



## Effectiveness of emotion regulation intervention on fear of negative evaluation and emotion regulation in university students with social anxiety

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### Original Article

#### Abstract

**BACKGROUND:** This study aimed to investigate the effectiveness of intervention based on emotion regulation on fear of negative evaluation and cognitive emotion regulation strategies in university students with social anxiety.

**METHODS:** This was a quasi-experimental study with pretest-posttest design and a control group. The study population consisted of all university students with social anxiety in Islamic Azad University, Sari Branch, Sari, Iran during 2019. After screening, the sample consisted of 30 (15 for each group) university students with social anxiety that were selected by the voluntary method and randomly recruited to each of the groups. Then, the participants in the experimental group participated in 8 sessions of 90-minute intervention based on emotion regulation, while the control group did not receive any therapy. Instruments for gathering data were Fear of Negative Evaluation Scale-Short Form (Leary, 1983) and Cognitive Emotion Regulation Questionnaire (Garnefski and Kraaij, 2009). Then, the data were analyzed using SPSS software and statistical tests such as multivariate analysis of covariance (MANCOVA).

**RESULTS:** The intervention based on emotion regulation had significant impact on fear of negative evaluation and cognitive emotion regulation strategies in university students with social anxiety.

**CONCLUSION:** Based on the findings of this study, intervention based on emotion regulation improves fear of negative evaluation and cognitive emotion regulation strategies in university students with social anxiety and could be used as an effective interventional method.

**KEYWORDS:** Emotion; Rejection; Phobia; Social; Students

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### Introduction

Social anxiety is a common and debilitating disorder and has a significant impact on the quality of life of patients with this disorder.<sup>1</sup> Social anxiety disorder is known as a persistent fear of negative evaluation, which usually manifests itself in extreme anxiety or avoidance of situations that person is

evaluated by others.<sup>2</sup> These symptoms cause distress in the individual and often cause problems in social relationships, career, and academic growth. In addition, social anxiety disorder usually has a chronic course and despite the confirmation of the effectiveness of some therapies, including cognitive-behavioral therapy (CBT), there is still no guaranteed treatment that is approved by everyone.<sup>3</sup>

In the general population, social anxiety disorder is the most common diagnostic anxiety disorder in the United States (US) with

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a lifetime prevalence rate of 12%.<sup>4</sup> In Iran, the prevalence of this disorder in adolescents was estimated to be 18.80%, which was higher in female students than male students.<sup>5</sup> Various models have been developed to identify the factors affecting the incidence and persistence of this disorder. Some models of social anxiety state that people with social anxiety, for fear of being negatively evaluated by others, turn their attention to internal threatening stimuli such as anxiety reactions.<sup>6</sup> This issue destroys the chance of re-evaluating the situation and conflicts with social functioning, thus leads to person feeling anxious about the opinion of others.<sup>7</sup> The fear of positive and negative evaluation moderated the relationship between maladaptive perfectionism and social anxiety.<sup>8</sup> Other studies have shown that fear of negative evaluation is a factor in vulnerability in both eating disorders and social anxiety. In addition, research literature provides evidence confirming the efficacy of emotion regulation interventions in reducing fear of negative evaluation and enhancing emotion regulation skills. For instance, Bautista and Hope<sup>9</sup> demonstrated that emotion regulation interventions significantly reduce fear of negative evaluation. Moreover, Salehi et al.<sup>7</sup> found that emotional regulation training sessions effectively enhance this skill.

Emotion regulation strategies refer to actions that are used to change or modify an emotional experience, emotional expression and intensity, or the type of emotional experience or event that triggers the emotion. In addition, research results show that emotion regulation is fully integrated with psychological pathology patterns.<sup>10-12</sup> Therefore, emotion regulation is a basic principle in initiating, evaluating, and organizing adaptive behavior as well as preventing the occurrence of negative emotions and maladaptive behaviors. A review of psychological texts shows that emotion regulation is an important factor in

determining health and having a successful performance in social interactions.<sup>13,14</sup> Given the role of emotion regulation problems in creating and sustaining emotional problems, it seems that training and applying emotion regulation skills in reducing emotional problems can help to develop this area of therapy. There are a variety of ways to regulate emotions, one of which is to regulate emotions based on Gross model. Emotion regulation therapy is derived from the principles and applications of current (and traditional) CBT, and emotion-based interventions are structured to reflect the fundamental findings and interpretations of the emotional sciences.<sup>15-18</sup>

Considering what has been said, sensitivity to rejection, fear of negative evaluation, and emotion regulation seem to be factors that facilitate social anxiety in students. Since these structures seem to have an emotional origin, emotion regulation-based interventions can be used to reduce social anxiety. Therefore, the main question of the present study is whether emotion-based intervention is effective on fear of negative evaluation and emotion regulation of students with social anxiety.

