

## Predicting Obsessive-Compulsive Disorder on the Basis of Emotion Regulation and Anxiety Sensitivity

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### Abstract

**Background:** Emotion regulation and anxiety sensitivity are two psychological components which play important roles in causing anxiety disorders. This study aims at predicting the Obsessive-Compulsive Disorder (OCD) based on the emotion regulation and anxiety sensitivity in university students.

**Materials and Methods:** In this descriptive correlation study, a total of 317 students of University of Mohaghegh Ardabili were selected using available sampling method in 2010-2011 academic year and they were asked to fill out the obsessive-compulsive inventories designed for emotion regulation and anxiety sensitivity.

**Results:** The results of regression analysis showed that reappraisal and anxiety sensitivity are the best indicators of OCD in students.

**Conclusion:** The results indicated that the reappraisal and anxiety sensitivity play a significant role in predicting OCD in students.

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## Introduction

Obsessive-Compulsive Disorder (OCD) is a chronic and debilitating disease which has two aspects namely intrusive thoughts and compulsive behavior. The lifetime prevalence rate of OCD in the general population is estimated at 2 to 3 percent, which is ranked fourth in the most common psychiatric diagnosis after phobia, substance-related disorder and depression [1]. The average age of onset in men tends to be younger than in women; in other words, the onset of OCD usually ranges from 6 to 15 years in males while it ranges from 20-29 years in females. Thus, the incidence of the disease in women is higher than men and women are more susceptible to OCD than men [2].

Emotion regulation and anxiety sensitivity are two psychological factors related to OCD. Emotion regulation is a diverse collection of control processes which are initiated in order to show when, where and how our emotions are experienced or expressed. Emotion regulation includes a set of cognitive processes which occur automatically or deliberately and are applied aim to change or adjust an emotional mode [3]. Auerbach et al. found that individuals with anxiety disorders and depression fail to regulate their emotions [4].

Amstadter showed that there is a positive significant relationship between anxiety disorders and failed emotion regulation [5]. Mennin et al. represented that a weak emotional understanding is the best predictor of social

anxiety disorder regardless of its similarity to generalized anxiety disorder (GAD) and emotional rejection is the best predictor of the social anxiety disorder along with GAD [6].

The second variable studied in this research is the anxiety sensitivity. The anxiety sensitivity is a structure of the personal differences in which patients are afraid of the physical symptoms which are related to the anxiety arousal (e.g. increased heartbeat, asthma, vertigo); generally the disorder is rooted in the belief that these symptoms led to the potential traumatic social, cognitive and physical outcomes [7]. Researches show that the anxiety sensitivity is an important psychological factor in causing the anxiety disorders [8]. Examining individuals with the anxiety disorders (phobia and social anxiety) and depression helped Grant et al. to conclude that the anxiety sensitivity is potentially important in causing and continuing such disorders [9].

Therefore, it can be concluded that both emotion regulation and anxiety sensitivity are two important psychological factors that play important role in causing anxiety disorders. Although the research evidence reveal a relationship between the emotion regulation, anxiety sensitivity and anxiety disorders, no study has so far dealt with the role the two variables may play collectively in predicting OCD. Hence, this study aims at predicting the Obsessive-Compulsive Disorder (OCD) regarding the

emotion regulation and anxiety sensitivity in university students.

### Materials and Methods

It is a descriptive correlation study which is carried out through regression analysis. The population used for this study included all of the students of University of Mohaghegh Ardabili in 2010-2011 academic year, out of which, 330 students were selected through available sampling method (cultural, literal and religious centers, dormitories and restaurant of the university and they filled out the research questionnaires. For the behavioral sciences, the sample size is critical for generalizing the results and usually the correlation studies put the minimum size of sample at 30 subjects [10]. In order to increase the external validity of the study, the minimum size of our sample was considered as large as 330 people. Data gained from 13 subjects were excluded because they have filled out incompletely their questionnaires, so data collected from the remaining 317 subjects were analyzed. In order to observe research ethics and to attract cooperation of subjects, they were initially apprised on the general objectives of the study and then they were asked to answer the questions without mentioning their names. It is necessary to note that people participated in this project were completely enthusiast to take part in this study, and the subjects were assured that their information will keep confidential and the results will issue in group and statistically rather than individually. The research was provided with three types of questionnaires:

1) Maudsley Obsessive Compulsive Inventory (MOCI), which has been designed for appraising obsessive phenomena and includes 30 questions which are shortly answered with Yes/No. it has been designed so that a completely obsessive person will be convinced to answer half the questions with positive answers and another half with negative ones. Using the factor analysis, Hodgson and Rachman achieved four following subgroups: checking, washing, slowness and repetition, doubting-conscientiousness. The inventory has been also used under either the framework of the clinical studies or in ordinary populations. The inventory’s total score ranges varies between 0-30 [11].

2) The Emotion Regulation Questionnaire (ERQ) provided by Gross and John. The ERQ which is composed of 10 items includes two subscales namely

cognitive reappraisal and expressive suppression. The 10 items are rated on a 7-point Likert scale from strongly disagree (1) to strongly agree (7). The reported reliabilities for the cognitive reappraisal and expressive suppression were 0.79 and 0.73, respectively [12].

