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Investigating the Role of Moral Emotions and Religiosity in Obsessive-Compulsive Disorder

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Útdráttur

Áráttu- og þráhyggjuröskun (e. obsessive-compulsive disorder [OCD]) er kvíðaröskun sem hefur áhrif á fólk um allan heim. Röskunin einkennist meðal annars af þráhyggju, áráttu og kvíða sem erfitt er að stjórna og truflar daglegt líf. Mikið hefur verið gert af rannsóknum á OCD með það markmið að greina orsakir og afleiðingar röskunarinnar. Í þessari rannsókn verða tvær nýjar breytur skoðaðar með tilliti til þess að athuga hvort þær hafi áhrif á OCD. Annars vegar er það breytan siðferðislegar tilfinningar og svo er það breytan trúarbrögð. Við gerð þessarar rannsóknar var notast við sjálfsskýrsluspurningarlista. Þátttakendur rannsóknarinnar voru 275 talsins. Fimm spurningar voru settar fram til að mæla/meta trúarlegt gildi þátttakenda en þær snéru að: heimsókn á trúarlega staði, að biðja, lestur ritningar, fjárframlög til trúarbragða og mikilvægi trúarbragða. Notast var við siðferðilega tilfinninga kvarðann sem Ozcanli o.fl. (2019) þróaði til að mæla tíðni mismunandi tegunda siðferðilegra tilfinningaviðbragða. Padua-Revised kvarðinn (PI-R) var notaður til að mæla þráhyggju- og áráttueinkenni. Sterk fylgni fannst milli OCD og siðferðilegra tilfinninga. Einnig fannst sterk fylgni milli OCD og mikilvægi trúarbragða. Hins vegar fannt lítil og/eða miðlungs fylgni milli OCD og trúarlegra gilda. Niðurstöðurnar sýna fram á þörfina á frekari rannsóknum og lagt er til að gerð verði tilraunarannsókn.

Lykilorð: OCD, siðferðislegar tilfinningar, trúarbrögð

Abstract

Obsessive-compulsive disorder (OCD), is a mental health condition that affects people worldwide and is described with symptoms of obsessions and compulsions that are hard to control and interfere with daily life. With growing research on the matter to identify the causes and effects of the disorder, we take a look at two other important variables: moral emotions, and religiosity. The study included 275 Turkish university students. The variables were measured through self-report questionnaires. Specifically, we used the Padua-Revised (PI-R) to measure obsessive-compulsive symptoms, and the Moral Emotions scale to measure the frequency of different kinds of moral emotions (impulses, washing, checking, rumination, and precision). We asked five different questions to measure participants' religiosity levels (visiting religious places, praying, reading scripture, donations to religion, and the importance of religion). We found strong correlations between OCD and moral emotions. We also found significant correlations between OCD and the importance of religion. However, the correlation for other religiosity levels was mainly small to medium. The results demonstrate the need for additional research, and an experimental study is suggested.

Keywords: OCD, moral emotions, religiosity

First and foremost, I want to thank Fulya for being my instructor. For not giving up on me despite my stupid questions and the fact that I work slowly. Her patience, high standards, and candid criticism were just what I needed.. This would not have been possible without her. I'd like to thank Dagný and her mother for their assistance with statistics. I also, like to thank Solla and Tinna for all their help. I'd also like to thank Birna, who was with me for the most of this degree. I want to thank all my family and friends who have supported me through this and their understanding when I lock myself off to keep my ADHD at bay. I'd like to thank the individual who developed coffee for his or her contribution, it helped a lot. And I want to thank myself for finishing this.

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Introduction

Maria is a young student studying social science. She has always been a responsible and hard-working person. She is religious but does not attend church, is very social, and loves spending time with friends and family. She enjoys traveling and hiking in her free time as well as drawing and a good cup of coffee. Maria is your average person if you can say so. She is pregnant with her first child and is happy with her boyfriend Peter and excited for the future. One day while Maria is visiting her friend Lisa, who has a two-year-old child, she witnesses the child fall while playing in the playground with other children. Lisa´s child is severely injured with a broken hand, bruises, and some inflammation.

Shortly after witnessing this Maria began to have intrusive thoughts about herself being injured, as well as her child. These thoughts became repetitive, unpredictable, and frequent during her day. Maria finds herself thinking about hurting herself by jumping in front of a train, a bus, or through a window. As well as having thoughts that she will mentally snap and hurt a loved one or a stranger. These thoughts frighten her, but she still has the impulses although she doesn't follow up on them.

To cope with this, she began to say prayers she had learned as a child, every time a self-injury thought came up in her mind, or a thought about harming others. This had moderate and temporary success. Maria became more and more stressed and started performing counting rituals, where she would not be able to take anything from the store if the item had the same number as her pregnancy in weeks or months. She likewise had to check three times if she had locked her door or car door, and say out loud “The door is locked”.

If Maria attempted to resist performing these rituals, she would experience considerable anxiety and guilt for not doing them. Eventually, Maria realized that her situation was desperate, and she decided to seek professional help. When explaining herself to her therapist she heard the therapist talk about her obsessive, frequent, and unwanted thoughts. As well as her impulses and images that were triggering her into doing her rituals that were taking up her time during the day. Her therapist called this obsessive-compulsive disorder, in short OCD.

Obsessive-Compulsive Disorder

Obsessive-Compulsive Disorder (OCD) is a common mental health problem that affects millions of individuals throughout the globe. OCD is distinguished by the presence of obsessions and/or compulsions that are time-consuming, cause significant distress, and interfere with daily functioning (American Psychiatric Association, 2013). As we can see in Maria´s case, with all her checking and counting interferes, which is time-consuming.

