



# Relationship of Negative Strategies of Emotion Regulation with Anxiety and Depression in the Students of Shiraz University of Medical Sciences, Shiraz, Iran

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## Abstract

**Background:** Different investigations indicated the role of cognitive processes in the development of anxiety and depression. Cognitive emotion regulation refers the way in which cognitive processing confront with stressful situations. The current study aimed at predicting the symptoms of depression and anxiety through cognitive emotion regulation in the male students of Shiraz University of Medical Sciences, Shiraz, Iran.

**Methods:** The current descriptive study was conducted on all the male students of Shiraz University of Medical Sciences studying at the university in 2016. The study sample included 204 subjects selected by the multistage cluster sampling method. Data were collected by the depression anxiety stress scale (DASS) - 21 and the cognitive emotion regulation questionnaire. Data were analyzed with SPSS version 23 using the Pierson correlation and stepwise multiple regression analysis.

**Results:** The results showed a significant positive relationship between depression and self - blame ( $r = 0.32$ ), depression and rumination ( $r = 0.33$ ), depression and catastrophic thinking ( $r = 0.48$ ), depression and other-blame ( $r = 0.40$ ), anxiety and self - blame ( $r = 0.28$ ), anxiety and rumination ( $r = 0.33$ ), anxiety and catastrophic thinking ( $r = 0.47$ ), and depression and other - blame ( $r = 0.45$ ). Also, the results showed that the level of depression and anxiety students are predictable with regard to the negative cognitive emotion regulation. Among the cognitive emotion regulation strategies, catastrophic thinking could predict depression. Also, among the cognitive emotion regulation strategies, catastrophic thinking and other-blame could predict the anxiety.

**Conclusions:** It seems that negative emotions correlate with anxiety and depression in medical students.

**Keywords:** Emotion Regulation Strategies, Anxiety, Depression

## 1. Background

The student community in Iran constitutes a significant portion of the whole population of the country and the number of students is increasing every year; hence, the issue of student health became important more than ever (1). In this regard, it is of high importance to pay attention to medical science students who are responsible for the future health of the community. Mental health is an important dimension of the students' health as the future decision - makers of the country. This group is exposed to a large number of stresses due to their sensitive age and social status. Factors such as geographical distance between home and the school, separation from the family, entry into a new environment, learning issues and problems, competition with other students, future occu-

pational status, and dormitory living can be considered as the available sources of stress in the students. Stress can lead to the incidence of physical and mental illnesses (2). Depression and anxiety can be referred to as mental illnesses and symptoms caused by stress. Stress, anxiety, and depression are among the mental health factors that may lead to interference between the expected roles and the health responsibilities in the future, in addition to the problems that may inflict on students. Therefore, prevention of stress, anxiety, and depression among students and reduction of mental pressure may play an important role in more interest in job duties, teamwork, and the sense of responsibility (3). Cognitive emotion regulation is defined as the management of emotionally excited information via cognitive strategies of consciousness (4).

Emotional regulation refers to processes by which one can influence what emotions to experience, when to experience, and how to express them (5). In emotional regulation, an optimal interaction of cognition and emotion is necessary to cope with the adverse conditions (6). There is a relationship between cognitive system functions and mood changes; therefore, the role of cognitive emotion regulation in adapting individuals to stressful life events cannot be ignored (7). In the new approaches, the cause of emotional disturbances is attributed to defects in cognitive controls, to such an extent that the inability to control negative emotions results from the existence of negative thoughts and beliefs about worries and the use of inefficient coping methods (8). Self-blame, rumination, and catastrophic thinking are reported as the strong predictors for negative emotions (9). Cognitive emotional regulation strategies help people to regulate excitements and negative emotions. This regulation method establishes a direct relationship between growth, progression, or incidence of mental disorders (10). Findings of different studies demonstrated that the patterns of mental injury and emotional regulation are in full consistency with each other (11, 12). The use of some strategies, including self-blame, rumination, and catastrophic thinking, and other-blame are more common among adults with mental disorders (7, 9). Research literature shows that the prevalence of anxiety and depression is higher in females. On the other hand, researches showed that males use self-blame and catastrophic thinking strategies to a larger extent than females. Therefore, it seems that males are more likely to react negatively to unfortunate events and try to hold cognitive control over the events since they blame themselves for the events (13). Therefore, the current research aimed at predicting anxiety and depression through negative emotions among the medical students of Shiraz University of Medical Sciences, Shiraz, Iran.