3) Anxiety Sensitivity Index (ASI) is a self-report inventory which consists of 16 items which are rated on a 5-point Likert scale from very little (0) to very much (4). The test-retest reliabilities after 2 weeks and three years were 0.75 and 0.71 respectively which indicates that ASI is a sustainable personality structure [8]. SPSS ver. 16 and Pearson’s correlation coefficient and regression analysis, (level of alpha significance: 0.05) were used to analyze data.

### Results

69.4% of subjects (220 people) were men and 30.6% of them (97 people) were women; 91.8% (291 people) were single and 8.2% (26 people) were married; 1.9% (6 people) were students of associate degree course, 59.3% (188 people) were undergraduate, 36.9% (117 people) were postgraduate, 0.6% (2 people) were PhD students and 1.3% (4 people) had not specified their degree course. Likewise, the mean value and standard deviation of age of the subjects were 23.23±4.28 years.

The results of Pearson’s correlation showed that there is a significant relationship among reappraisal and washing ( $p=0.001$ ), slowness and repetition ( $p=0.001$ ), general OCD ( $p=0.001$ .) and also among the anxiety sensitivity and washing ( $p=0.036$ ), slowness and repetition ( $p=0.003$ ), checking ( $p=0.017$ ), doubting ( $p=0.022$ ) and general OCD ( $p=0.008$ ). But, no significant relationship was obtained among reappraisal and checking and doubting and also between expressive suppressing and the criterion variables.

The results of multiple regression analysis showed that the reappraisal and anxiety sensitivity explain the variance of OCD (0.062), ( $R=0.260$ ,  $R^2=0.068$ ,  $Adj.R^2=0.062$ ). Regarding the coefficient of determination, 0.068, 6 percent of variations of the OCD depend on variations of emotion regulation and anxiety sensitivity. Regarding the beta values and significance level, cognitive reappraisal ( $p=0.001$ ) and anxiety sensitivity ( $p=0.02$ ) are able to predict OCD variations significantly in students.

**Table 1:** Mean values, standard deviation, and correlation coefficients of the studied variables

Variables	M	SD	1	2	3	4	5	6	7	8
reappraisal	29.57	7.2	1							
suppression	15.15	4.98	0.13*	1						
anxiety sensitivity	20.88	10.34	-0.13*	0.11*	1					
general OCD	24.59	2.58	-0.23**	0.041	0.15*	1				
Washing	5.78	1.79	-0.21**	0.024	0.12*	0.83**	1			
slowness and repetition	4.12	0.99	-0.20**	0.046	0.17**	0.62**	0.32**	1		
checking	8.18	0.62	0.021	0.05	0.13*	0.28**	0.038	0.029	1	
doubting	6.49	0.7	-0.022	0.018	0.13*	0.34**	0.006	0.15**	0.31	1

\* $p < 0.05$  \*\* $p < 0.001$

## Discussion

In this study, a negative relationship was found between the reappraisal and washing, slowness and repetition and OCD and according to the results of regression the effect value of reappraisal on OCD is -0.21. The result is consistent with previous results showing the effect of emotion regulation in expressing anxiety disorders [4-6]. To explain this finding, it should be said that the ability to understand and to regulate emotions is one of the success principles of life, and that failure in regulating emotions may bring about negative outcomes such as OCD. The cognitive reappraisal includes managing your and others emotions which enhances people's adaptability and organizing potential in the provoking condition. Thus, anybody who is able to manage their emotions can experience or prevent from emotions without any internal or external constraints. In contrast, an individual whose ability to manage their emotions is undeveloped, cannot experience emotions or avoid them under external and internal constraints, so they will suffer from the anxiety disorders including OCD. Likewise, this finding can confirm the previous ones which indicated a relationship between the reappraisal, as emotion regulation strategy, and psychological distress [13]. Since emotions are socially useful and can be constructive in transferring others' feelings, making social interactions, maintaining and finishing relations with others, regulating them can play effective role in healing anxiety disorders.

The results indicated that there is a positive relationship among anxiety sensitivity and washing, slowness and repetition, checking, doubting and OCD and according to the results of regression analysis, the effect value of anxiety sensitivity on OCD is 0.12. This result is consistent with the previous ones which stated that high anxiety sensitivity is a risk factor in causing anxiety disorders. The anxiety sensitivity cause various types of cognitive protections against the menaced stimuli and also increases attention to the related menacing stimuli and increases awareness level of internal or external understood stimuli. Hence, people with high anxiety sensitivity understand the menacing stimuli more than normal people and show further avoidance and coping

behaviors [14]. For instance, as a result of high anxiety sensitivity, people with checking type of OCD, feel more threat and will try to show more avoidance behaviors, thus their checking behavior will be increased accordingly. Generally, our results indicate a significant relationship among the anxiety sensitivity, emotion regulation and OCD and also cognitive reappraisal and anxiety sensitivity can predict significantly the OCD in university students. Therefore, examining the role and importance of emotion regulation and anxiety sensitivity in expressing OCD in students is highly recommended, because it can be useful for Student Consulting Center in decreasing OCD symptoms through considering variables and the related treatments (e.g. treatment based on emotion regulation strategies). Similarly, conducting further studies using various samples (clinical subjects with OCD) may provide stronger evidence to approve the emotion regulation and anxiety sensitivity in predicting OCD.

The appraisal of OCD, emotion regulation and anxiety sensitivity based on the self report of subjects, which may be biased, are among the limitations of this study. Another limitation is related to the sample group which takes caution in generalizing the results to the external subjects.

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## Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

## Conflict of Interest

The authors declare no conflict of interest.

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