation in the participants of the research groups, in the three stages of pre-test, post-test and follow-up.

Table 3. Average (standard deviation) and Shapiro-Wilk index (significance level) of emotional regulation cognitive strategies in the three stages of pre-test, post-test and follow-up

Variable	Group	Pretest	Posttest	Follow-up
Mean±SD	DBT	50.72±8.86	71.61 ± 8.31	69.00 ± 9.32
	MCT	53.35 ± +.13	75.47 ± 9.93	79.35 ± 10.11
	Control	52.60 ± 8.47	49.70 ± 7.72	50.90 ± 7.92
Shapiro-Wilk	DBT	0.972 ± 0.829	0.960 ± 0.599	0.916 ± 0.109
	MCT	0.968 ± 0.790	0.894 ± 0.054	0.948 ± 0.425
	Control	0.946 ± 0.343	0.932 ± 0.171	0.958 ± 0.498

Table 3 shows that in the two experimental groups, the average scores of both variables of emotional regulation cognitive strategies have increased in the post-test and follow-up phases. On the other hand, no similar changes were observed in the mentioned stages in the control group. As Table 3 shows, in order to test the assumption of normality of data distribution, the Shapiro-Wilk values related to the dependent variables were examined for all three groups in the three phases of pre-test, post-test and follow-up, and the results showed that the value of Shapiro-Wilk Wilk related to both dependent variables in all three groups and in all three phases of pre-test, post-test and follow-up is non-significant. This article shows the normal distribution of dependent variables in the three groups and stages of the research.

To evaluate the hypothesis of homogeneity of the error variances of the variables of the cognitive strategies of emotional regulation among the groups, Lune's test was used and the results showed that the difference of the error variance of the scores related to any of the two dependent variables in the groups and in the three stages is not significant. Therefore, the assumption of homogeneity of error variances among the data related to the research variables was maintained. Next, the assumptions of homogeneity of the covariance matrices of the dependent variables were checked using the M. Box statistic and the condition of sphericity using the lag test, the results of which are presented in Table 4.

Table 4. The results of the hypothesis test of variance covariance matrices and equality of errors covariance matrix

Variable	Equality of variance matrix of covariances			Equality of the error covariance matrix		
	M.Box	**F**	**P**	**Mauchly's**	**χ^2**	**P**
Cognitive strategies of emotional regulation	6.62	0.51	0.913	0.966	1.77	0.413

According to Table No. 4, the results of the analysis showed that M. Box's statistical index is not significant for any of the two dependent variables. This article shows the establishment of the assumption of homogeneity of the covariance matrices of the dependent variables for the variables of cognitive strategies of emotional regulation. Also, based on the results of Table No. 4, Moheli's test showed that the chi square value of none of the dependent variables is significant. Therefore, the assumption of sphericity was maintained for dependent variables. After evaluating the assumptions of the analysis and making sure that they are established, the data were analyzed using the method of analysis of variance with repeated measurements.

Table No. 5 shows the results of multivariate analysis comparing the effect of metacognitive therapy and dialectical behavior therapy on the cognitive strategies of emotional regulation.

Table 5. Results of multivariate analysis in evaluating the effect of independent variables on cognitive strategies of emotional regulation

Variable	Wilks Lambda	F	df	P	η^2	Power of a test

Cognitive strategies of emotional regulation	0.449	12.57	102, 4	0.001	0.330	1.00

Table No. 5 shows that the effect of implementing independent variables on the cognitive strategies of emotional regulation is significant (Wilks Lambda = 0.449, η^2 = 0.330, P = 0.001, F = 12.57). Table 6 shows the results of variance analysis with repeated measures in explaining the effect of implementing metacognitive therapy and dialectical behavior therapy on the cognitive strategies of emotional regulation.

Table 6. Results of analysis of variance with repeated measurement in explaining the effect of independent variables on cognitive strategies of emotional regulation

Variable	Effects	Total roots	Total root error	F	η^2	P
Attachment styles	Group effect	9926.89	4497.89	57.38	0.688	0.001
	Time effect	5514.28	4083.91	70.21	0.575	0.001
	Group × time	5214.39	7724.80	17.55	0.403	0.001

Table No. 6 shows that in addition to the effect of group and time, the interaction effect of group × time is significant for the cognitive strategies of emotional regulation (P = 0.001, □ = 0.403, F = 17.55). These findings indicate that the implementation of independent variables has been significantly affected. Table 7 shows the results of the Ben Feroni test scores related to the cognitive strategies of emotional regulation in three groups and in three stages of implementation.

