

# Investigating the relationship between feeling guilty and thought-action fusion by mediating obsessive-compulsive disorder and scrupulosity

Saman Abdollahzadeh Davani<sup>1</sup>, Mehdi Imani<sup>2\*</sup>

<sup>1</sup>MA in Clinical Psychology; Department of Clinical Psychology, Shiraz University, Shiraz, Iran. <sup>2</sup>Assistant Professor, Department of Clinical Psychology, Shiraz University, Shiraz, Iran.

**Correspondence:** Mehdi Imani, Assistant Professor, Department of Clinical Psychology, Shiraz University, Shiraz, Iran. Email: dr.mahdiimani@gmail.com

## ABSTRACT

**Introduction:** Obsessive-compulsive disorder (OCD) is one of the most common psychiatric disorders in today's society and specific beliefs of people about this disorder are related to the structures of scrupulosity, thought-action fusion (TAF), and feeling guilty. The purpose of this study was to investigate the relationship between feeling guilty and thought-action fusion by mediating obsessive-compulsive and scrupulosity among obsessive-compulsive patients. **Method:** The method of this study was path analysis. The population of this study was 35 patients with obsession and 35 normal subjects who were chosen through the purposive sampling method. After the diagnosis of their psychiatric disorder, the participants completed the Persian version of a 4-scale self-report questionnaire (thought-action fusion questionnaire, scrupulosity questionnaire, feeling guilty questionnaire, and Maudsley obsessive-compulsive scale). **Results:** The findings showed that (1) feeling guilty by mediating scrupulosity has a significant indirect effect on thought-action fusion in patients with obsession; (2) feeling guilty by mediating obsessive-compulsive has a significant indirect effect on thought-action fusion in patients with obsession. **Discussion:** It seems that feeling guilty along with scrupulosity and obsessive-compulsive can lead to thought-action fusion, and increases nonsense beliefs (likelihood and moral thought-action fusion) in people with obsession.

**Keywords:** Obsessive Compulsive Disorder, Scrupulosity, Guilt, Thought-Action Fusion

## Introduction

OCD is a common devastating mental disorder characterized by obsession and compulsion. Obsessions and compulsions are time-consuming (more than one hour a day) and lead to a significant disturbance and discomfort in social and occupational functions and other important areas of the individual's life [1]. According to studies conducted in the West, the cognitive theory claims that

obsessive-compulsive symptoms are developed and established by a series of ineffective beliefs (such as inflated responsibility and thought-action fusion) [2]. People with OCD believe that unsolicited thoughts are very important, have a specific significant meaning personally, and usually, these people interpret such thoughts catastrophically (My thoughts about bothering a child make me a terrible person). This intense desire to get serious unsolicited thoughts in OCD patients often occurs as thought-action fusion. Thought-action fusion includes two types of beliefs:

Type I: Likelihood Thought-Action Fusion: one believes that unconscious thoughts with negative consequences (especially damaging thoughts) can directly increase the likelihood of their occurrence (if a person has thoughts about his mother's death by a car accident, the likelihood that his mother would die by a car accident will increase).

Type II: Moral Thought-Action Fusion: one believes that unsolicited thoughts (especially thoughts with sexual content and

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violence) are morally equal to the real situation in which that forbidden action happens (thinking about a vicious gesture against people is just as bad as actually doing it, or having a blasphemous thought is as guilty as doing it really) [2].

Rachman states that people with thought-action fusion experience more unsolicited thoughts, become more distressed, and need more to neutralize that thought [3]. However, thought-action fusion is similar to judgment about moral responsibility on individual thoughts, such as the structure which is examined in religion [4]. Religion (for instance, scrupulosity) is an issue that has been studied in obsession. Common scrupulosity includes repeatable doubts which usually have contents of being guilty, accidentally doing something contrary to moral rules, unsolicited insults and desecrations, having blasphemous thoughts and images, fear of not doing prayer or religious ritual in the right way, and sustained fear of endless punishment by God. Common religious coercions include extreme praying, repeating religious duties until it is done excellently, and looking for successive assurance on behalf of a spiritual person or someone aware of religious issues. Based on the cognitive-behavioral view, it can be stated that scrupulosity can be a vulnerable factor for OCD [5].

In many common religious beliefs, feeling guilty about committing sins can be relieved by admitting ritual ceremonies (repent). Religion can be associated with OCD by mediating feeling guilty. Based on the general definition of self-blame and regret for doing something contrast to moral rules, feeling guilty plays a vital role in the genesis and sustainability of obsession.

