RESEARCH ARTICLE

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The Effectiveness of Acceptance and Commitment Based Training on the Maladaptive Schemas of Female Students with Bulimia Nervosa

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Background & Aims of the Study: Recently, a lot of discussions have been done about the third wave of behavioral and cognitive approaches, particularly in areas with eating disorders. The aim of current research is the effectiveness of acceptance and commitment based training on the maladaptive schemas of female students with bulimia nervosa.

Materials & Methods: The design of current study is as quasi-experiment research with pre-test and post-test with control group. Statistical population consist of all high school female students of Arak city in the 2013-14 academic years. Samples were selected at first by multi stage cluster sampling method and after completing young schema questionnaire short form and Diagnostic Interview, were placement using random sampling method in two experimental and control groups (N=20 per group). The experimental group participated in 8 sessions of acceptance and commitment based training and control group received no intervention. The gathered data were analyzed using Multivariate analysis of covariance (MANCOVA).

Results: The results show that there exist significant differences between the pre-test and post-test scores of the experimental group. This difference is significant at the level of 0.01. Therefore it seems that acceptance and commitment based training decreased maladaptive schemas of students with bulimia nervosa.

Conclusions: The results of current research explain the importance of acceptance and commitment therapy in decreasing maladaptive schema of female students with bulimia nervosa. Thus, interventions based on this approach in schools for students lead to decreasing the psychological problems.

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Background

The most challenging psychiatric disorder for treatment is the eating disorders. Eating disorders are syndromes, in which cognitive changes related to food, body weight, and wrong eating patterns can lead to life-threatening, nutritional, and medical complications. Three types of eating disorders, including anorexia nervosa, bulimia nervosa, and disorders that are not specifically classified have been identified. The main characteristics of bulimia nervosa are overeating, and then clearance. Over eating is eating a large and abnormal amount of food during a specified period, with a feeling of lack of control overeating during the period (1). In this disorder, over eating are followed by

compensatory behaviors, which may include vomiting, use of medications, fasting, or severe exercises. Patients with bulimia nervosa often eat at irregular intervals, and prolonged fasting periods cause a feeling of intense temptation to foods, and subsequently to overeating and clearance periods (2). Patients with bulimia nervosa, like those with anorexia nervosa, may have a disturbed body image, and a fear of overweight (3). Undesirable image or dissatisfaction with weight and size of the body in adolescents increases the possibility of risky behaviors, such as improper diet, and consequently inadequate intake of food (4).The findings showed that girls, particularly those aged 15 to 18 are more likely to be at risk for eating disorders (5). The results of a study showed that40 to 50 percent of 13 to14year old girls are concerned with their obesity (6). In another study, it was found that 0.7percentofhighschool girls suffer bulimia nervosa (7).

One of the things that students with eating disorders involved is the maladaptive schema (8-12). Cognitive structures organize the foundations of thought, and behaviors of individuals, and other factors are likely to play intermediary roles. Schemas are the deepest cognitive structures (13). Faced with new stimuli, schemas, based on their previous structure screen, encode, and evaluate the obtained data (14), and thus influence the type of attitudes of individuals related to themselves and the around world (15). Those schemas that can lead to the grow than development of psychological problems are called *early maladaptive schema*. These schemas are self-harmful cognitive and emotional patterns, which started in early growth phase, and continue throughout life (16).

One of the treatments that can affect the maladaptive schemas of students with bulimia, and has not been the interest of researchers is Acceptance and Commitment Training. It is accepting an important alternative to avoid based on experience; including active and conscious acceptance of personal events that are associated with the history of the individual, and without the required effort to reduce the number of events or change their shapes, especially when psychological damage are caused. In the commitment activity, the individual is encouraged to put his best effort to achieve the goal. The main goal of this kind of treatment is psychological flexibility; i.e. the creation of a practical ability to choose among different options, which may be more appropriate, rather than actions be imposed on individuals merely to avoid thoughts, feelings, memories or disturbing tendencies (17). Recently, studies showed the benefits of acceptance and commitment training (18). The empirical evidence on the effect of the treatment on the disorders like depression (19), psychosis (20), social phobia (21) reducing of risky behaviors (22,23) and increasing the psychological wellbeing, have been identified (24,25).