Obsessions are recurring and persistent intrusive and unwelcome thoughts, desires, or pictures that cause significant discomfort or suffering. Maria's obsessions are about herself and others being harmed in some way and they are recurrent and persistent. Compulsions are recurrent actions or mental activities that a person feels compelled to execute in response to an obsession or in accordance with strict rules, in order to alleviate discomfort or avoid a feared scenario (American Psychiatric Association, 2013). This is why the numbers are important to Maria, it is a set of rules for her to follow which helps her to reduce the anxiety that is triggered by her obsessions about herself and others being harmed.

Symptoms of OCD can vary widely from person to person, not everyone is the same. Compulsions involve excessive cleaning, checking, counting, and repeating tasks until they feel "just right" (Stein et al., 2019). Salkovskis (1985) talks about perfectionism or the belief that mistakes or imperfections are intolerable. This is also why Maria can not forget or decide not to do her rituals, that would be imperfect and a mistake in her mind.

More researchers talk about perfection as a factor and Egan et al. (2016) identified perfectionism as a significant factor contributing to the development and maintenance of obsessive-compulsive disorder (OCD). Perfectionism is characterized by a tendency to set excessively high standards for oneself and to experience intense negative emotions when these standards are not met. In individuals with OCD, this tendency towards perfectionism can contribute to the development of obsessive and compulsive behaviors aimed at achieving a sense of control and perfection (Egan et al., 2016).

However, as mentioned before, symptoms can vary from person to person. Rachman (1998) highlights the role of responsibility or the belief that one is responsible for preventing harm or negative outcomes, in the development and maintenance of OCD symptoms. Individuals with OCD often engage in compulsive behaviors to reduce their sense of responsibility, but this can lead to a vicious cycle in which the behaviors reinforce the beliefs and perpetuate the symptoms (Rachman, 1998). This is what is happening when Maria is doing her rituals, she is reinforcing her beliefs that the rituals are protecting her from her impulses

and thoughts. Other cognitive factors that have been mentioned, and are thought to contribute to OCD symptoms include threat estimation, the belief that certain stimuli are highly threatening or dangerous (Salkovskis, 1985).

Sookman et al. (2021) suggest that threat estimation plays a significant role in developing and maintaining obsessive-compulsive disorder (OCD). They claim that people with OCD overestimate the likelihood and severity of negative occurrences, resulting in excessive and unreasonable anxieties and obsessive actions.

They propose that this bias toward threat estimation is rooted in underlying cognitive and neural processes that are characteristic of OCD (Sookman et al., 2021). This can seem extreme to some, but to others, this makes perfect sense. According to the cognitive-behavioral model, individuals with OCD have inflated beliefs about the significance of their thoughts, they overestimate the likelihood of negative outcomes and hold beliefs about the need to control or prevent these outcomes (Salkovskis, 1999). Although cognitive-behavioral models have contributed to our understanding regarding the role of different factors in the etiology of the disorder, there is one more area that deserves attention when talking about OCD, which is the role of morality.

Morality in OCD

Morality can be defined as a system of beliefs and principles that guide individuals' judgments and behaviors regarding right and wrong (Haidt & Kesebir, 2010). Put slightly differently, Hauser (2006), mentions that morality standards govern the behavior of individuals in a society, and that is based on shared beliefs about what is right and wrong. Although it seems that there is somewhat of an agreement about what morality is, morality is still a complex and multifaceted construct that encompasses various domains, such as authority, harm, loyalty, fairness, and purity (Graham et al., 2013). These beliefs can be influenced by a range of factors, including cultural norms, religion, and personal experiences (Graham et al., 2013).

In the context of OCD, researchers have suggested that some individuals with the disorder may have a heightened sensitivity to moral issues, and may be more likely to experience intense feelings of guilt or shame in response to perceived moral transgressions (Rachman, 1993). This heightened sensitivity to moral issues may contribute to the development and maintenance of obsessions and compulsions related to themes such as contamination, harm, and doubt (Rachman et al., 2014). Foa et al. (2002) found that individuals

with OCD reported greater moral concerns and a greater sense of responsibility for preventing harm compared to individuals with other anxiety disorders.

According to some, morality and religion go hand in hand. McKay & Whitehouse (2015) talk about how religion has been viewed as the primary source of moral guidance and moral standards for a very long time. The moral beliefs and values of individuals can be influenced by religious beliefs and practices.

McKay & Whitehouse (2015) suggests that religion can influence morality through multiple mechanisms, including socialization, social control, and cognitive mechanisms like the influence of religious ideas and rituals on moral decision-making. Some might find this easy to agree with, that morality and religion have a connection. Abramowitz et al. (2004) conducted a study similar to ours in which they assessed the relationship between Protestant religiosity, OCD symptoms, and OCD-related cognitions among very religious adults using self-report questionnaires.

They discovered that strongly devout Protestants had more obsessional symptoms, washing compulsive activities, and attitudes about the importance of ideas than atheists/agnostics (Abramowitz et al., 2004). Obsessional symptoms, compulsive cleaning, distaste for uncertainty, the urge to regulate thoughts, views about the importance of ideas, and exaggerated responsibility were more prevalent among the very religious (Abramowitz et al., 2004). Other researchers have found something similar (Rekesh et al., 2021; Steketee et al., 1991: Yorulmaz et al., 2009).

Yorulmaz et al. (2009) conducted a study in which they investigated the associations between religiosity and OCD symptoms as well as cognitions in various religious contexts. The findings revealed that Muslim individuals noted greater worries about what they were thinking as well as controlling them, and they also appeared to use worrying tactics to manage their unwanted thoughts.