Various studies have talked about the relationship between variables. For instance, Gonzalez, Alvarez, Montes, Garcelan, and Fernandez concluded that special beliefs such as thought-action fusion can lead to the complexity of metacognitive beliefs and finally lead the person to develop symptoms of OCD. Another study in China showed that likelihood thought-action fusion can justify the relationship between extreme responsibility and OCD symptoms as a mediator variable Zhu *et al.* [2]. The finding results of Jones and Bhattacharya in 2014 showed that the likelihood thought-action fusion rate is higher in patients with severe symptoms of OCD than those with milder symptoms. In research done in the US between Christians and Jews, researchers found that moral thought-action fusion is associated with obsession symptoms and religiosity [4]. In another study conducted to compare Muslims and Christians in Turkey and Canada, researchers found that obsessive beliefs, feeling guilty, and thought control are associated with scrupulosity and somehow they predict it [7]. Witzig Jr. and Pollard found that scrupulosity has a positive and negative correlation with obsessive beliefs, and religious commitment, and psychological well-being, respectively [8]. In a study done in Shahid Chamran University of Iran by Bassaknejad, Zargar, and Hatami Sarbazeh, it is found that cognitive-behavioral treatment is effective in decreasing thought-action fusion, feeling guilty, and thought suppression [9]. Melli, Carraresi, Poli, Marazziti, and Pinto found that there is a weak but significant association between the adjective of sin and responsibility for risk and mistake, and also unacceptable obsessive thoughts [10].

According to the above-mentioned theories and researches, the purpose of the present study is to investigate the relationship between feeling guilty, OCD, and scrupulosity in thought-action fusion.

## Research Method

The population studied in this research was OCD patients and normal subjects. For review and analysis of each group, 35 subjects were chosen by purposive sampling method. The obsessed group consisted of 12 men (34.3%) and 23 women (65.7%) and most of them were married (80%) and had a B.A degree from a university (40%). The normal group consisted of 20 men (87.1%) and 15 women (42.9%) and most of them were married (71.4%) and had a B.A degree from a university (40%). All subjects voluntarily participated in this study and they were asked to complete the Persian version of a 4-scale self-report questionnaire (thought-action fusion questionnaire, scrupulosity questionnaire, feeling guilty questionnaire, and Maudsley obsessive-compulsive scale).

## Research Instruments

1. Thought-Action Fusion Scale is a 19-question instrument which is based on the five-point Likert scale and measures the psychological thought-action fusion of people in the below 3 subscales:

1. Moral thought-action fusion (having a blasphemous thought is as guilty as doing it really);
2. Likelihood thought-action fusion – for others (thinking about losing one's job will increase the likelihood of that person's unemployment);
3. Likelihood thought-action fusion – for self (thinking about my illness will increase the likelihood of becoming ill).
4. The Cronbach's Alpha of this study is 0.53, 0.56, and 0.58 for moral thought-action fusion, likelihood thought-action fusion– for others, and likelihood thought-action fusion – for self, respectively.

2. The Scrupulosity Scale was designed by Jonathan S., David F., and Shawn P. in 2001. This scale has 19 questions (the five-point Likert scale) and observes scrupulosity in the context of OCD. The subscales of this variable include fear of committing a religious sin (fear of guilt) and fear of punishment by God (fear of God). The Cronbach's Alpha of this study is 0.56 and 0.53 for fear of guilt and fear of God, respectively.

3. Feeling Guilty Scale was designed, completed, and modified by Kugler and Jones between 1988 till 1992. This questionnaire consists of 45 items and 3 subscales:

1. The attribute of guilt means sustainable feeling guilty in any situation (since I remember feeling guilty and regret is one part of my life, I often regret and hate myself for what I did);

2. The mode of guilt means feeling guilty in the present time which is based on recently occurred disobedience and mistake;
3. The moral standards mean a commitment to moral rules and special beliefs without any specific source.
4. The calculated Cronbach's Alpha for feeling guilty in this study is 0.53.

4. The Moudsley Obsessive-Compulsive Scale consists of 30 true/false questions that investigate obsessive symptoms such as inspection and control, washing, doubt, and slowness in action. Each question gets one core, so the total score is between 20 -30 and a higher score shows the severity of symptoms. The calculated Cronbach's Alpha for checking, washing, doubt, slowness, and repetition are 0.58, 0.73, 0.72, and 0.52, respectively.

### Procedure

For this purpose, the referrals to consulting centers were clinically interviewed and they were chosen for this study after diagnosis OCD by a psychiatrist, and the questionnaires were completed individually and randomly by them. Also after the clinical interview, the normal subjects completed the questionnaires after approving their mental health and reviewing their medical records. A written commitment was made by the participants concerning their voluntary participation in the test and they were allowed to leave the test whenever they want.