Aims of the study: Some researchers believe that acceptance and commitment training, due to its latent mechanism such as acceptance, awareness raising, desensitization, mindfulness, observing without judgment, encountering, and release, can help reducing the eating problems. In general, most studies in the maladaptive schema is associated to normal students, and less studies have assessed the efficacy of acceptance and commitment training in reducing maladaptive schemas of students with bulimia. Furthermore, the high prevalence of bulimia nervosa in students, the schema as a key factor for success, health promotion, and reduction of psychological problems, research gaps in this field, and using the results of the research on the pathology of patients with bulimia nervosa are the requirements of this study. Therefore the role of the correction of maladaptive cognitive schema in the treatment of eating disorders seems important and should be considered. The purpose of this study was to investigate the effectiveness of the acceptance

and commitment training on the maladaptive schemas of students with bulimia nervosa.

Materials & Methods

The method of this quasi-experiment study was a pre-test – post-test using control group.

The study sample included all female students in public high schools in Arak in 2012-13. 236 students were enrolled, using a multistage cluster sampling. Then, some explanation was given on the study, and after an oral consent, eating disorders questionnaire was administered to them. Then those who had received a high score on the questionnaire were selected for clinical interviews. After recording their demographic characteristics, diagnostic interviews were conducted for each of them by the researcher. Any of the subjects having the criteria of the fourth edition of Diagnostic Statistical Manual of Mental Disorders for the bulimia nervosa, and having general criteria for being a subject for the study were selected. Given that the method for the research was experimental, and the needs for more control, then, 46 students were identified with bulimia nervosa and by using simple random sampling, 40 of them were randomly replaced in both control and experimental groups for participating in acceptance and commitment training. Inclusion criteria consisted of: (1) having the diagnostic criteria for bulimia nervosa based on DSM-IV-IR. (2) Diagnosis of the bulimia nervosa as the primary diagnosis. (3) Completing the form of therapy consent.

During a team meeting, logic and purpose of the research was explained, and written consents to treatment entry were completed by participants, and they were assured that all their information will be safe with the therapist. Then the maladaptive schemas questionnaire as a pre-test was administered to all members of experimental and control groups. Next, the subjects were divided randomly into two groups, and a Contract Therapy was signed by acceptance and commitment training group. It should be noted that with the three sessions of absences, the subject of the treatment group would be removed. Acceptance and commitment training was provided twice a week for one and a half hours, and a total of 8 meetings by the researcher according to the protocol by Hayes (17). When acceptance and commitment training sessions finished, again all the subjects were examined, and the data obtained from the pre-test and post-test were prepared for statistical analysis.

Protocol of Acceptance and Commitment Training Sessions

First session: pre-test run, familiarity of members with each other or with the therapist and the outline of treatment and sessions.

Second and third sessions: introduction to ACT Therapeutic Implications (mental flexibility, psychological acceptance, mental awareness, cognitive isolation, self-visualization, personal story, values clarification, and responsible act).

Fourth and fifth sessions: first focus will be on increasing mental awareness, and then the way to meet and deal appropriately with subjective experiences, and the way to make objectives and social lifestyle and practical commitment to them are taught.

Sixth and seventh sessions: practicing the learnings, and providing feedbacks by the group and the therapist.

Eighth session: Conclusion and running the post-test.

Structured Clinical Interview (SCID): the structured clinical interview is a tool for diagnosis based on criteria of the fourth edition of Diagnostic Statistical Manual of Mental Disorders diagnostic (DSM-IV-T).

Ahwaz Eating Disorders Questionnaire and Young Schema Questionnaire - Short Form were used in order to gather data.

Ahwaz Eating Disorders Questionnaire: with the aim of devising a questionnaire, which can vary between subjects with eating disorders and control group, and which also can recognize those who are at risk for the disorder, Coker and Roger constructed a 57-item questionnaire

in 1990. In 1997, the questionnaire was used and normalized on a student population in Ahvaz, and 31 items, and 22 items of 2 factors of anorexia nervosa, and 9 items of bulimia nervosa were identified, and it was called Ahwaz Eating Disorders Questionnaire. The reported reliability of this questionnaire was valid (26,27).

Young Schema Questionnaire - Short Form (YSQ SF): This questionnaire was made by Young (1988). The questionnaire contains 75 items and Evaluates 15 early maladaptive schemas including Emotional Deprivation, Abandonment /Instability, Mistrust/Abuse, Social Isolation, Shame /Defectiveness, Failure, Dependence/Incompetence, Enmeshment, Entitlement, vulnerability to harm or illness, Insufficient self-control/Self –discipline, Subjugation, Self-sacrifice, Emotional inhibition, Unrelenting standards/hyper criticalness. Each question is checked by six options ("completely wrong" to "completely correct"). In this questionnaire every 5 questions measure a schema. High score more likely indicates maladaptive schemas in a person. In a study, the Cronbach's alpha coefficient for all subscales was obtained between 62 and 90 (28).