Nonetheless, Yorulmaz et al. (2009) discovered that, regardless of religious affiliation, highly religious subjects noted more obsessional ideas and checking, while sensitivity to emotions and control of thoughts were highlighted, and psychological acceptance in morality was more dominant in this group. Steketee et al. (1991) wanted to know if the different types of religion had any effect on OCD. They examined the relationship between the degree and type of obsessive-compulsive symptoms, religious practice, religiosity, and guilt, and what they found was that no religion was identified as being more common among OCD patients, but the

intensity of OCD disorder was strongly associated with both religiosity and guilt (Steketee et al., 1991).

Rakesh et al. (2021) intended to determine if moral emotions, an additional factor, had any effect. In addition, they found that religiosity was significantly related to both OCD symptoms and moral emotions, and that moral beliefs partially mediated these relationships. (Rakesh et al., 2021). Individuals with more severe OCD symptoms reported higher levels of religiosity and stronger moral convictions, and these moral convictions were associated with stronger moral emotions such as remorse and humiliation (Rakesh et al., 2021). According to some experts, OCD sufferers exhibit heightened sensitivity to moral issues, which may result in the experience of moral emotions (Rachman & de Silva, 1978). And some others have proposed that the experience of moral emotions may serve as a motivator for compulsive behaviors, as individuals with OCD may engage in these behaviors in an attempt to alleviate feelings of guilt or disgust (Rachman, 1998).

OCD and Moral Emotions

Moral emotions are emotions that are evoked in response to moral situations, where an action or decision is evaluated in terms of its ethical or moral implications (Haidt, 2003). Moral emotions can be positive or negative, and they are typically associated with a sense of moral responsibility, the belief that one has a duty to act in a certain way based on moral principles or norms (Tangney et al., 2006). Several emotions have been identified as moral emotions, including anger, disgust, guilt, shame, compassion, and gratitude, and these emotions can play different roles in moral judgment and behavior, such as punishment and retribution (Moll et al., 2008).

Tangney et al. (2006) say a similar thing, they argue that moral emotions play an important role in motivating moral behavior, and they suggest that individuals who experience emotions such as guilt, shame, and empathy are more likely to act in ways that align with their moral beliefs and that these emotions can serve as a "moral compass" to guide behavior. Disgust may be a powerful feeling that influences moral decision-making using this "moral compass", particularly in situations concerning purity and contamination. Zhong and Liljenquist (2006) highlight how the links between body and morality may be placed in cognition and emotions; for example, "disgust" is a sensation that can be felt in both the physical and moral realms. Zhong and Liljenquist (2006) discovered that although true disgust with moral implications

may be emotionally and behaviorally distinguished from disgust with moral connotations, the two experiences are surprisingly similar.

According to Zhong and Liljenquist (2006), some study suggests that pure disgust and moral disgust cause identical facial expressions and physiological responses and engage partly overlapping brain areas, especially in the frontal and temporal lobes. Because of the emotional, physiological, and neuronal alignment between physical and moral disgust, physical purifying procedures that reduce bodily disgust may also reduce social or moral aversion, lessening moral condemnation (Zhong & Liljenquist, 2006). However, disgust does not only affect moral emotions, it also affects OCD.

In a study using the Disgust Scale, which measures an individual's level of disgust sensitivity, Olantunji et al. (2007) argue that disgust is a crucial emotion in OCD, as it can often be elicited by stimuli that violate moral or social norms, and might have a role in the progression and maintenance of obsessive-compulsive symptoms. Indivituals with OCD show greater degrees of disgust sensitivity than non-clinical persons, according to Olantunji et al. (2007), and this heightened sensitivity is directly connected to the presence of contamination and cleaning sensations. Olantunji et al. (2007) go on to say that disgust is a particularly significant emotion in the context of OCD since it is connected to moral and social standards and may be associated with feelings of guilt. Guilt is a negative moral emotion that is often experienced in response to a violation of moral norms or principles (Tangney et al., 2006). There is more evidence to support the hypothesis that moral emotions influence OCD through moral and social standards.

According to certain theories, the moral emotion of guilt promotes OCD, and the role of guilt and the fear of feeling guilty contributes to the development and maintenance of OCD (Zaccari et al., 2022). The function of OC symptoms, for example, according to cognitive theories of OCD, is to prevent or reduce the likelihood of feeling guilty (Salkovskis, 1985; Rachman, 1993, 2002, 2006; van Oppen & Arntz, 1994; Salkovskis & Forrester, 2002; Mancini & Gangemi, 2004, 2011). The Moral Orientation Guilt Scale (MOGS) was established by Mancini et al. (2022) to measure different types of guilt depending on moral orientation. Their findings indicate that participants in the OCD group scored higher on the Moral Dirtiness subscales, which measure the tendency to feel guilty and filthy when experiencing guilt and self-loathing, furthermore, the tendency to feel regret for breaking a moral norm was correlated positively with the severity of OCD symptoms in OC patients (Mancini et al., 2022).

Further research reveals that OCD patients experience greater remorse than matched controls; data indicates that OC patients' regret is primarily "deontological," indicating that their emotions are more sensitive to deontology compared to non-obsessive individuals (Mancini et al., 2022). Studies on moral decision-making have additionally shown that OC patients are more inclined to opt to respect the "Do Not Play God principle" (which asserts that no one has the right to make decisions that disregard the boundaries of their social rank) than healthy subjects and patients with anxiety disorders (Mancini et al., 2022).

