

RESEARCH ARTICLE

# THE RELATIONSHIP BETWEEN EMOTION DYSREGULATION WITH OBSESSIVE COMPULSIVE DISORDER REGARDING GENERALIZED ANXIETY DISORDER SYMPTOMS

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## Abstract

**Objectives:** Obsessive-compulsive disorder is one of the most common psychiatric disorders that cost a lot for the patient and the community. An important factor that is supposed to be associated with severity of OCD symptoms is emotion dysregulation. Thus, the purpose of this study was to examine different aspects of emotion dysregulation on the severity of OCD symptoms. **Methods:** It was a descriptive-correlational study. 477 students of universities of Tehran were selected and completed Difficulties in Emotion Regulation Scale (DERS), Acceptance and Action Questionnaire (AAQ-II), Perseverative Thinking Questionnaire (PTQ), Obsessive-Compulsive Inventory Revised (OCI-R), Generalized Anxiety Disorder assessment (GAD-7) and negative affect subscale of (PANAS). Data was analysed by Pearson correlation, multiple hierarchical regression analysis and ANOVA. **Results:** The result shows that among different aspects of emotional regulation, impulse control difficulties and experiential avoidance predict the severity of OCD even after elimination of high levels of GAD and controlling of negative affect. In addition, participants with heightened GAD symptoms had significantly higher scores on Goal-directed behaviour and limited access to emotion regulation strategies than participants with heightened OCD symptoms. **Conclusion:** Our findings suggested that emotion dysregulation explains partial contribution of the psychopathology of OC symptoms in nonclinical people. However, in clinical condition it would be a considerable factor that mediates levels of severity, likewise other, emotion disorders. Future research will be needed to examine preventive and therapeutic role of emotion regulation in obsessive-compulsive symptom dimensions. *ASEAN Journal of Psychiatry, Vol. 22 (3): May 2021: 1-12.*

**Keywords:** Emotion Regulation, Repetitive Thinking, Obsessive-Compulsive Symptom Dimensions, Comorbidity

## Introduction

There is a considerable literature which has grown up around the theme of the role of emotion regulation in mental health. Gross

defined emotion regulation as "the processes by which individuals influence which emotions they have, when they have them, and how they experience and express them"[1]. According to Gratz and Roemer, identifying, understanding

and acceptance of emotions, and deployment of efficient emotion regulation strategies, impulse control and continuing the goal directed behaviors in facing intense emotions count as effective emotion regulation [2].

Also, sequential studies posit that emotion dysregulation plays a critical role in the development and maintenance of emotional disorders [3-6], in recent years, researchers have shown an increased interest in the role of emotion dysregulation in obsessive compulsive disorder. OCD patients considered intrusive thoughts as a process that potentially has negative and salient consequences. In order to reduce the distress caused by these thoughts, they put a lot of effort to decrease negative emotions. In a vicious cycle, suppressing intrusive thoughts and avoidance from negative emotions result in less self-confident in toleration and effective emotional management.

So, they are more likely to engage in ineffective strategies such as compulsions, that prevent them from experiencing these painful emotions and prevents new adaptive learning [7]. This model is consistent with conditioning models of obsessive-compulsive disorder which proposed that intrusive thoughts associated with increased anxiety and distress. If the patient is allowed to perform the rituals, the pain and discomfort will decrease almost immediately.

And if the rituals are delayed, the grief and sorrow will last a little longer (spontaneous decline) and when a person refuses to perform rituals, the next step will be less anxiety. However, performing rituals thwart this achievement [8]. Compared to other emotional disorders, although evidence and theories point the important role of emotional dysregulation in obsession, less attention has been paid to this issue. In initial study of emotion regulation and obsessive-compulsive symptoms in non-clinical population, stern et al revealed that poor understanding and fear of negative and positive emotions associated with OC symptom [9]. According to the Fergus and Bardeen examination, expressive suppression, impulse control difficulties, and emotional clarity predict obsessive-compulsive symptom severity [10].