Data analysis: The collected data were analyzed using multivariate analysis of covariance (MANCOVA).

Results

The mean (and standard deviation) of the age criteria for students with high bulimia nervosa in both experimental and control groups were 13.17, (and 2.21) and 14.33 (and 2.36), respectively.

As can be seen in Table 1, the mean (and SD) of total score of the pre-test of the experimental group students in maladaptive schemas was 98.85 (and 16.85), and post-test score of students of the experimental group in maladaptive schemas was 72.43 (and 11.55). Furthermore, the mean (and SD) of total score of the pre-test of the control group students in maladaptive schemas was 95.97 (and 15.36), and post-test score of students of the control group in maladaptive schemas was 93.36 (and 13.47).

To comply with the assumptions of covariance test, Levene test was used. The error variance of these variables among the participants (experimental group and control group) did not differ, and variances were equal. Furthermore, in order to study the covariance homogeneity, Box test was used, and the results showed that Box is not meaningful, and thus the default difference between the covariance was established. To evaluate the effectiveness of treatment based on the acceptance and commitment, the multivariate analysis of covariance test was used. The results are shown in Table 2 and 3.

Results of Wilks Lambda test showed that the effect of the group on the combination of components of maladaptive schemas is significant (Wilks, $p \leq 0.001$, $F(23.18) = 0.31$). The test confirmed the usability of multivariate analysis of covariance (MANCOVA). The results showed that, there was a significant difference at least in one of the variables between the two study groups.

Results of the Table 3 shows that, there is a significant difference between acceptance and commitment training group, and control group ($P \leq 0.001$) on the mean scores of the maladaptive schemas ($F = 857.32$). In other words, these findings indicate the reduction of maladaptive schemas in the experimental group compared to the control group.

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Table 1) Descriptive statistics of the pre-test and post-test phases

Schemas	Groups	Pre-test		Post-test	
		M	SD	M	SD
Emotional Deprivation	Experimental	15.23	3.45	10.33	2.33
	Control	16.12	4.12	14.63	3.36
Abandonment /Instability	Experimental	16	4.1	9.69	1.89
	Control	15.89	3.95	16.13	4.15
Mistrust/Abuse	Experimental	16.36	4.23	10.23	2.18
	Control	14.23	3.21	15.69	4.23
Social Isolation	Experimental	17.14	5	11.34	2.65
	Control	16.1	4.2	14.44	3.89
Shame /Defectiveness	Experimental	14.23	3.2	8.59	1.63
	Control	14.55	3.63	15.1	4
Failure	Experimental	16.23	4.2	11	2.1
	Control	17	4.52	16.23	4.23
Dependence/Incompetence	Experimental	14.23	3.23	9.69	1.45
	Control	16	3.36	15.69	5.1
Enmeshment	Experimental	15.24	3.63	9.41	1.23
	Control	15.23	4.68	15.2	4.63
Vulnerability to harm or illness	Experimental	17.42	5.1	10.21	2.4
	Control	14.56	3.54	13.63	3.94
Entitlement	Experimental	14.52	3.21	8.69	1.36
	Control	13.63	3.12	14.26	3.65
Insufficient self-control /self –discipline	Experimental	18	5.12	11.21	2.45
	Control	15.45	3.57	16.21	4.12
Subjugation	Experimental	9.85	2.89	17.63	4.33
	Control	10.63	2.23	11.36	2.63
Self-sacrifice	Experimental	9.23	2.29	15.16	3.38
	Control	11.23	3.1	12.12	3.1
Emotional inhibition	Experimental	19.45	6.23	10.47	2.85
	Control	17.46	5.65	16.1	4.56
Unrelenting standards/hyper criticalness	Experimental	16.63	4.33	9.36	2.23
	Control	15.36	4.68	14.26	4.71
All	Experimental	98.85	16.85	72.43	11.55
	Control	95.97	15.36	93.36	13.47

Table 2) Data related to credit indicators of multivariate analysis of covariance test