Mancini et al. (2002) also found that guilt emotions serve the evolutionary function of maintaining social order and promoting prosocial behavior at the social level when we feel guilty emotions and react to them (e.g., avoid them). Shame is an additional example of a moral feeling that is comparable to guilt and that has been covered in previous discussions. According to Tangney et al. (2006), shame is a negative moral emotion that is often connected with moral transgressions or failures, it is characterized by emotions of embarrassment, humiliation, and a sensation of being exposed or vulnerable.

According to Weingarden and Renshaw (2015), persons who suffer from OCD often report feeling shame, which may be one of the factors that contribute to the continued manifestation of OCD symptoms. It is possible for this to result in a variety of unfavorable outcomes, such as the need to steer clear of circumstances that can set off obsessions or compulsions, increased levels of self-criticism, and a decline in quality of life (Weingarden & Renshaw, 2015).

Conventional cognitive-behavioral (CB) models of obsessive-compulsive disorder (OCD) assume that obsessions trigger an apprehensive response and that compulsions are performed to prevent or reduce this anxiety (Weingarden & Renshaw, 2015). In reaction to certain obsessions, individuals who suffer from OCD may experience the sensation of shame, following that, compulsions may be carried out in an effort to alleviate feelings of shame (Weingarden & Renshaw, 2015). In point of fact, some of the behavioral reactions to shame, such as withdrawing from society or hiding, might superficially seem to be extremely similar to some of the behavioral responses to anxiety.(Weingarden & Renshaw, 2015).

Although it is similar to other feelings, shame can be distinguished from them in important ways. According to Tangney and Dearing (2002), the feeling of guilt is experienced when a person passes a negative judgment on the actions of another. Still, the feeling of shame is experienced when a person passes a negative judgment on themselves (Tangney et al., 1996). In addition, it is not the same as embarrassment, which is a feeling that lasts for a shorter period

of time and is anchored in public settings (Tangney et al., 1996). According to Tangney and Dearing (2002) and Tangney et al. (1996), shame seems to be more unpleasant than guilt and embarrassment.

It is also more strongly associated with psychopathology and predictive of negative outcomes (Weingardt & Renshaw, 2015). We were unable to find any studies that compared feelings of shame and disgust. However, we did find something similar to disgust and mental contamination. Rachman (1994) first used the phrase "mental pollution" to describe preoccupations like these, which result in a sensation of moral "dirtiness".

Rachman (1994) indicates that people would complete cleaning compulsions in response to mental contamination in order to mitigate the experience, and that this provides conceptual evidence that individuals may also engage in compulsions in response to shame as well as anxiety. Cougle et al. (2008) also researched mental pollution, and they designed The Mental Pollution Questionnaire (MPQ), this questionnaire includes statements such as "For me, feeling dirty inside and feeling shame go together".

Rachman (1993) tries to explain why this is, and that the concept that just thinking about something is ethically equal to acting on that thought is known as thought-action fusion, or TAF for short. According to Rachman (1993), TAF may increase a person's sense of moral responsibility for their ideas, which may result in moral feelings of guilt. And with shame being a moral feeling, TAF has also been shown to increase feelings of shame when a person feels that the fact that they have immoral thoughts makes them a terrible person (Rachman, 1993).

In the present study, we will focus on the most mentioned and agreed-on moral emotions in the literature (i.e., shame, anger, guilt, contempt, embarrassment, and disgust), and examine their role in OCD.

Present study

In this study, we will look at the relationship between OCD symptoms, religiosity, and moral emotions. In other words, we will investigate whether religious beliefs play a role in OCD, and if there is a connection between moral emotions and OCD. We predict that individuals who are more religious will experience higher levels of OCD symptoms, and there will be a positive correlation between OCD symptoms and moral emotions.

Methods

Participants

The participants in this study were 71 males (25.8%), and 204 females (74.2%), ranging from the ages of 18 - 53 years old ($M = 26.76$, $SD \approx 9.24$). 95.9% of participants were from Turkey, and 4.1% were from other countries. Participants' education ranged from high school education 261 (94.9%), and then to university or higher 14 (5.1%).

Materials

Moral Emotions

The Moral Emotions scale was developed by Ozcanli et al. (2019) to measure the frequency of different kinds of moral emotion responses. The moral emotions that were measured were: shame, anger, guilt, contempt, embarrassment, and disgust. Participants rated the frequency of each emotion on a scale ranging from 0 (Never) to 6 (Very often). An example item from the scale for anger is "How often did you feel frustrated about someone or something". The Cronbach alpha of the scale in the Turkish sample was .94. We will use the total scale score while calculating the moral emotions levels.

Obsessive-Compulsive Symptoms

To measure obsessive-compulsive symptoms we used the Padua-Revised (PI-R; Van Oppen et al., 1995). The instrument is a self-report questionnaire used to assess the severity and nature of the obsessive-compulsive disorder (OCD) symptoms in adults (Sanavio, 1988). The scale consists of five factors. The five factors are (1) Impulses, (2) Washing, (4) Rumination, and (5) Precision (Van Oppen et al., 1995). All items are rated on a 5-point Likert scale, ranging from 0 – "not at all" to 4 – "very much". The Cronbach alpha value ranged from .77 to .93 (Van Oppen et al., 1995). The scale has been adopted to Turkish by (Beşiroğlu et al., 2005). The Cronbach value in the Turkish adaptation study was .94 (Beşiroğlu et al., 2005). While calculating the participants' OCD symptom level, we will take the mean of all questions.