## 2. Methods

The current descriptive study was conducted on 204 male students in 2016. The subjects were selected by the multistage cluster sampling method. To this end, at first, 4 faculties of Shiraz University of Medical Sciences were randomly selected and 55 students were randomly selected from each. At the end of data collection, 16 questionnaires were excluded from the research due to the distorted information provided by the participants. The inclusion criteria were at least 1 year education and signing the informed consent to participate in the research. In order to collect data, the depression anxiety stress scale (DASS)-21 and cognitive emotion regulation questionnaires were used. Data

were analyzed with SPSS version 23 using the Pearson correlation and stepwise multiple regression analysis. All data were expressed as mean  $\pm$  standard deviation (SD), median  $\pm$  interquartile range (IQR) and correlation between the variables was analyzed by the Pearson statistical analysis. DASS, focusing on differentiation between anxiety, stress, and depression, was used to collect data.

DASS: This scale was developed by Lovibond and Lovibond in 1995, and contains 2 forms. The short form consists of 21 terms wherein each psychological construct of depression, anxiety, and stress is evaluated by 7 different items (14, 15). The validity and reliability of the questionnaire were 88.8 for the whole scale (16). Henry and Crawford reported the internal consistency coefficient (Cronbach's alpha) of 0.93 for the whole scale and the coefficients of 0.88, 0.82, and 0.90 for the 3 subscales of depression, anxiety, and stress, respectively (17).

Cognitive Emotion Regulation Questionnaire: This scale was developed by Garnefski, Kraaij, and Spinhoven in 2001 and includes 36 items (18). Garnefski et al., reported the Cronbach's alpha coefficient of 0.71 to 0.81 for this questionnaire and the reliability of its subscales through test-retest method (a 14-month interval) as 0.48 to 0.61 (19). It should be noted that 18 questions related to cognitive emotion regulation including self-blame, other-blame, rumination, and catastrophic thinking were used in the current study. The reliability of the questionnaire was assessed based on Cronbach's alpha as 0.82.

## 3. Results

The mean  $\pm$  SD age of the study participants was 22.76  $\pm$  2.42 years. The mean and median scores of self-blame, rumination, catastrophic thinking, other-blame, depression, and anxiety of participants are shown in Table 1.

There was a significant positive correlation between all variables scores (self-blame, rumination, catastrophic thinking, other-blame, depression, and anxiety) (Table 2).

**Table 1.** Mean and Median Score of Variables in the Study Participants

Variables	Mean $\pm$ SD	Median $\pm$ IQR
Self-blame	10.1 $\pm$ 3.16	10 $\pm$ 4
Rumination	10.19 $\pm$ 3.04	10 $\pm$ 4
Catastrophic thinking	9.38 $\pm$ 3.31	9 $\pm$ 4.75
Other-blame	8.78 $\pm$ 2.95	9 $\pm$ 4
Depression	6.7 $\pm$ 4.67	6 $\pm$ 7
Anxiety	6.08 $\pm$ 4.35	6 $\pm$ 6

**Table 2.** Correlation Between the Variables Based on the Scores of Participants<sup>a</sup>

Variables	Rumination	Catastrophic Thinking	Other - blame	Depression	Anxiety
Self - blame	$r = 0.76^b$	$r = 0.56^b$	$r = 0.35^b$	$r = 0.32^b$	$r = 0.28^b$
Catastrophic thinking		$r = 0.64^b$	$r = 0.52^b$	$r = 0.33^b$	$r = 0.33^b$
Rumination			$r = 0.63^b$	$r = 0.48^b$	$r = 0.47^b$
Catastrophic thinking				$r = 0.4^b$	$r = 0.45^b$
Other - blame					$r = 0.73^b$

<sup>a</sup>Data were analyzed by the Spearman rho test.<sup>b</sup> $p < 0.05$ .