## Methods

The method of the present study was quasi-experimental with a pretest-posttest design and a control group. The statistical population of the present study consisted of all students with social anxiety in the Islamic Azad University of Sari, in the North of Iran, in the academic year of 2018-2019.

First, in the winter of 2018, announcements of treatment programs in the field of social anxiety were distributed in different faculties of the university. Applicants were assessed and screened using the Connor's Social Phobia Inventory (score 50 and above).<sup>19</sup> In experimental studies, a sample size of at least 15 is sufficient;<sup>20</sup> thus, in each group, 15 students with social anxiety would be

present and the sample members would be randomly divided into two experimental and control groups. For the participants in this study, criteria such as having social anxiety based on the cutting point of the assessment tool, studying at the Islamic Azad University, Sari Branch, and the age range of 18 to 45 years old were considered to enter the study.

In addition, comorbid psychiatric disorders (self-reported), substance abuse disorder (self-reported), and unwillingness to participate in the study were selected as the exclusion criteria. Leary's Brief Fear of Negative Evaluation Scale<sup>21</sup> and Garnefski and Kraaij's Cognitive Emotion Regulation Questionnaire<sup>22</sup> were used to collect data.

*Fear of Negative Evaluation Scale-Short Form:* This scale was designed by Leary in 1983 with the aim of measuring the distinct levels of individuals' anxious experiences in the face of possible future negative evaluations.<sup>21</sup> On this scale of 12 questions, participants answer each question on a 5-point scale from 1 "never true" to 5 "almost always true". On this scale, higher scores indicate experience of higher levels of anxiety and fear. Leary obtained the internal consistency coefficients of the total score and the subscales of the positive and inverse scoring questions as 0.80, 0.81, and 0.82, respectively.<sup>21</sup>

The results of Shokri et al. study, which was conducted with the aim of testing the psychometric properties of the short version of the Fear of Negative Evaluation Scale among a group of Iranian adolescents, supported the validity of the scale experimentally. In this study, Cronbach's alpha was calculated to be 0.75.<sup>23</sup>

*Cognitive Emotion Regulation Questionnaire:* This questionnaire was developed by Garnefski and Kraaij in 2009.<sup>22</sup> This scale has eighteen questions that are answered on a five-point Likert scale, from "never" to "forever". There are 9 questions to evaluate positive emotion regulation strategies and

9 questions to evaluate negative emotion regulation strategies. In Besharat study, the psychometric properties of this form including internal consistency (0.84), retest reliability (0.81), content validity (0.79), convergent validity (0.91), and discriminant validity have been reported.<sup>24</sup> The validity of the short version and Persian version of this questionnaire was examined by three methods of factor analysis, criterion validity, and correlation between subscales. In order to investigate the subsequent structure (construct validity) of the questionnaire, principal component analysis (PCA) with varimax rotation on the surface of the material was used. The results of sampling adequacy tests (0.82) and Bartlett's test of sphericity showed that the materials of the scale had the ability to operate.<sup>25</sup>

In the present study, emotion regulation-based intervention was performed in 8 one-hour sessions in the experimental group. This tutorial is based on the Gross and Thompson emotion regulation process model<sup>26</sup> (Table 1).

In order to comply with the ethical standards in the present study, an attempt was made to obtain the participants' consent for participating in the study, and they were assured that all information obtained from them would be preserved and those who wished to be informed of their status would only be given their own scores. The control group was assured that after completing the research, they would be offered 8 sessions of treatment if desired. In addition, each participating member could freely leave the research at any time.

Finally, the collected data were analyzed using SPSS software (version 21, IBM Corporation, Armonk, NY, USA) and multivariate analysis of covariance (MANCOVA) ( $P \leq 0.05$ ).