### Findings

According to the assumption of normalization and correlation of variables, the path analysis was used for the investigation of data. Since there is no relationship between variables in the normal group, so only the obsessed group has been studied.

Table 1 shows the direct effect of variables on each other, since the direct effect of feeling guilty on thought-action fusion (-0.03) was unacceptable by considering P-Value (0.84), this relationship has been removed from the model.

Variables	Standard Parameters	Estimated Standard Error	P-Value
Direct Effect of OCD on: Inspection and Control	0.79*	0.6	0.001
Washing	0.78*	0.82	0.001
Slowness and Repetition	0.79*	0.97	0.001
Doubt	0.83**	0.3	0.001
Direct Effect of Thought-Action Fusion on: Moral Thought-Action Fusion	0.68**	0.124	0.001
Social Thought-Action Fusion	0.87**	0.164	0.001
Thought-Action Fusion for Self	0.81*	0.244	0.001
Direct Effect of Scrupulosity on: Fear of Guilt	0.88**	0.453	0.001
Fear of God	0.94**	0.145	0.001
Direct Effect of Feeling Guilty on: OCD	0.48**	0.79	0.006
Direct Effect of Feeling Guilty on: Scrupulosity	0.53**	0.804	0.001
Direct Effect of OCD on: Thought-Action Fusion	0.68**	0.288	0.001
Direct Effect of Scrupulosity on: Thought-Action Fusion	0.37*	0.288	0.018

\*\*p<0.01 and \*p<0.05

According to the calculations of table 1, it is obvious that the variables have a significant relationship with each other and the model can be defined as the following figure:

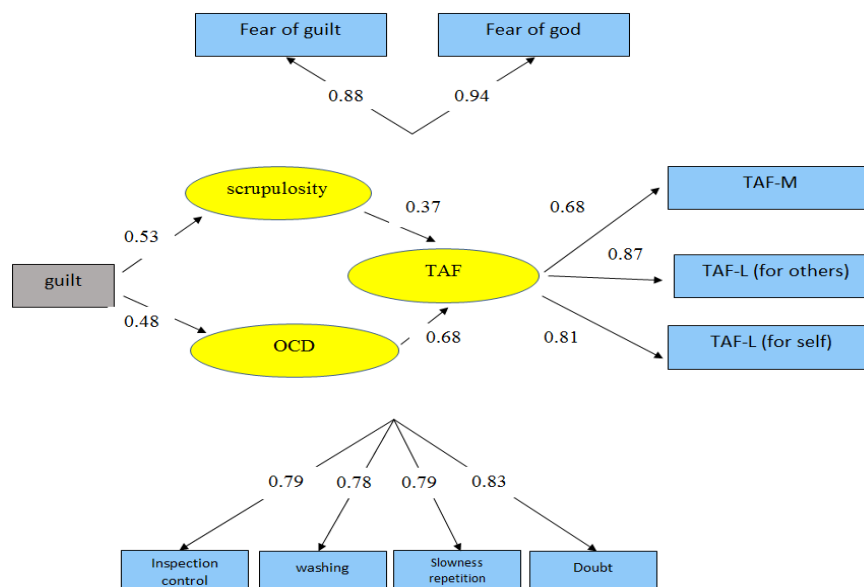


Figure 1: Chart of the Effect of Feeling Guilty on Thought-Action Fusion by mediating Scrupulosity and OCD

Table 2 is designed to investigate the indirect effects of variables and to answer the questions of this research.

Variables	Indirect Standard Parameter	Estimated Standard Error	P-Value
Indirect Effect of Feeling Guilty on Thought-Action Fusion by mediating Scrupulosity	0.1961**	0.231	0.001
Indirect Effect of Feeling Guilty on Thought-Action Fusion by mediating OCD	0.3264**	0.227	0.001

\*\*p<0.01 and \*p<0.05

The questions of this hypothesis can be approved according to the significance of the test on level 0.01, and it can be stated that:

1. Feeling guilty by mediating scrupulosity has a significant indirect effect on thought-action fusion in obsessed patients.
2. Feeling guilty by mediating OCD has a significant indirect effect on thought-action fusion in obsessed patients.

Variables	Coefficients of Variation R <sup>2</sup>
Thought-Action Fusion	0.727
OCD	0.226
Scrupulosity	0.277

According to table 3, the amount of the explained variance of thought-action fusion based on feeling guilty by mediating scrupulosity and OCD shows that 72.7% of the variance of this variable has been explained by feeling guilty by mediating scrupulosity and OCD in patients. Also, the amount of the explained variance of scrupulosity shows that 27.7% of the variance of this variable has been explained by feeling guilty in the obsessed patients, and eventually, the amount of the explained variance of OCD based on feeling guilty shows that 22.6% of the variance of this variable has been explained by feeling guilty in the obsessed patients.