#### 4. Discussion

The results showed that there is a significant positive relationship between depression and anxiety with self - blame, rumination, catastrophic thinking, and other - blame. This finding was in agreement with those of Anderson et al., and Nolen - Hoeksema et al., which showed that self - blame and rumination were directly related to anxiety and depression (20, 21). The explanation for this relationship is that when people are ruminating, they remember their negative memories, negative assessment of their current position, and are more pessimistic about the past than the future. These factors result in anxiety and depression in people (21), although some studies showed that there is no relation between self - blame and psychological distress (22). Also, catastrophic thinking causes frustration and helplessness, which may result in anxiety and depression (23). Also, based on the results from different studies, from negative strategies of emotion regulation catastrophic thinking predicts depression. Garnefski et al., showed that using a catastrophic thinking and rumination in dealing with distressing stress lead to depression (19). These results are consistent with those of the current study that showed catastrophic thinking can predict depression. Also, Garnefski et al., in their study showed that people with depression use negative strategies to regulate emotions, such as rumination and catastrophic thinking to confront unfortunate conditions. These results are consistent with those of the current study that showed catastrophic thinking can predict depression (24). Effective and successful skills of emotions regulation help to prevent and reduce the severity and duration of depression and depressed mood behaviors (25). On the other hand, ineffective strategies of cognitive emotion regulation lead to the reactivation of depressive thought patterns and help to re-emerge depression (26, 27). Anxious and depressed people show lower acceptance of emotions and use negative and maladaptive emotion regulation strategies to a greater extent. People with defective emotion regulation are prone

to various types of anxiety and mood disorders and have lower levels of physical and mental health (28). The application of catastrophic thinking strategy to deal with distress and stress may lead to depression (19). The individuals exposed to inconvenient horrible, catastrophic, or terrible events are more likely to be depressed. This strategy directly affects the individual's emotional state in such a way that in some people it is manifested in the form of a state of irritability and sensitivity to others, depression and sadness in some other cases, and stress and anxiety in others. Therefore, according to the results of the current research, the use of this strategy results in negative emotional consequences and depression in the person.

Also, the results of the current study showed that among the negative strategies of emotion regulation, catastrophic thinking and other-blame can predict anxiety. Rabie et al., showed in a study that catastrophic thinking and rumination can explain 18% variance in the score of general anxiety disorders in children and adolescents (29). However, in the present study catastrophic thinking and other-blame explained 26.6% variance in students' anxiety. The use of less adaptive strategies, such as blaming, catastrophic thinking, and rumination as the significant manifestations of emotions, is significantly correlated with negative emotions such as stress, anger, depression, and anxiety (9, 30). Zlomke and Hahn showed that components of cognitive emotion regulation can predict the variables of worry in male and female students (4). People with anxiety disorders have a major disability in the cognitive regulation of emotions in such a way that lower emotional understanding is the best predictor for the diagnosis of generalized anxiety disorder (12). Since cognition, affection, and behavior interact with one another, cognitive emotion regulation, attention control, and emotional consequences can change the functioning of cognitive systems (such as memory, attention, consciousness) and then, may lead to emotion regulation. Today, the application of emotion in behaviors is emphasized, contrary to primary theories, and the general view is based on the premise that

emotions come into practice before the conduct of behaviors and optimize the individuals' adaptation to the physical and social environment. Emotions stabilize the individual's situation regarding the environment through coordinating the mental, biological, and motivational processes (31); equip the individual with special and efficient responses in harmony with the problems; and, ultimately, cause his/her physical and social survival (32). On the other hand, emotions play an important role in the creation and maintenance of interpersonal relationships by adjusting the distance between individuals; since emotions make us come close together or keep distance from each other (31). Therefore, emotional regulation leads to anxiety reduction in daily life through influencing various aspects.

It seems that negative emotion regulation strategies correlates with anxiety and depression in medical students.

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## Footnotes

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