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**Table 1. Treatment sessions based on Gross and Thompson protocol (2007)**

Session	Content
1	Familiarization of group members with each other and the beginning of mutual relationship between the group leader (consultant) and members, expressing the main objective and sub-objectives of the group and talking to members about personal and collective goals, expressing logic and stages of intervention, and expressing framework and rules of participating in the group
2	Position selection, purpose: providing emotional training, agenda: recognizing emotion and motivating situations by teaching the difference in the performance of different types of emotions, information about different dimensions of emotion and the short-term and long-term effects of emotions
3	Position selection, purpose: assessing members' vulnerability and emotional skills, agenda: the function of emotions in the process of human adaptation and their benefits, the role of emotions in communicating with others and influencing it, as well as organizing and motivating human behavior; conversations took place between members and examples of their real experiences were presented.
4	Position correction, purpose: changing the excitatory situation, agenda: prevention of social isolation and avoidance, problem solving strategy training, interpersonal skills training (dialogue, assertiveness, and conflict resolution)
5	Attention expansion, purpose: change of attention, agenda: stopping rumination and worry, attention training
6	Cognitive assessment, purpose: changing cognitive assessments, agenda: identifying miscalculations and their effects on emotional states, teaching re-evaluation strategy
7	Modification of objective answer, purpose: modulate the response to one's goals, which involves changing the behavioral and physiological reactions to emotions. Meeting agenda: identifying the extent and manner of using inhibition strategies while examining their emotional consequences, exposure training, teaching emotion expression, modifying behavior by altering environmental reinforcers, providing emotional discharge training, relaxation techniques, and reverse action methods
8	Evaluation and application, purpose: re-evaluating and removing barriers to application, agenda: assessing the achievement of individual and group goals, applying skills learned in natural environments outside the session, and reviewing and removing barriers to homework

### Results

Based on the obtained data, the mean age of participants was  $21.37 \pm 2.06$  and  $22.08 \pm 3.32$  in intervention and control groups, respectively. Comparison of the mean age of the two groups using Student's t test showed that there was no significant difference between the mean ages of the two groups ( $P \geq 0.05$ ).

Moreover, in terms of gender, there was no difference between the members of the two groups ( $P \geq 0.05$ ,  $X^2 = 166$ ). These findings indicate that the two groups were age-matched

(Table 2).

Univariate analysis of covariance (ANCOVA) was used to evaluate the effectiveness of emotion regulation-based intervention on fear of negative evaluation of students with social anxiety disorder (Table 3). Considering the value of  $F = 13.05$  and the probability value ( $P \leq 0.01$ ), it can be said that the intervention based on emotion regulation was effective on the fear of negative evaluation of students with social anxiety disorder. In fact, emotion-based intervention improved the fear of negative evaluation of students.

**Table 2. Central indicators and dispersion of the two groups in research variables**

Group	Variables	Pre-experiment	Post-experiment
		Mean $\pm$ SD	Mean $\pm$ SD
Fear of negative evaluation	Experimental	$3.32 \pm 0.33$	$3.14 \pm 0.16$
	Control	$2.89 \pm 0.29$	$3.24 \pm 0.13$
Adaptive emotion regulation	Experimental	$20.21 \pm 4.44$	$18.20 \pm 1.65$
	Control	$17.80 \pm 2.62$	$17.53 \pm 3.13$
Maladaptive emotion regulation	Experimental	$24.07 \pm 3.36$	$30.40 \pm 4.05$
	Control	$28.73 \pm 3.15$	$28.47 \pm 2.64$

SD: Standard deviation



**Table 3. Effectiveness of intervention based on emotion regulation on fear of negative evaluation**

Variable	Source	df	MS	F	P	Effect size
Fear of negative evaluation	Pre-experiment	1	0.10	3.37	< 0.001	0.28
	Group	1	0.99	13.05	< 0.001	
	Error	27	0.07			

df: Degree of freedom; MS: Mean square

In addition, MANCOVA was used to evaluate the effectiveness of emotion regulation-based intervention on students' cognitive emotion regulation. The results of Shapiro-Wilk test showed that there was a significant difference between the two groups in terms of positive and negative emotion regulation strategies ( $F = 6.73, P < 0.001$ ). Therefore, the use MANCOVA was allowed.

According to the results in table 4, the value of F is the effect of independent variable (intervention based on emotion regulation) on adaptive emotion regulation strategies (4.91) and maladaptive emotion regulation strategies (12.67) ( $P \leq 0.010$ ).

Therefore, it can be concluded that emotion regulation intervention has an effect on emotion regulation strategies of adolescents with social anxiety. Besides, the effect size indicates that the changes in the scores of the groups in the adaptive and maladaptive emotion regulation strategies were 0.32% and 0.15%, respectively, due to the implementation of the independent variable (intervention based on emotion regulation).