Religiosity

Participants' religiosity level was asked with five different questions. First, we measured the frequency of religious visitation: “In the past year, how often have you been to religious places of worship?”, Second, we asked about the frequency of praying: “How often have you prayed in the past year?”. Regarding religious book reading, we asked: “In the past year, how often have you read the scripture sent to your religion?”. Regarding religious donations, we asked: “In the past year, how often have you made financial donations to religious associations, foundations, or organizations or other?”. Finally, regarding religious importance, we asked: “How important is your religious belief in determining your behavior and decisions?”.

Participants rated their level of agreement with each statement on a scale ranging from 1 (Never) to 5 (Quite often (at least once a day)). The Cronbach alpha of the religious items in the current study ranged from .70 to .75. The answers to the religious affiliation question “What is your religion” are not used in this study.

Procedure

Participants completed the questionnaires online. They first answered demographic questions on their age, sex, educational status, parent education status, country of origin, and religion. They then completed the OCD and emotions questions respectively. Participants received course credit for their participation.

Data Analysis

After the survey was closed, the data were transferred to the statistical program SPSS for further analysis and processing. After cleaning, the answers, which were then processed, ended up totaling 275. To examine the link between two scale variables, Pearson's correlation test was used to measure the statistical relationship between the variables and to see if there was a weak or strong correlation. Finally, descriptive statistics were used to describe the results.

Results

The results of this study are presented in Table 1 and Table 2. In line with the first hypothesis, a positive correlation between OCD symptoms and moral emotions was expected The analysis revealed a strong correlation between moral emotions, and OCD, (r = .471, p = < 0.001), in support of hypothesis 1.

In line with the second hypothesis, a positive correlation between OCD symptoms and religiosity was expected. Religiosity was examined separately for each religiosity dimension (visiting religious places, praying, reading scriptures, donating to religion, the importance of religion, and OCD). Overall, there was a relationship between religiosity and OCD symptoms: the more the religious the person is, the more their OCD levels. In support of the hypothesis, there was a strong correlation between OCD and the importance of religious belief (r = .207, p = < 0.001). Additionally, there was a weak to moderate positive correlation between praying and OCD (r = .147, p = .015, two-tailed), a weak positive correlation between the reading of religious scriptures and OCD (r = .133, p = .028, two-tailed), and a small positive correlation between financial donations to religions and OCD (r = .162, p = .007, two-tailed). The analysis revealed no statistically significant correlation between visiting a religious place and OCD (r = .032, p = .602, two-tailed), which is therefore in support of the null hypothesis.

Table 1.

Means and Standard Deviations of the Main Variables.

Variable	N	M	SD
1. Visit religious places	275	2.74	1.08
2. Praying	275	4.36	0.94
3. Read scripture	275	2.61	1.17
4. Donations to religion	275	2.11	1.11
5. Importance of religion	275	3.91	1.03
6. Moral emotions	275	2.64	1.12
7. OCD	275	1.43	0.72

Table 2.

Correlations

Variable	1	2	3	4	5	6
1. Visit religious places						
2. Praying	.326**					
3. Read scripture	.473**	.422**				
4. Donations to religion	.519**	.282**	.511**			
5. Importance of religion	.291**	.485**	.402**	.357**		
6. Moral emotions	-.054	.019	-.019	.081	.101	
7. OCD	.032	.147*	.133*	.162**	.207**	.471**

** $p < 0.01$ (2-tailed); * $p < 0.05$; N=275

Discussion

The aim of this study was to get a better understanding of OCD and the causes and effects of the disorder. In that regard, we examined the relationship between OCD and moral emotions, and OCD and religiosity. The data found is in support of our first hypothesis, of there being a correlation between OCD and moral emotions. Moreover, there is evidence of a strong correlations in this study. However, since this is a correlational study, it is not possible to know the direction of the relationship. Meaning the data does not say if OCD is affecting moral emotions or if it is the other way around. This means that in Maria's case, it is unclear if her OCD is affecting her moral emotions. Or, if her moral emotions are affecting her OCD. This echoes with the literature.

It has been mentioned that people with OCD can have heightened sensitivity to moral concern, which can affect the experience of moral emotions (Rachman & de Silva, 2009). Nevertheless, it has also been proposed that the experience of moral emotions can be a motivator for compulsive behavior, and individuals with OCD may feel the need to engage in this behavior in their attempt to alleviate or escape from moral emotional feelings such as guilt or disgust (Rachman, 2004).

With that said, there is additional evidence that moral emotions affect OCD, and play a significant role in OCD. It is also argued that disgust is a fundamental feeling in OCD because it is commonly aroused by stimuli that violate moral or social standards, and it could play an integral part in the development and maintenance of obsessive-compulsive symptoms. Tangney et al. (2006) suggest that when moral emotions such as guilt, shame, and empathy are experienced, people are more inclined to behave in ways that are consistent with their moral convictions and that these emotions serve as a "moral compass" to guide their behavior.

Disgust is a powerful feeling that influences moral decision-making, particularly in situations concerning purity and contamination. Zhong and Liljenquist (2006) discuss how "disgust" may be physical or moral, how pure disgust and moral disgust generate identical facial expressions and bodily responses, and activating largely overlapping brain areas, especially in the frontal and temporal lobes. Zhong and Liljenquist (2006) further suggest that physical

purification measures that reduce physical repulsion may also diminish social or moral repulsion, thereby reducing moral condemnation.

According to Olantunji et al. (2007), disgust is a significant emotion in OCD because it is commonly triggered by stimuli that violate moral or social norms, and it can contribute to the creation and maintenance of obsessive-compulsive symptoms. Individuals with OCD exhibit greater levels of disgust sensitivity than non-clinical persons, which is connected to contamination and cleaning sensations and may be associated with feelings of guilt, according to Olantunji et al. (2007).