Test name	Value	Df	f	P
Pillai's Trace	0.86	1	23.18	P≤ 0.000
Wilks' Lambda	0.31	1	23.18	P≤ 0.000
Hotelling's Trace	7.65	1	23.18	P≤ 0.000
Roy's Largest Root	7.56	1	23.18	P≤ 0.000

Table 3) The results of multivariate analysis of covariance (MANCOVA)

Schema	SS	Df	MS	F	P
Emotional Deprivation	123.36	1	123.36	12.33	P≤ 0.001
Abandonment /Instability	212.89	1	212.89	13.45	P≤ 0.001
Mistrust/Abuse	124.36	1	124.36	10.14	P≤ 0.001
Social Isolation	88.141	1	88.141	11.26	P≤ 0.001
Shame /Defectiveness	106.78	1	106.78	12.32	P≤ 0.001
Failure	69.26	1	69.26	13.21	P≤ 0.001
Dependence/Incompetence	114.24	1	114.24	14.45	P≤ 0.001
Enmeshment	121.36	1	121.36	19.54	P≤ 0.001
vulnerability to harm or illness	311.48	1	311.48	21.78	P≤ 0.001
Entitlement	116.88	1	116.88	18.14	P≤ 0.001
Insufficient self-control /Self –discipline	102.23	1	102.23	13.25	P≤ 0.001
Subjugation	97.62	1	97.62	9.12	P≤ 0.001
Self-sacrifice	117.41	1	117.41	10.14	P≤ 0.001
Emotional inhibition	254.38	1	254.38	22.13	P≤ 0.001
Unrelenting standards/hyper criticalness	97.12	1	97.12	16.23	P≤ 0.001
All	3247.58	1	3247.58	857.32	P≤ 0.001

Discussion

The aim of the present study was to investigate the effectiveness of acceptance and commitment training on maladaptive schemas in the female students with bulimia nervosa. The results showed that acceptance and commitment training can modify maladaptive schemas of students with bulimia nervosa disorder, which was in accordance with other conducted researches (29-31).

In explaining these findings, it could be said that, in a cognitive model, two distinct cognitive factors are effective in the onset and maintenance of eating disorders. These factors include the beliefs and concerns about body shape and weight, and biased information processing schemas and maladaptive cognitive schemas. In fact, the deepest cognitive structures of an individual are schemas, which create specific rules for processing data and behavior (12). Because schemas form the core self-image of an individual, if includes maladaptive content, they make people vulnerable to a variety of shortcomings and problems (32). In the field of eating disorders, the evidences suggest that a set of ineffective attitudes and schemas exist in the patients. Thus, when cognitive schemas of teenagers are inefficient about their weight and appearance, and also poor body image and body dissatisfaction exist about their weight and dimensions, the possibility of risky behaviors increases in terms of health, such as improper diets, and as the result (4), the insufficient intake of food for several meals, and then overeating and weight gaining are followed.

Schemas influence the way people interact with their surrounding environment, these various schemas can make people vulnerable to their everyday problems. In fact, the schemas are used as templates for processing individual experiences. Thus, the schema determines the thoughts and relationships of individuals with others, and determines the way he perceive himself and the world around him; a perception, which continues throughout the life due to the continuing nature of the schemas (14). Because of the limited relationships with others, the students with bulimia nervosa form maladaptive schemas over time and based on subjective ruminations. Through the continuation, such structures cannot protect individuals against negative emotions, and the students have a sense of loneliness and rejection. The schemas related to a range of psychological problems in the students, which culminates in a wide range of cognitive, social, and emotional disorders (33). However, in the acceptance and commitment training, students are taught not to avoid intellectual and practical ideas and social situations, but by increased acceptance of mental inner experiences improve their living conditions, reach their personal values, and solve their problems (especially those less avoidable), and thereby increase their mental health and well-being. In fact, active and effective dealing with emotions, avoiding the avoidance, changing the view of self and changing the story of the person's self-imposed role as a victim, the revision of the values and life goals, and ultimately the commitment to a more social purpose can be considered as the main factors contributing to this training. The overall goal is to create a mental flexibility, i.e. the creation of a practical ability to choose the more appropriate among different options, rather than merely avoiding thoughts, feelings, memories or disturbed fantasies of individuals. It can be said that, as Acceptance and Commitment Training is a balanced and judge-free sense of awareness, which clearly see and accept emotional and physical phenomena as they happen (19), teaching it to adolescents with eating disorders causes them to accept their feelings and physical and psychological symptoms, and this acceptance, in return reduces their attention and

hypersensitivity to the reported symptoms, and thus reduces their maladaptive schemas.