Same result was obtained from Berman et al. [11]. The endophenotype of emotion dysregulation in OCD was examined in two recent studies. Even though, in one examination, [12] it was showed that sibling of OCD patients compared with healthy control had increased activation in dmPFC, fronto-parietal and temporal areas [13], subsequent examination demonstrated that based on f-MRI data emotion regulation is not a strong endophenotype for OCD.

It seems that, in the literature on OCD, the relative importance of emotion regulation is debated and has not dealt with it. Most studies in this field did not consider the comorbid symptoms. So, the current investigation seeks to determine to what extent emotion dysregulation related to OC symptoms, while the role of generalized anxiety symptoms (a disorder that highly associated with emotion dysregulation facets). The second aim of this research is to identify most significant ED factor in high levels of OC symptoms. This study assesses the role of experiential avoidance as dysfunctional emotion regulation strategy that assists in avoiding discomfort emotion, [14]. Perseverative thinking is examined, as well; as it is a form of failure to regulate effective emotion [15,16] and which related to OC distress [17]. This paper has been divided into two parts. The first part deal with assess unique association of emotion dysregulation factors and OC symptoms, in participants with low GAD symptoms, and the second part focus on comparing heightened OC symptoms and heightened GAD symptoms participants on emotion dysregulation factors.

## **Methods**

This correlational research was done within a three-month period in two universities in Tehran, Iran.

### *Participants*

500 students were recruited for this study. 23 people left more than 10% of the questionnaires blank excluded from the study. The sample consist of 477 participants, 53.3% male and were

aged between 19 and 49 (mean=22.51, SD=3.16).

### *Measures*

Difficulties in Emotion Regulation Scale (DERS); a 36-item self-report questionnaire that measures emotion dysregulation patterns. Higher scores demonstrate greater problems in regulating emotions. Nonacceptance of emotional responses, difficulty engaging in Goal-directed behavior, impulse control difficulties, lack of emotional awareness, [18] limited access to emotion regulation strategies, and lack of emotional clarity are its six subscales. Items can be responded ranging from 1 to 5, (1: Almost never, 2: Sometimes, 3: About half the time, 4: Most of the time, and 5: Almost always). Psychometric properties of the scale in original study follow: Cronbach's $\alpha$ =.93; test-retest reliability=.88. And in the current study follow: Cronbach's  $\alpha$  for 36 items=.90, and its 5 subscales ranged from .76 to .86[2].

Perseverative Thinking Questionnaire (PTQ);The PTQ is a 15-item scale that consists three subscales: core characteristics of repetitive thinking (9 items; e.g., "I can't stop dwelling on them."), unproductiveness (3 items, e.g., "My thoughts are not much help to me"), and RNT capturing mental capacity (3 items, e.g., "My thoughts take up all my attention"). The score of items can be varied 0 to 4. The original version of PTQ in German population [19,20]. and its Persian version in Iranian sample has good psychometric properties (21). In the current study, PTQ internal consistency was .93.

Acceptance and Action Questionnaire-II (AAQ-II); it is a 10-item measure of psychological inflexibility or experiential avoidance. Students answered the items using a seven-point Likert scale (ranging from 1: Never true to 7: Always true). Higher scores suggest greater levels of experiential avoidance. The mean alpha coefficient of the AAQ-II is .84 and its stability, during 3 and 12 months is .81 and .79, respectively [21]. The participants filled out the measure and its internal consistency was 82.

Obsessive-Compulsive Inventory-Revised (OCI-R); Foa et al. provided this scale to assess OCD symptoms severity, in clinical and non-clinical population. This scale covered six subscales (washing, checking, ordering, obsessing, hoarding, and neutralizing) that each has three items that are scored from 0 to 4. Foa et al. based on empirically supported evidences, suggest cutoff score of 21 for the OCI-R total score as an indicator of the likely presence of clinical OC symptoms. Internal consistency of the subscales was ranged from .77 to .88 and its stability was reported .76 [22]. In this study, alpha coefficient was ranged from .6 to .78.