Many have pointed out before the role that guilt plays in OCD, and done so frequently. According to cognitive theories of OCD, the role of OC symptoms, for example, is to avoid or lessen the possibility of feeling guilty (Salkovskis, 1985; Rachman, 1993, 2002, 2006; van Oppen & Arntz, 1994; Salkovskis & Forrester, 2002; Mancini & Gangemi, 2004, 2011).

Mancini et al. (2022) discovered further evidence for the involvement of moral emotions in OCD. Much so like what was discovered with disgust, they discovered that guilt plays a important role in sustaining social order and fostering prosocial behavior at the social level because it is frequently experienced in response to a violation of moral norms or principles, and that it contributes to the growth and preservation of OCD (Mancini et al., 2022).

This is not surprising since both are moral emotions. Shame is another moral emotion that individuals with OCD often experience feeling. According to the findings of Weingarden and Renshaw (2015), symptom-based shame associated with obsessions is especially significant in OCD, because symptom-based shame is associated with the nature of obsessions or particular actions performed as compulsions. One of those compulsions is cleaning.

Rachman (1994) says that people do cleaning compulsions in response to mental pollution in order to get rid of the feeling, and that people might do compulsions in response to shame. The research conducted by Cougle et al. (2008) further indicates a link between shame, disgust, and mental contamination, participants in their study concurred that feeling dirty on the inside and experiencing shame are interconnected. Rachman (1993) tries to explain the connection between these different moral emotions and OCD. The notion of thought-action fusion (TAF) is discussed by Rachman (1993) as a possible explanation for why just thinking about something can feel ethically equivalent to actually acting on that thought.

The findings suggest that TAF could potentially enhance an individual's sense of moral obligation towards their thoughts, leading to the development of moral guilt; this is in line with

Rachman's (1993) research. It has been observed that TAF has a correlation with shame, which is a moral emotion.

Specifically, individuals who perceive themselves as bad people due to their immoral thoughts may experience heightened feelings of shame as a result of TAF. The reference to Rachman (1993) suggests that the author is citing a source in support of their argument or to provide evidence for their research findings. It is important to think about context in which this reference is being used and how it contributes to the overall discussion of the topic of moral emotions and OCD.

The second hypothesis was that religious people have higher levels of OCD. The data for the correlation between the importance of religion and OCD was strong and in support of hypothesis 2. Moreover, even if not as strong as with the religious importance factor, there were significant correlations with other religious dimensions as well.

For praying and OCD there was a weak to moderate correlation, in support of our hypothesis 2. The data showed a similarity to the same thing regarding the correlation between reading scripture and OCD, and for Donating to religion and OCD. A small positive correlation between them, for our hypothesis 2. These results are in favor of what the literature has mentioned. McKay and Whitehouse (2015) discusses the longstanding perception of religion as the main provider of moral guidance and standards.

It is worth discussing how religious beliefs and practices can impact the moral beliefs and values of individuals. The findings of McKay and Whitehouse (2015) indicate that religion can impact morality through various channels, such as socialization, social control, and cognitive processes, and that these channels include the effect of religious concepts and rituals on moral decision-making. A study conducted by Abramowitz et al. (2004) found that individuals who identified as extremely religious Protestants reported higher levels of obsessional symptoms related to washing, compulsive behaviors, and beliefs regarding the significance of thoughts compared to those who identified as atheists/agnostics.

According to Abramowitz et al. (2004), highly religious people displayed more symptoms of obsession, compulsive cleansing, and a propensity to avoid uncertainty.

The study by Abramowitz et al. (2004) revealed that participants tended to control their thoughts, prioritize the significance of thinking, and experience a heightened sense of accountability. It appears that regardless of the type of religion, OCD is still present. According to the results of Yorulmaz et al. (2009), there is a positive association between religiosity and obsessional thoughts, with more religious individuals reporting more obsessional thoughts. This

suggests that religiosity may be a contributing factor to the experience of obsessional thoughts, regardless of religious affiliation. But what is the role of religiosity when it comes to OCD?

Williams et al. (2013) studied the association between religion and obsessive-compulsive disorder (OCD) in a study, specifically looking at the function of thought-action fusion (TAF) as a potential contributing factor. The researchers examined the relationship across religiosity and obsessive-compulsive symptoms, and the findings show that obsessional thinking is unrelated to religion. However, the findings also indicate that religious teachings may develop TAF beliefs that contribute to the persistence of OCD (Williams et al., 2013). Others have also pointed out that morality and moral emotions both influence OCD and religion, that they have that incomen.

Rakesh et al. (2021) found that religion was shown to be substantially related with both OCD symptoms and moral emotions and that these relationships were partially mediated by moral convictions. People with severe OCD symptoms reported greater degrees of religiosity and stronger moral convictions, which were connected with stronger moral emotions including guilt and shame (Rakesh et al., 2021). In an attempt to ease these feelings of guilt and shame, moral emotions may serve as a motivator for people with OCD to engage in their compulsive behaviors (Rachman, 1998).

With that being said, there was however, no correlation between visiting a religious place and OCD in our data, contrary to our hypothesis. There is research to support these conclusions. Tek and Ulu. (2001) examined the connection between religion, religious obsessions, and other clinical features of obsessive-compulsive disorder (OCD), but found no convincing link between religion and any other clinical characteristic of OCD. It should be emphasized that this research contains certain defects. Tek and Ulu. (2001) acknowledge that religiosity is a difficult concept to measure and argue that religious obsessions should be regarded as obsessions rather than religious events. This being said it does not mean there is no interaction between the two variables in our study, we just didn´t find one.