### Discussion

The aim of this study was to investigate the effectiveness of intervention based on emotion

regulation on fear of negative evaluation and cognitive emotion regulation strategies in students with social anxiety. The results show that intervention based on emotion regulation is effective on fear of negative evaluation of students with social anxiety disorder. This is consistent with the findings of Yap et al.,<sup>8</sup> Bautista and Hope,<sup>9</sup> and Burton et al.,<sup>27</sup> because in the mentioned studies, it was also shown that emotional regulation had an effect on the fear of negative evaluation. Teaching emotion regulation strategies has been effective in reducing the fear of negative evaluation by recognizing emotions and regulating them by increasing positive emotions and reducing negative emotions. Focusing on the negative and dysfunctional thoughts in a person with social anxiety about the negative evaluations of others and paying attention to what is useful and effective can help to moderate the emotional experience, or in other words, to improve the flexibility of attention in him/her. Moreover, by distancing themselves from negative and dysfunctional thoughts, people with social anxiety learn to view the fear of being negatively evaluated by others only as thoughts and feelings that are not necessarily real, and thus reduce this type of fear.<sup>10-12</sup>

**Table 4. Effectiveness of intervention based on emotion regulation on cognitive emotion regulation**

Variable	Source	df	MS	F	P	Effect size
Adaptive emotion regulation	Pre-experiment	1	4.44	0.31	0.830	0.15
	Group	1	69.59	4.91	< 0.010	
	Error	26	14.16	-		
Maladaptive emotion regulation	Pre-experiment	1	0.53	0.04	0.580	0.32
	Group	1	144.19	12.67	0.030	
	Error	26	11.38	-	-	

df: Degree of freedom; MS: Mean square

By teaching emotion regulation strategies and teaching the right ways to express emotions in the experimental group, people with social anxiety disorder learn the right ways and methods to deal with the problems, events, and how to communicate and interact properly with others. Furthermore, by considering these teachings and changing their interpretation in a more logical way, people with social anxiety disorder will have a more accurate interpretation of the events and evaluations of others, and this positive attitude causes them to feel less scared and upset in relationships with others.<sup>14</sup>

In sessions of training in emotional regulation strategies, people with social anxiety disorder are given the insight that they have catastrophic and erroneous thoughts and ideas about establishing relationships with others, which lead to a negative and selective bias towards establishing relationships with others and finding their positive and negative evaluations; therefore, they are taught when they have negative emotions such as fear of others' evaluations.<sup>17</sup> In addition, the results show that emotion regulation-based intervention is effective on cognitive emotion regulation of students with social anxiety disorder. This result is consistent with the results of Salehi et al.,<sup>7</sup> Koob and Le,<sup>16</sup> Krystal,<sup>18</sup> because these studies also emphasize the effect of emotion-based interventions on emotion regulation. To explain this hypothesis, it can be said that emotion regulation training to the experimental group, along with techniques and skills such as mindfulness and distress tolerance, explored their cognitive errors. People with cognitive skills who are catastrophic about the threat posed by interpersonal situations develop social anxiety; people with high social anxiety also have a bias in attention. This means that instead of focusing on the situation and evaluating how to respond appropriately to threats, a state of self-focused attention emerges; therefore, these

people look for signs of threat in social situations and are unable to focus on planning for the situation.<sup>17</sup> People with social anxiety disorder believe that expressing emotions is not right and should be controlled. This belief is partly mediated by the relationship between emotion suppression and social anxiety disorder; thus, emotion regulation techniques play an important role in the management and expression of emotion. Social anxiety is associated with higher rates of use of maladaptive emotion regulation mechanisms and lower rates of adaptive emotion regulation. Deficiencies in emotion regulation skills are documented at both the intrapersonal and interpersonal levels. Cognitive skills (such as perspective, reconstructing the meaning of thoughts and situations, and challenging interpretations) play a role in the correct assessment of social situations.<sup>14</sup> Therefore, training in the use of adaptive mechanisms and increasing the level of emotion regulation as well as increasing cognitive skills and marketing social situations leads to cognitive regulation and regulation of emotion in students with social anxiety.

The most important limitation of the present study is external validity. Given that the sample group of the present study was students with social anxiety and non-clinical population, the results obtained in the present study cannot be generalized to clinical groups with social anxiety. Due to the effectiveness of the intervention, it is recommended to use this method in student counseling centers, so that problems related to social anxiety do not prevent students from developing their talents. It is suggested to add a follow-up period to the research design in future studies. In addition, it is suggested to conduct further studies with a larger sample size.

### Conclusion

According to research results, emotion-focused psychotherapy improves fear of negative

evaluation and cognitive strategies for emotion regulation in students with social anxiety. As a result, this intervention can be used as an effective approach for people with social anxiety.

### Conflict of Interests

Authors have no conflict of interests.

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