The Generalized Anxiety Disorder Scale (GAD-7); The GAD-7 is a short and fast instrument to screen and assess the severity of generalized anxiety symptoms. By a four-point Likert scale (ranging from 0: Not at all to 3: Early every day), it measures how often the responders experience symptoms of GAD, during two last weeks. Spitzer et al., identified a score  $\geq 10$  as the optimal cut-off point to diagnosis of GAD. Psychometric properties of this instrument in different settings, including English, Spanish, and Persian populations [23] have been revealed. Cronbach's  $\alpha$  for GAD-7 was high ( $\alpha$ =.83), in this research.

Positive and Negative Affect Schedule- negative affect subscale; this subscale is a 10-item, self-report scale for measuring aspects of negative affect [24,25]. Items are graded from 1 to 5. In the initial study has demonstrated that the scale has high internal consistency and appropriate level of stability. In this sample, Cronbach's  $\alpha$  is calculated [26-29].

### *Procedures*

Students frequently were found in libraries, campus and dormitories of universities of Tehran, Iran. When the participants were invited, the purpose of the research was clearly explained to them. Those who agreed to participate in the study first filled out an informed consent form and then, the six questionnaires. There is a body of research that corroborates the role of emotion

dysregulation on GAD and high levels of anxiety [30,31]. Therefore, aiming to test the first hypothesis and in order to minimize the likelihood that heightened anxiety would be a confounding factor in the relationship between OCD symptoms and emotion regulation variables. Data from 357 cases whose scores in GAD-7 were below 10 were analyzed. And for the second hypothesis, two 30-case groups-analog OCD and analog GAD-were formed, by using the cut-off scores of OCI-R and GAD-7. Those participants with high scores and those with low ones in both scale, did not enter the further analysis. The analog OCD group received a score between 30 and 45 in OCI-R and a score between 1 and 6 in GAD-7 questionnaire. On the other hand, the score of the analog GAD group in the OCI-R was between 0 and 20 and in GAD-7 was between 10 and 21. Ethical approval was obtained from Ethical Review Board of University of Social Welfare and Rehabilitation Sciences, Tehran, Iran [32,33].

*Data analysis*

Statistical analysis was performed using IBM SPSS statistics 22. Multivariate normality was

checked with skewness and kurtosis [34,35]. All items in the sample showed normality. In addition to descriptive statistics, Pearson correlation coefficient and hierarchical regression analysis were utilized to examine the relationship between components of emotion dysregulation and OCD symptoms. Last but not least, independent-samples t-tests were conducted to compare repetitive thinking, experiential avoidance and emotion dysregulation in the analog OCD and GAD groups [36].

**Results**

*Descriptive statistics*

Descriptive statistics of all variables are showed in (Table 1). All the questionnaires indicated sufficient internal consistency in this research. Except one subscale of DERS, "Lack of emotional awareness" that was omitted from the analysis, due to its weak alpha coefficients ( $\alpha=.30$ ).

**Table 1. Descriptive Statistics**

	<b>Mean</b>	<b>Standard deviation</b>	<b><math>\alpha</math></b>
Gad-7	4.98	2.53	0.83
Negative affect	30.13	4.62	0.61
OCI-R	19.58	10.26	0.88
Checking	2.89	2.11	0.6
Ordering	4.3	2.68	0.78
Neutralizing	1.91	2.1	0.66
Obsessions	4.1	2.45	0.76
Hoarding	3.88	2.27	0.65
Washing	2.51	2.36	0.72
PTQ	22.87	11.12	0.93
AAQ-II	31.07	9.37	0.82
Nonacceptance	13.31	5.11	0.86
Goals	15.06	4.31	0.81
Impulse	14.66	4.6	0.81
Strategies	18.05	5.96	0.86
Clarity	11.11	3.49	0.75
DERS	70.06	17.98	0.9