Limitations

There are some limitations to the current study. First, since the study is cross-sectional, the causal links between variables cannot be identified. It's impossible to say if religiosity or moral emotions cause OCD or vice versa. Other limitations that need to be considered are the sample size was restricted to only 275 participants, which may affect the applicability of the results.

Additionally, due to the study's limited sample diversity, with 95.9% of participants from Turkey, the generalizability of the results to other groups may be limited.

Because the study relies on self-report questions to measure religion, it might not be able to get a clear picture of all the details that are part of religious views and actions. This is important to keep in mind because a person's religious views and practices can affect how they feel morally and how their OCD symptoms affect them.

The study only focuses on finding correlations and does not consider other factors that may impact OCD symptoms and moral feelings. These external factors could include the environment or other variables like anxiety and depression, which may affect the correlation between religiosity, moral emotions, and OCD.

Conclusion

A strong correlation between OCD and moral emotions supports our first hypothesis. However, contrary to our hypothesis 2, there was no correlation between visiting a holy site and OCD. There was a modest to moderate correlation between prayer and OCD, supporting our hypothesis 2. The research also demonstrates a slight positive correlation between reading scripture and OCD and donating to religion and OCD. The evidence regarding the correlation between religious importance and OCD was strong and supported our hypothesis 2. The data is restricted due to small sample size, and because we cannot tell what effects the variables. The next stage would be to conduct an experimental research, more research and data is required on this matter.

Refrences

Abramowitz, J. S., Deacon, B. J., Woods, C. M., & Tolin, D. F. (2004). Association between Protestant religiosity and obsessive-compulsive symptoms and cognitions. *Depression and Anxiety*, *20*(2), 70–76. https://doi.org/10.1002/da.20021

American Psychiatric Association, D., & American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*, *5*(5). Washington, DC: American psychiatric association.

Beşiroğlu, L., Yücel Ağargün, M., Boysan, M., Eryonucu, B., Güleç, M., & Selvi, Y. (2005). [The assessment of obsessive-compulsive symptoms: the reliability and validity of the Padua inventory in a Turkish population]. *Turk psikiyatri dergisi = Turkish journal of psychiatry, 16*(3), 179-89.

Cougle, J. R., Lee, H., Horowitz, J. D., Wolitzky-Taylor, K. B., & Telch, M. J. (2008). An exploration of the relationship between mental pollution and OCD symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, *39(3),* 340-353.https://doi.org/10.1016/j.jbtep.2007.08.007

Egan, S. J., Wade, T. D., Shafran, R., & Antony, M. M. (2016). *Cognitive-behavioral treatment of perfectionism*. Guilford Publications.

Foa, E. B., Huppert, J. D., Leiberg, S., Langner, R., Kichic, R., Hajcak, G., & Salkovskis, P. M. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short version. *Psychological Assessment*, *14*(4), 485–496. https://doi.org/10.1037/1040-3590.14.4.485

Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Moral Foundations Theory: The Pragmatic Validity of Moral Pluralism. *Advances in Experimental Social Psychology*, *47*, 55-130. https://doi.org/10.1016/B978-0-12-407236-7.00002-4

Haidt, J., & Kesebir, S. (2010). Morality. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (pp. 797–832). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470561119.socpsy002022

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford University Press.

Hauser, M. (2006). *Moral minds: How nature designed our universal sense of right and wrong*. Ecco/HarperCollins Publishers.

Mancini, A., Granziol, U., Migliorati, D., Gragnani, A., Femia, G., Cosentino, T., Saliani, A. M., Tenore, K., Luppino, O. I., Perdighe, C., & Mancini, F. (2022). Moral Orientation Guilt Scale (MOGS): Development and validation of a novel guilt measurement. *Personality and Individual Differences*, *189*, 111495. https://doi.org/10.1016/j.paid.2021.111495

Mancini, F., & Gangemi, A. (2004). Fear of guilt from behaving irresponsibly in obsessive–compulsive disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, *35*(2), 109-120. https://doi.org/10.1016/j.jbtep.2004.04.003

Mancini, F., & Gangemi, A. (2011). Fear of deontological guilt and fear of contamination in obsessive-compulsive disorder. *Psicoterapia Cognitiva e Comportamentale*, *17*(3), 395-404.

McKay, R., & Whitehouse, H. (2015). Religion and Morality. *Psychological Bulletin*, *141*(2), 447-473. https://doi.org/10.1037/a0038455

Moll, J., Oliveira-Souza, R. D., & Zahn, R. (2008). The Neural Basis of Moral Cognition. *Annals of the New York Academy of Sciences*, *1124*(1), 161-180. https://doi.org/10.1196/annals.1440.005

Olatunji, B. O., Williams, N., Tolin, D. F., Abramowitz, J. S., Sawchuk, C. N., Lohr, J. M., & Elwood, L. S. (2007). The Disgust Scale: Item analysis, factor structure, and suggestions

for refinement. *Psychological Assessment*, *19*(3), 281–297. https://doi.org/10.1037/1040-3590.19.3.281

Ozcanli, F. (2019). *Cultural Differences in Obsessions: Empirical Studies with Turkish and Belgian samples* [Unpublished doctoral dissertation]. University of Leuven.

Rachman, S., & de Silva, P. (1978). Abnormal and normal obsessions. *Behaviour Research and Therapy*, *16*(4), 233-248. https://doi.org/10.1016/0005-7967(78)90022-0

Rachman, S., & De Silva, P. (2009). *Obsessive-compulsive disorder*. Oxford University Press.

