

Modification of Rumination and Cognitive Emotion Regulation of Depressed Students: Autobiographical Memory Specificity Training

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Abstract

The purpose of this study was to examine the impact of autobiographical memory specificity training on rumination and cognitive emotion regulation in depressed female students of Isfahan University. The research was semi-experimentally designed using the pre-test and post-test for both experimental and control groups with two-month follow-up. So, twenty depressed female students were selected by purposive sampling, and were randomly assigned to two experimental (10 subjects) and control (10 subjects) groups. The research tools were Beck depression inventory, ruminative response scale and cognitive emotion regulation questionnaire. The experimental group underwent autobiographical memory specificity training for five sessions, and the control group received no intervention. The data were analyzed using repeated measure analysis of variance. According to the results of the research, the autobiographical memory specificity training led to rumination decrease in the post-test and follow-up phase.

Keywords: Autobiographical memory, cognitive emotion regulation, depression, memory specificity, rumination

Introduction

Depression is one of the most common mental disorders worldwide (Hammen, 2018). One of the cognitive factors that worsens depression symptoms is overgeneralized memory or reduced memory specificity (Martens, et al., 2019). According to Conway & Pleydell-Pearce (2000)'s memory model, stopping memory retrieval in the middle stages and activating the descriptions and tags related to self, leads to an over general retrieval style and activates descriptions related to self, which in turn results in self-centered rumination processing. In addition, rumination can be considered as a cognitive avoidance mechanism in depressed people, which leads to impaired emotional processing and difficulty in integrating information emotionally into conceptual memory, which in turn will lead to the continuation of disturbing thoughts and memories, Williams, et al. (2007). Therefore, researchers presented the group protocol of memory specificity training (MEST) (Raes, et al., 2009) which, in addition to reducing depression and increasing memory specificity, improves cognitive processes (Hitchcock, et al., 2016, Werner-Seidler, et al., 2018). In this regard, the present study was conducted to investigate the effectiveness of Autobiographical Memory Specificity Training on rumination and cognitive emotion regulation in depressed female dormitory students. The hypotheses were: Autobiographical Memory Specificity Training is effective on rumination of depressed dormitory female students in post-test and follow-up, and Autobiographical Memory Specificity Training

is effective on cognitive emotion regulation of depressed dormitory female students in post-test and follow-up.

Method

The research was semi-experimentally designed using the pre-test and post-test for both experimental and control groups with two-month follow-up. The statistical population of the study was depressed female students in dormitories of Isfahan University in the academic year of 2018. Based on the inclusion criteria, thirty depressed female students were selected by purposive sampling, and were randomly assigned to two experimental (15 subjects) and control (15 subjects) groups. The experimental group received memory specificity training in five weekly sessions. According to the exclusion criteria, twenty people remained in two groups. Research inclusion criteria included undergoing undergraduate education, getting a score of 19-29 in Beck Inventory, being diagnosed with depression and not being diagnosed with other psychological illnesses, agreeing to participate in the research and not to receive any other psychological interventions until the end of the follow-up phase. Exclusion criteria were failure to attend a session of intervention, reluctance to continue, absence and lack of access to answer the questionnaires in the post-test and follow-up stages. Data were analyzed using repeated measure analysis of variance in SPSS-19 software. In addition, in accordance with ethics, training was performed for the control group as well.

Tools

Beck Depression Inventory- II: Beck et al (1996) developed this scale. This scale contains 21 items. Cronbach's alpha coefficient of this scale by Beck, et al. was 0.73 to 0.92 and its convergent validity was 0.69.

Ruminative response scale (RRS): This Questionnaire was developed by Nolen-Hoeksema & Morrow (1991) and consists of 22 items. Cronbach's alpha was obtained in the range of 0.88 to 0.92.

Cognitive Emotion Regulation Questionnaire (CERQ): Developed by Garnefski et al. (2001). This questionnaire has 9 subscales and 36 items. They reported Cronbach's alpha for positive and negative strategies and total score 0.91, 0.86 and 0.93, respectively.

Results

The findings indicate that the most positive correlations between the dimensions of temperament and depression are related to harm avoidance, self-direction and persistence. Also, rumination, perception of different options and cover anxiety are positively related to depression, but controllability is negatively related to depression.

Analysis of variance with repeated measure was used after confirming the necessary assumptions (including normal data distribution and variance homogeneity in the dependent variable). The results

showed that the effect of intervention ($F = 0.07$ and $P = 0.791$), time ($F = 0.68$ and $P = 0.510$) and group-time interaction ($F = 3.24$ and $P = 0.051$) on the total score of cognitive emotion regulation at the level of 0.95 was not significant. Moreover, the results of this analysis for positive cognitive emotion regulation strategies indicated that the effect of intervention ($F = 1.46$ and $P = 0.242$), time ($F = 0.13$ and $P = 0.876$) and group-time interaction ($F = 0.54$ and $P = 0.583$) was not significant as well. The F-index of the effect of group-time interaction at the level of 0.95 was significant for negative cognitive emotion regulation strategies ($F = 4.18$ and $P = 0.023$) while the effect of intervention ($F = 1.20$ and $P = 0.287$) alone and the effect of time ($F = 1.15$ and $P = 0.325$) alone were not significant. Considering the significance of the effect of group-time interaction for rumination, the results of the analysis by considering evaluation periods were presented in Table 1. The results of this table showed that the rumination of the experimental group in the post-test had a significant decrease and this decrease has continued in the follow-up stage. In addition, the scores of the control group in the pretest-and follow up showed a significant difference in the direction of rumination increase.

Table 1: The results of LSD test used to evaluate the Mean difference of rumination

group	Times	MS	Sig
experiment	Pretest-posttest	5.50	0.047
	Pretest-follow up	8.30	0.035
	Posttest-follow up	2.80	0.287
Control	Pretest-posttest	-1.00	0.670
	Pretest-follow up	-7.80	0.035
	Posttest-follow up	-6.80	0.074

Considering the significance of the effect of group-time interaction for negative cognitive emotion regulation strategies, the results of the analysis by considering evaluation periods were presented in Table 2. It showed that the observed reduction in the evaluation process was not significant for the experimental group. However, the difference in pretest-follow up stages of the control group for the negative cognitive emotion regulation strategies showed a significant increase.

Table 2: The results of LSD test used to evaluate the Mean difference of negative cognitive emotion regulation strategies

group	times	MS	Sig
experiment	Pretest-posttest	1.30	0.564
	Pretest-follow up	3.40	0.357
	Posttest-follow up	2.10	0.410
Control	Pretest-posttest	0.10	0.974
	Pretest-follow up	8.60	0.036

Discussion and Conclusion

To justify the reduction of rumination, we can point to the two-way relationship between memory generalization and rumination. Due to this relationship, a reduction in rumination is expected because of a reduction in memory overgeneralization. On the other hand, increasing the details and information of memory as a source of data, creates more effective problem solving in various situations and thus reduces depression and rumination. The lack of significant effect of memory specificity training on cognitive emotion regulation may indicate the need to wait a longer time after the intervention to observe the significant effect on this variable because it can be expected that this training gradually builds the cognitive capacity needed to improve the regulation of emotions through hierarchical modification of cognitive variables related to depression such as rumination. The limitations of the present study were the selection of dormitory students, they were not always present and accessible, which making impossible to generalize the results. It is recommended to increase the intervention sessions and form smaller groups in future researches.

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Conflicts of interest

Authors found no conflict of interests.



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