*Relations between OC symptoms and aspects of emotion dysregulation*

Approximately, all measures (PTQ, AAQ-II and DERS and its subscales) were significantly associated with various symptoms of OC (see Table 2). Most of the correlation coefficients indicate moderate magnitude (range  $r$ 's=.20 to .54). Negative affect was associated with all OC symptoms, except "neutralizing" and "washing". Repetitive thinking (PTQ) was related to all symptom, also its relation with "obsession" was most strong [37,38]. This condition also applied to experiential avoidance (AAQ-II). Although

DERS and total OCI-R have a moderate correlation ( $r$ =.38), relationships between their subscales were estimated too weak to moderate. "Limited access to emotion regulation strategies", "nonacceptance of emotional responses and "Impulse control difficulties" were all significantly associated with heightened distress related to OC symptoms. There was no support for a significant correlation between "difficulty engaging in Goal-directed behavior" and "ordering" and "neutralizing" symptoms and between "lack of emotional clarity" and "ordering" [39,40].

**Table 2. Correlations among Oc Symptoms and Aspects of Emotion Dysregulation**

	OCI-R	Checking	Ordering	Neutralizing	Obsessions	Hoarding	Washing
Negative Affect	.23**	.20**	.16**	0.1	.23**	.20**	0.09
PTQ	.33**	.21**	.13*	.10*	.54**	.36**	.11*
AAQ-II	.39**	.29**	.17**	.18**	.53**	.37**	.19*
Nonacceptance	.33**	.22**	.14**	.20**	.45**	.29**	.15**
Goals	.21**	.11*	0.07	0.01	.36**	.26**	.12**
Impulse	.32**	.21**	.11*	.19**	.44**	.29**	.18**
Strategies	.35**	.26**	.11*	.16**	.50**	.37**	.15**
Clarity	.25**	.16**	0.04	.19**	.33**	.20**	.16**
DERS	.38**	.25**	.12*	.19**	.51**	.36**	.20**

Note:  $N=357$ , \*:  $p < .05$ , \*\*:  $p < .01$ , \*\*\*:  $p < .001$

*Unique associations*

Before data analyzing, multivariate outliers were identified based on Mahalanobis distance. Aligned with the assumption of singularity, no independent variable (IV) associates with others. IVs correlation coefficients ranged from  $r$ =.26 to  $r$ =.68. Hierarchical regression analyses were employed to test whether each emotion dysregulation variables shared unique variance with OC symptoms, independent of the role of negative affect. In order to test this hypothesis, while total score of OCI-R serving as the criterion variable, negative affect was entered into Stage 1 and PTQ, AAQ-II and the DERS

subscales were entered into Stage 2 of a regression model. The outcome of the two models is found in (Table 3). In stage 1, it is indicated that negative affect contributed significantly to the regression model ( $F=19.81$ ,  $p < .001$ ), and accounted for 5% of the variation in OCI-R score. In stage 2, Adding PTQ, AAQ-II and DERS subscales to the regression model explained an 19% of the variation in OCI-R and this change in  $R^2$  was significant,  $F=11.41$ ,  $p < .001$ . After including all eight IVs in the regression model, negative affect was not a significant predictor OCI-R score. The only predictors of OCI-R score were AAQ-II and "Limited access to emotion regulation strategies"

which explained 22% and 15% of the variation of OCI-R score, respectively [40,41].

**Table3. Regression Results Examining Unique Associations between Repetitive Thinking, Experiential Avoidance and Emotion Regulation And Obsessive–Compulsive Symptoms**

Variables	B	SE (B)	β	B	SE (B)	β	R	R <sup>2</sup>	ΔR <sup>2</sup>
Stage 1							0.23	0.05	0.05
Negative Affect	0.51	0.11	.23***						
Stage 2							0.45	0.2	0.19
Negative Affect				0.21	0.11	0.05			
PTQ				0.1	0.06	0.1			
AAQ-II				0.24	0.07	.22**			
Nonacceptance				0.19	0.13	0.09			
Goals				-0.32	0.16	-0.13			
Impulse				0.33	0.16	.15*			
Strategies				0.06	0.14	0.04			
Clarity				0.04	0.17	0.01			

Note. N= 357 \*p < .05, \*\*p < .01, \*\*\*p < .001

*Comparing levels of emotion dysregulation, the analog OCD group and analog GAD group*

Scores of analog OCD group and analog GAD group were compared through independent-samples t-tests (Table 4). As a result, analog

GAD group had significantly greater difficulties in impulse control [42]. Additionally they reported significantly less access to emotion regulation strategies. Nonetheless, in the others they did not differ from analog OCD group [43,44].