Table 7. Ben Feroni's post hoc test results for pairwise comparisons of the effect of groups and times on cognitive strategies of emotional regulation

Variable	Times		Difference in averages	Standard error	Probability value
Cognitive strategies of emotional regulation	Pre-test	Post-test	-13.37	1.75	0.001
	Pre-test	Follow-up	-14.19	1.6.9	0.001
	Post-test	Follow-up	-0.82	1.49	1.00
Variable	Differences between groups		Difference in averages	Standard error	Probability value
Cognitive strategies of emotional regulation	MCT	DBT	-5.61	1.82	0.010
	MCT	Control	12.71	1.75	0.001
	DBT	Control	18.33	1.77	0.001

The results of the Ben Feroni test comparing the effect of time in Table No. 7 show that the difference in the mean scores of the emotional regulation cognitive strategies in the pre-test-post-test and pre-test-follow-up stages is statistically significant, but the difference in the average scores in the post-test stages - The follow-up is meaningless. Also, the results of the Ben Feroni test comparing the effects of the groups in Table 7 show that the difference in the average of the emotional regulation cognitive strategies in

the two groups of metacognitive therapy and dialectical behavior therapy is statistically significant compared to the control group. So that the implementation of metacognitive therapy and dialectical behavior therapy caused the average cognitive strategies of emotional regulation to increase in the post-test and follow-up stages compared to the pre-test stage.

The results of the Ben Feroni test comparing the effects of the groups in Table 5 show that the difference in the effect of the two methods of metacognitive therapy and dialectical behavior therapy on the cognitive strategies of emotional regulation is significant (P=0.019). So that the treatment of dialectical behavior therapy has significantly increased the cognitive strategies of emotional regulation in students compared to metacognitive therapy.

Discussion and Conclusion:

The results showed that dialectical behavior therapy is significant on the cognitive strategies of emotional regulation. According to the principles of this treatment, people do not have the necessary skills to create a worthwhile life. Dialectical behavior therapy is actually a change and modification of cognitive behavior therapy and is used in people who struggle with out-of-control emotions as well as mood and emotional issues, and clinical experts are asked to help the therapist to change their behaviors. Understand destructiveness as behavior. Acquisition to help solve the problem and the therapist lacks the necessary skills to respond more creatively. This is one of the reasons that dialectical behavior therapy has been effective in reducing mood and emotional problems. In line with this result, we can refer to the research of Katz et al. (26), Kunz et al. (27), Miller et al. (28) and McCullan's study (29) on the effectiveness of dialectical behavior therapy in reducing impulsivity. Emotion regulation, improvement of emotional issues and regulation of incompatible emotions that lead to depression, anxiety and stress have been done.

According to the conducted research, it can be concluded that the reason for the success of dialectical behavior therapy in the above studies is the reduction of the suffering of people involved in emotional problems, that dialectical behavior therapy skills have reduced inappropriate emotions. The innovation of this research was the effectiveness of dialectical behavior therapy in people who regulate their emotions. Non-adjusted people had a low level compared to patients and also felt more helpless from emotional pain than emotional suffering, and the lack of emotional regulation skills increased the process of insecure attachment and broken identity (30).

Also, the pre-test and post-test scores of the participants clearly showed an improvement in the variables of attachment styles, dimensions of identity transformation and cognitive strategies of emotional regulation after the implementation of metacognitive therapy compared to the control group. Which confirms the effectiveness of metacognitive therapy.

Metacognitive therapists believe that most people experience emotional states temporarily and the reason is that people have learned ways and methods to get rid of the thoughts created in their minds and deal with them. In Wills' theory (31), which is the basis of metacognitive therapy, it is assumed that people suffer from emotional disorders because the metacognitive part of their mind has a pattern of responding to internal

experiences, and the existence of this pattern causes it to become negative. Strong emotions must be maintained, turning into negative thoughts. In fact, metacognitive therapists consider the state of metacognition as a factor that determines what a person pays attention to. Also, according to these therapists, the state of metacognition determines what factors enter our consciousness system and what strategies we use to regulate our thoughts and feelings. An important point that separates metacognitive therapy from previous treatments is the emphasis of metacognitive therapy on the role of thinking styles, and this has improved attachment style, identity transformation, and cognitive strategies of emotional regulation in the studied group.

Limitations

Time limit, follow-up of time continuity and long-term transfer of skills on performance improvement are some of the limitations of this research. In addition, the findings of the research can be generalized to those teenagers who receive treatment, finally, the sample group was made up of teenage girls, and therefore, the findings of this research can only be generalized to teenage girls.

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Authors' contribution

First author: idea development, article writing and revision, and data collection. Second author: project support. Third author: Data analysis. All the authors participated in the initial writing of the article and its revision and all accepted the responsibility for accuracy.

Ethical considerations

The current research was extracted from the doctoral thesis of the first author in the field of psychology. This study was approved by the Specialized Center of Research of Islamic Azad University, Borujerd Branch, Borujerd, Iran (IR.IAU.B.REC.1401.025).

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Conflicts of interest

The authors declare that they have no conflict of interest.

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