Table 4 has been used to check the fit model and its scientific acceptability, in which the prediction of thought-action fusion according to the characteristics of the fit model is at a desirable level.

Characteristics	Estimation
Chi Score	0.001
the Chi-Squared Ratio to Degree of Freedom (X <sup>2</sup> /df)	1.127
Comparative Fit Index (CFI)	0.979
Bentler-Bonett Normed Fit Index (NFI)	0.947
Incremental Fit Index (IFI)	0.980
the Root Mean Square Error of Approximation (RMSeA)	0.006
P-Value	0.284

## Discussion

In this study, the relationship between feeling guilty and thought-action fusion by mediating scrupulosity and OCD is investigated and a model is defined for it in which its assumptions are approved based on the current research. As shown in figure 1, there is a significant relationship between feeling guilty, obsession, and scrupulosity. People with obsession feel responsible and guilty against impulses and obsessive thoughts especially those with sexual contents, violence, and harm, and they blame themselves and feel they deserve punishment, this sense of sin and expectation of punishment is consistent with scrupulosity assumptions (fear of God and sin) and the significant relationship between variables is understandable. Also according to figure 1, there is a direct relationship between obsession and thought-action fusion which by considering the structure of thought-action fusion, obsessive thoughts are considered as actually doing it; this significant relationship is well defined and expected [11]. The relationship between scrupulosity and thought-action fusion is less robust. And it can be explained that based on our study, among subscales of thought-action fusion, only the moral subscale is associated with religion [4]. In general, the findings of this research show that the first hypothesis is confirmed, it means that feeling guilty has a significant indirect effect on thought-action fusion by mediating scrupulosity in OCD patients. These findings also confirmed the second hypothesis and it can be said that feeling guilty has a significant indirect effect on thought-action fusion by mediating OCD in patients with obsession. Little researches have been done in this regard and the present research has studied the relationship of variables in this way for the first time; however, the findings of this study are related to the results of other researches: Jones and Bhattacharya found that the degree of thought-action fusion is more severe in patients with higher OCD symptoms [12]. Abramowitz, Whiteside, Lynam, and Kalsy concluded that patients with obsession gain higher scores in the likelihood of thought-action fusion, and the negative mood modify the relationship between these two variables [13]. Rassine, Muris, Schmidt, and Merckelbach claimed that thought-action fusion leads to thought suppression in the individual and this is while the thought suppression, in turn, promotes OCD symptoms [14]. Gonzalez *et al.* concluded that special beliefs such as thought-action fusion lead to the growth of metacognitive beliefs, and these beliefs themselves cause the development of obsession symptoms [6]. In another study, Siev *et al.* found that moral thought-action fusion is associated with obsession symptoms and religiosity [4]. Amir, Freshman, Ramsey, Neary, and Brigidi found that thought-action fusion increases the exaggerated beliefs about reducing harm in people with OCD symptoms [15]. Witzig *et al.* concluded that scrupulosity has a positive and negative correlation with obsessive beliefs, and religious commitment and psychological well-being, respectively, but there is no significant relationship between religious foundations and scrupulosity [8]. Inozu *et al.* found that obsessive beliefs, feeling guilty and control

of thoughts are associated with scrupulosity and somehow they predict it. In another study, it was found that high inclination to hatred is a ready-made factor for OCD in Muslims with severe scrupulosity [7]. Bassaknejad, Zargar, and Hatami Sarbazeh found that cognitive-behavioral treatment is effective in reducing thought-action fusion, feeling guilty, and thought suppression [9]. Melli *et al.* found that there is a weak but significant relationship among the adjective of sin and responsibility for danger and mistake, and also unacceptable obsessive thoughts [10].

## Conclusion

In the present study, we have found that feeling guilty has a significant direct effect on thought-action fusion by mediating OCD and scrupulosity. Feeling guilty along with the fear of God and sin, and also OCD can cause thought-action fusion and increase ineffective beliefs (moral and likelihood thought-action fusion) in people with obsession. As a result, the severity of obsession can be reduced by preventing feeling guilty or its treatment in patients. It should be considered that this study was conducted among Muslims of Iran and due to the extreme sensitivity of people toward their religion and their full obedience of religious rules, rituals and the importance of Islam in this country, the relationship between variables is justified according to Iranian culture and their religious background.

## Limitations and Suggestions

Some limitations of this study are the method of collecting data (questionnaire) and self-reporting, the low number of case studies, and the limit in the generalization of results to other communities other than Shiraz. Based on the present findings, it can be suggested that future studies, in addition to the religion of Islam, should be undertaken on people with other religions. Also, this study is recommended for people from other cities of Iran and other nations.

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