**Table 4. Comparison of Mean Scores on Emotion Dysregulation Measures**

Measures	Analog OCD (n = 30)		Analog GAD (n = 30)		df	t	p
	Mean	SD	Mean	SD			
AAQ-II	35.27	7.82	34.2	9.41	58	0.48	0.63
PTQ	25.84	9.26	28.59	9.62	58	-1.12	0.26
Nonacceptance	15.67	4.92	15.75	5.09	58	-0.05	0.95
Goals	15.06	4.2	17.66	4.15	58	-2.4	0.01
Impulse	15.84	4.67	16.8	3.87	58	-0.85	0.39
Strategies	19.24	6.25	22.88	4.81	58	-2.52	0.01
Clarity	11.56	2.21	11.92	3.22	51.37	-0.49	0.61
DERS	95.48	16.67	101.82	13.96	58	-1.59	0.11

## **Discussion**

The main purpose of this paper is to clarify the relationship between emotion dysregulation aspects and OC symptom. In accordance with previous studies, the outcomes of this investigation evidence that deficiency in effective emotion regulation associated with OC symptoms. Obsession had moderate and the strongest correlation with repetitive thinking, experiential avoidance and five aspects of difficulties in emotion regulation [45,46]. But other symptoms weakly to moderately correlated with emotion dysregulation factors. This result is consistent with those of Fergus and Bardeen and Stern et al.. Furthermore, it accords with observations of which demonstrated reducing repetitive thinking and suppression accompanied reducing OC symptoms [47].

The most interesting finding was that approximately emotion dysregulator is not a strong predict OC symptoms severity. Among the five aspects of difficulties in emotion regulation, impulse control difficulties alongside experiential avoidance, was the poor predictor of OC severity. These results matched those observed in Fergus and Bardeen study; except that they found emotional clarity as a facet of emotion regulation that shared unique associations with OC symptoms [48].

It seems possible that these results are due to the excluding participants with high scores in GAD from analyzing. More than any other psychiatric disorder, obsessive-compulsive disorder is most commonly associated with anxiety disorders, including GAD [49,50]. And numerous studies highlight the role of emotional dysregulation in pathological worry and generalized anxiety disorder. Thus, the observation of emotional dysregulation in obsessive-compulsive patients may be explained by the presence of accompanying high levels of pathological anxiety, not by OC symptoms. Further studies, especially experimental research that comprise OCD patients and control group can confirm or decline this claim [51].

Not only anxiety disorders, but also other psychiatric disorders that are highly comorbid

with OCD, somehow related to emotional dysregulation. Major depressive disorder, bipolar mood disorders, trauma-related disorders, somatic symptoms, substance use disorders are among the ones that correlated with OCD [52,53]. More studies are demanded to reveal the part of comorbid condition in relationship between OCD and emotion dysregulation [54].

Although these findings are in agreement with Thorsen et al. finding which showed emotion regulation does not represent a strong endophenotype in obsessive – compulsive disorder, they differ from those that showed emotion regulation difficulties had a salient role in OC severity [55,56].

These results may assist us in understanding how emotional, cognitive or behavior avoidance can effect on and maintenance OC symptoms, even in nonclinical population. In accordance with conditional model of OCD, in confronting an OC situation, a patient tends to avoid their emotions by resorting to an impulsive behavior. Consequently, they are not exposed to their emotion and do not learn how to tolerate or reduce the negative emotion efficiently, even if the person has access to emotion regulation strategies. It can be deduced from these results that maybe because of other factors such as intolerance of ambiguity and intolerance of distress, compulsive behaviors are the first and only choice [57,58]. This speculation would be truer for washing, checking, hoarding and obsession symptoms rather than for neutralizing and ordering. Contrariwise, it is possible these symptoms serve personal goals [59].