It was also seen that the skills of the mindfulness, which is a component of acceptance and commitment training is a predictor of self-regulatory behavior and positive emotional states (34). Actually the acceptance and commitment training with a combination of relaxation and care of mindfulness is one of the methods for stress reduction and treatment of mental health, in which mental representations of objects in the life that are out of immediate control of an individual is taught by breathing and thinking. It was also seen that the acceptance and commitment training leads to pain, anxiety and psychological distress reduction, and consequently reduction of maladaptive schemas. Mindfulness-based cognitive therapy reduces symptoms of anxiety and depression, and improves the physical, psychological, emotional, and spiritual well-being, and also it improves sleep quality, and quality of life, enjoying of life, and is effective in low physical symptoms (18). As has been shown in several studies, Acceptance and Commitment Training, which is one of the fundamental components of the mindfulness is effective on variables such as anxiety, depression, stress, health, and consistency, and reduces maladaptive schemas and behavioral problems in adolescents (34, 35).

Finally, the small sample size, and lack of comparison of the variables with male students in schools and educational institutions are the most important limitations of this study. It is hoped that future researches be provided for the comparison, and by the emotional support of the authorities, schools and educational institutions provide students the correct way to express their true feelings and emotions in order to facilitate emotional, cognitive and psychological consistency of the students.

Conclusion

It can be concluded that acceptance and commitment based training with its Therapeutic Implications such as mental flexibility, psychological acceptance, mental awareness, cognitive isolation, self-visualization, personal story, values clarification, and responsible act and etc. is significantly effective for reducing the maladaptive schemas in high school female students.

Footnotes

Conflict of Interest:

The authors declared no conflict of interest.

References

1. Fairburn C, NICE G. Cognitive behavior therapy and eating disorders (p. xii, 324). New York, NY: Guilford Press, 2008.
2. Miller CA, Golden NH. An introduction to eating disorders: clinical presentation, epidemiology, and prognosis. Nutr Clin Pract 2010;25(2):110-5.
3. Sim LA, McAlpine DE, Grothe KB, Himes SM, Cockerill RG, Clark MM. Identification and treatment of eating disorders in the primary care setting. Mayo Clin Proc 2010;85(8):746-51.
4. Spear B. Does dieting increase the risk for obesity and eating disorder? J Am Diet Assoc 2006;106(4):523-525.
5. Goni A, Rodriguez A. Variables Associated with the Risk of Eating Disorders in Adolescence. Journal of Salud Mental 2007;30(4):16-23.
6. Ivarsson T,Svalander P, Litler O, Nevonen L. Weight concern, body image, depression and anxiety in Swedish adolescents. Eat Behav 2006;7(2):161-175.
7. Kjelsas E, Bjornstorm C, Gotestam G. Prevalence of Eating Disorders in Female and Male Adolescents (14-15 years). Eat Behav 2004;5(1):13-25.
8. Unoka Z, Tolgyes T, Czobor P, Simon L. Eating disorder behavior and early maladaptive schemas in subgroups of eating disorders. J Nerv Ment Dis 2010;198(6):425-31.
9. Unoka Z, Tolgyes T, Czobor P. Early maladaptive schemas and body mass index in subgroups of eating disorders: A differential association. Compr Psychiatry 2007;48(2):199-204.
10. Boone L, Braet C, Vandereycken W, Claes L. Are Maladaptive Schema Domains and Perfectionism Related to Body Image Concerns in Eating

Disorder Patients? Eur Eat Disord Rev 2013;21(1):45–51.