Rachman, S. (1994). Pollution of the mind. *Behaviour Research and Therapy*, *32*(3), 311-314. https://doi.org/10.1016/0005-7967(94)90127-9

Rachman, S. (1998). A cognitive theory of obsessions: Elaborations. *Behaviour Research and Therapy*, *36*(4), 385-401. https://doi.org/10.1016/S0005-7967(97)10041-9

Rachman, S. (2002). A cognitive theory of compulsive checking. *Behaviour Research and Therapy*, *40*(6), 625-639. https://doi.org/10.1016/S0005-7967(01)00028-6

Rachman, S. (2004). Fear of contamination. *Behaviour Research and Therapy*, *42*(11), 1227-1255. https://doi.org/10.1016/j.brat.2003.10.009

Rachman, S. (2006). The Fear of Contamination: Assessment and treatment. https://doi.org/10.1093/med:psych/9780199296934.001.0001

Rachman, Stanley, Anna Coughtrey, Roz Shafran, and Adam Radomsky. *Oxford guide to the treatment of mental contamination*. OUP Oxford, 2014.

Rachman S. (1993). Obsessions, responsibility and guilt. *Behaviour research and therapy*, *31*(2), 149–154. https://doi.org/10.1016/0005-7967(93)90066-4

Rakesh, K., Arvind, S., Dutt, B. P., Mamta, B., Bhavneesh, S., Kavita, M., Navneet, K., Shrutika, G., Priyanka, B., Arun, K., Harkamal, K., & Jagdeep, K. (2021). The Role of Religiosity and Guilt in Symptomatology and Outcome of Obsessive Compulsive Disorder. *Psychopharmacology Bulletin*, *51*(3), 38-49. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8374933/

Salkovskis, P. M., & Forrester, E. (2002). Responsibility. *Cognitive Approaches to Obsessions and Compulsions*, 45-61. https://doi.org/10.1016/B978-008043410-0/50005-2

Salkovskis, P. M. (1985). Obsessional-compulsive problems: A cognitive-behavioural analysis. *Behaviour Research and Therapy*, *23*(5), 571-583. https://doi.org/10.1016/0005-7967(85)90105-6

Salkovskis, P. M. (1999). Understanding and treating obsessive—compulsive disorder. *Behaviour research and therapy*, *37*, S29-S52.

Sookman, D., Phillips, K. A., Anholt, G. E., Bhar, S., Bream, V., Challacombe, F. L., Coughtrey, A., Craske, M. G., Foa, E., Gagné, J., Huppert, J. D., Jacobi, D., Lovell, K., McLean, C. P., Neziroglu, F., Pedley, R., Perrin, S., Pinto, A., Pollard, C. A., . . . Veale, D. (2021). Knowledge and competency standards for specialized cognitive behavior therapy for adult obsessive-compulsive disorder. *Psychiatry Research*, *303*, 113752. https://doi.org/10.1016/j.psychres.2021.113752

Stein, D. J., C. Costa, D. L., Lochner, C., Miguel, E. C., Janardhan Reddy, Y. C., Shavitt, R. G., & Simpson, H. B. (2019). Obsessive–compulsive disorder. *Nature reviews. Disease primers*, *5*(1), 52. https://doi.org/10.1038/s41572-019-0102-3

Steketee, G., Quay, S., & White, K. (1991). Religion and guilt in OCD patients. *Journal of Anxiety Disorders*, *5*(4), 359-367. https://doi.org/10.1016/0887-6185(91)90035-R

Tangney, J. P., & Dearing, R. L. (2002). Gender differences in morality. In R. F. Bornstein & J. M. Masling (Eds.), *The psychodynamics of gender and gender role* (pp. 251–269). American Psychological Association. https://doi.org/10.1037/10450-007

Tangney, J. P., Miller, R. S., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions?. *Journal of personality and social psychology*, *70*(6), 1256–1269. https://doi.org/10.1037//0022-3514.70.6.1256

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2006). Moral Emotions and Moral Behavior. https://doi.org/10.1146/annurev.psych.56.091103.070145

Tek, C., & Ulug, B. (2001). Religiosity and religious obsessions in obsessive-compulsive disorder. *Psychiatry research*, *104*(2), 99–108. https://doi.org/10.1016/s0165-1781(01)00310-9

Van Oppen, P., & Arntz, A. (1994). Cognitive therapy for obsessive-compulsive disorder. *Behaviour research and therapy*, *32*(1), 79–87. https://doi.org/10.1016/0005-7967(94)90086-8

Weingarden, H., & Renshaw, K. D. (2015). Shame in the obsessive compulsive related disorders: A conceptual review. *Journal of Affective Disorders*, *171*, 74-84. https://doi.org/10.1016/j.jad.2014.09.010

Williams, A. D., Lau, G., & Grisham, J. R. (2013). Thought–action fusion as a mediator of religiosity and obsessive-compulsive symptoms. *Journal of Behavior Therapy and Experimental Psychiatry*, *44*(2), 207-212. https://doi.org/10.1016/j.jbtep.2012.09.004

Yorulmaz, O., Gençöz, T., & Woody, S. R. (2009). OCD cognitions and symptoms in different religious contexts. *Journal of Anxiety Disorders*, *23*(3), 401–406. https://doi.org/10.1016/j.janxdis.2008.11.001

Zaccari, V., Rogier, G., Pulsinelli, D., & Mancini, F. (2022). Explaining Interaction of Guilt and Obsessive-Compulsive Symptoms in Not Just Right Experiences. *Clinical Neuropsychiatry*, *19*(1), 39-44. https://doi.org/10.36131/cnfioritieditore20220106

Zhong, C. B., & Liljenquist, K. (2006). Washing away your sins: Threatened morality and physical cleansing. *Science*, *313*(5792), 1451-1452.