The last finding suggested that in congruence with transdiagnostic postulation, emotion regulation is a common factor among GAD and OCD. State that people with generalized anxiety disorder use Anxiety and worry to avoid emotional processing; so, emotion regulation skills deficits would be known as the main problems occur in these patients [60]. In the same way, compulsive behaviors prevent emotional processing. Nevertheless, it seems that GAD patients had greater difficulties in engaging in goal-directed behaviors and approaching functional emotion regulation strategies. These

differences can be explained in part by the nature of psychopathology of GAD and OCD. Nearly continues worry and physiological symptoms interferes with daily function and Goal-directed behaviors. People who cannot effectively manage and regulate emotional responses to daily events, experience longer and more intense periods of distress and may turn into significant anxiety and depression disorders. This outcome has not previously been described, but is consistent with Davoodi et al. work. Due to these results came from the non-clinical population, we must be cautious in our conclusions.

### **Conclusion**

This project was undertaken to examine the role of emotion dysregulation in obsessive – compulsive symptoms severity. The results contribute to our comprehending of the conceptualization of OCD based on emotion regulation theories. In summary, this research is not contrary to emotion regulation models. Still, other factors can take precedence over emotion regulation in psychopathology of OCD, for instance cognitive distortions, behavioral avoidance and metacognition factors (thought control, thought fusion, etc.). As CBT, ERP and MCT are the empirical supported treatments for OCD. At last, presumably between the range of mild to moderate conditions of OC symptoms, emotion dysregulation have less weight, and maybe suppression and avoidance in this condition do not interfere with person's function, whereas in moderate to severe form, serious emotion dysregulation may lead to higher levels of the disorder, anxiety and depression comorbidities, more repetitive and intrusive thinking that suppression is no longer useful. Dimensional models of the latent structure of all OC symptoms, may consist with this conclusion. This conclusion will be of interest to the researchers working on OCD psychopathology and interventions.

The presented paper has also faced some limitations. The major limitation of the present investigation is using limited questionnaires, which does not allow for a precise and comprehensive conclusion. Sampling from students makes these findings less generalizable.

Several questions still remain to be answered: Whether OCD patients with and without emotional disorders comorbidities differs in emotion regulation function and whether emotional factors like emotional schemas, including emotional inhibition explained OC symptoms. Considerably, more work will need to determine emotion dysregulation factors in subgroups of OCD. Examining effectiveness of emotion regulation techniques and interventions and comparing them with evidence – based interventions for OCD, would be fruitful area for future works.

### **Highlights**

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- Emotion regulation is a common factor among OCD and GAD
- Emotion dysregulation is not a strong predict OC symptoms severity unlike GAD
- Some aspects of emotion regulation such as impulse control difficulties and experiential avoidance predict the severity of OCD.

### **Plain Language Summery**

Obsessive-compulsive disorder (OCD) is a common and debilitating disorder. One of the factors that correlate with OCD is emotion dysregulation. It is important to identify the aspects of emotional regulation and the relationship between the aspects with obsessive-compulsive disorder, which can be used to treat and prevent OCD. Given that generalized anxiety disorder is often accompanies obsessive-compulsive disorder, we want to see which aspects of emotional dysregulation are most closely associated with generalized anxiety symptoms and which ones are associated with OD symptoms.

### **Ethical Considerations**

#### *Compliance with ethical guidelines*

This study was approved by the research ethics committee of the University of Social Welfare and Rehabilitation Sciences, Tehran, Iran (IR.USWR.REC.1395.164). To follow the ethics,

consent forms were obtained from all participants and only individuals who were desired were enrolled in the study. It was explained to all participants that the intervention is due to a clinical research project

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### **Author's contributions**

F.M and M.K designed the first framework and analyzed the data. M.K carried out the implementation. F.M. conducted the calculations. F.M and M.K wrote the manuscript.

### **Conflict of interest**

The authors declared no conflict of interest.

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