11. Deveau SA. The role of parenting style, maladaptive schemas, and experiential avoidance in predicting disordered eating. [PhD Thesis]. Canada: The University of Guelph; 2013.
12. Moloodi R. Dezhkam M. Moutabi F. Omidvar N. Comparison of early maladaptive schema in obese binge eaters and obese non-binge eaters. J Behav Sci 2010;4(2):109-114. (Full Text in Persian)
13. Switzer I. Early maladaptive schemas predict risky sexual behaviors. (M.A Thesis). Mississippi State University; 2006.
14. Jacquin, KM. The effects of maladaptive schemata on information processing. (PhD Thesis). The University of Texas at Austin; 1997.
15. Young JE, Klosko JS, Weishaar ME. Schema therapy: A practitioner's guide. New York: Guilford Publications; 2003.
16. Nordahl HM, Holthe H, Haugum JA. Early maladaptive schemas in patients with or without personality disorders: does schema modification predict symptomatic relief? Clin Psychol Psychoth Clinical 2012;12(2):142-9.
17. Forman EM, Herbert D. New directions in cognitive behavior therapy: Acceptance-based therapies. In W. O'donohue, Je. Fisher, Editors. Cognitive behavior therapy: Applying empirically supported treatments in your practice. 2nd ed. Hoboken: Wiley; 2008. P. 263.
18. Brown KW, Ryan RM. The benefits of being present: Acceptance and Commitment Training and Its role in psychological wellbeing. J Personal Social Psychol 2003;84:822-848.
19. Kanter JW, Baruch DE, Gaynor ST. Acceptance and Commitment Therapy and Behavioral Activation for the Treatment of Depression: Description and Comparison. Behav Anal 2006;29(2):161–185.
20. Bach P, Hayes SC. The use of acceptance and commitment therapy to prevent the rehospitalization of psychotic patients: A randomized controlled trial. J Consult Clin Psychol 2002;70(5):1129-39.
21. Ostafin BD. Intensive Mindfulness Training and the Reduction of Psychological Distress: A Preliminary Study. Cogn Behav Pract 2006;13(3):191-197.
22. Hayes SC, Strosahl KD, Wilson KG. Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change. 3rd ed. New York: Guilford; 1999. P. 165-171.
23. Gifford EV, Kohlenberg BS, Hayes SC, Antonuccio DO, Piasecki MM, Rasmussen-Hall ML. Acceptance-Based Treatment for Smoking Cessation. Behav Ther 2004;35:689-705.
24. Fledderus M, Bohlmeijer ET, Pieterse ME, Schreurs KM. Acceptance and commitment therapy as guided self-help for psychological distress and positive mental health: A randomized controlled trial. Psychol Med 2012;42(3):485-95.
25. Masuda A, Hayes SC, Lillis J, Bunting K, Herbst SA, Fletcher LB. The relation between psychological flexibility and mental health stigma in acceptance and commitment therapy: A primary process investigation. Georgia State University; 2009. P. 25-40.
26. Asgari P, Heidari A, Setayeshnia E. Comparison of anxiety, depression and aggression of teenagers with regard of the rate of their anorexia nervosa. J Clin Psychol Andishe va rafter, 2010;4(16):59-66. (Full Text in Persian)
27. Sharifi A. Surveying the prevalence of eating disorders and its relation with self-esteem, depression and economic- social status in female and male students of Ahvaz high schools. [MA Thesis]. Iran: Azad university of Ahvaz; 1997. (Persian)
28. Sadooghi Z, Aguilar-Vafaie M, Rasoulzadeh Tabatabaie K, Esfehanian N. Factor analysis of the Young Schema Questionnaire-Short Form in a nonclinical Iranian sample. Iranian J Psychiatry Clin Psychol 2008;14(2):214-219. (Full Text in Persian)
29. Manlick CF, Cochran SV, Koon J. Acceptance and Commitment Therapy for Eating disorders: Rationale and literature review. J Contemp Psychother 2013;43(2):1–8.
30. Watson H J, Bulik CM. Update on the treatment of anorexia nervosa: Review of clinical trials, practice guidelines and emerging interventions. Psychol Med 2012;1(1):1–24.
31. Jarus DV. Emotion regulation and psychopathology. In: Philip P, Feldman RS. Editors. The regulation and emotion. New Jersey: Lawrence Erlbaum Associates Publisher; 2007. P. 359- 385.
32. Beck AT, Freeman A, Davis D. Cognitive therapy of personality disorders. New York: Guilford Press; 1990.
33. Arefnia1 S, Sarandi P, Yousefi R. The comparison of early maladaptive schemas in secondary school students with and without school anxiety. J Scho Psychol 2013;1(4):124-130. (Full Text in Persian)
34. Keng SH, Moria J, Smoski B, Robins C. Effects of mindfulness on psychological health: A review of empirical studies. Clin Psychol Rev 2011;31(6):1041–1056.
35. Hamilton NA, Kitzman H, Guyotte S. Enhancing Health and Emotion: Mindfulness as a Missing Link Between Cognitive Therapy and Positive

Psychology. J Cognitive Psychother 2006;20(2):123-134.