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The connections between religiosity and obsessive-compulsive symptoms and the role of personality traits in a non-clinical Muslim sample

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ABSTRACT

This quantitative study was aimed at determining the nature of the relationship between obsessive-compulsive disorder (OCD), measured by the Brief Obsessive-Compulsive Scale; and religiosity, measured on the Ok-Religious Attitude *to* Religion-Islam Scale; while checking for the role of personality traits, measured with the Big-Five Inventory. The survey was administered to a sample of 298 Muslim non-clinical participants aged 16–66 (mean age 26.40, sd = 10.6). The results confirmed the strong positive correlation between religiosity and OCD scores. While Neuroticism and Conscientiousness played a role in the prediction of the OCD score, Agreeableness and Conscientiousness accounted for a small portion of religiosity along with the OCD score. The present findings may contribute to the understanding of OCD and its treatment among mental health practitioners, and improve the practices of religious ministries and religious instructors.

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Obsessive; compulsive; religiosity; personality; Muslim; big-five

Both religion and mental health conditions can positively or negatively affect quality of life (QoL) either independently or interactively (Cirhinlioğlu & Ok, 2010; Francis, Ok, & Robins, 2017). Specifically, obsessive-compulsive disorder (OCD) has a significant negative influence on QoL. Its negative effect is as detrimental as the ramification of schizophrenia (Besiroglu, Karaca, & Keskin, 2014; Bobes et al., 2007). Research shows that OCD reduces patients' QoL significantly across several domains, including family relations, occupation, academy, social relations, and spirituality (Subramaniam, Soh, Vaingankar, Picco, & Chong, 2013). Patients with religious obsessions, in particular, had poorer insights, more perceptual distortions, and more magical ideation than those with other types of obsessions (Tolin, Abramowitz, Kozak, & Foa, 2002).

Although religiosity has typically been found to be associated positively with better mental and physical health – at least in some respects (Argyle, 2000) – and longer survival (Ellison & Levin, 1998; George, Ellison, & Larson, 2002 cited in Himle, Taylor, & Chatters, 2012), it may also impair health, as in the cases of fundamentalism, ethnocentrism, and distorted forms of reasoning or over-submissiveness to authority. Thus, studying the relationships between religion and OCD, and the mediating role

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of personality in this, would be helpful in trying to understand the ways they, in combination, affect the QoL.

Despite the fact that there are already several studies examining the religion–OCD link (Abramowitz, Deacon, Woods, & Tolin, 2004; Higgins, Pollard, & Merkel, 1992; Koenig, Ford, George, Blazer, & Meador, 1993), there still are a number of gaps in the literature. First, many of these studies have a rather limited number of participants – often selected from diagnosed clinical samples – and have been compared with other clinical patients as the control group. Second, the findings in these studies were found to be inconsistent (see Paloutzian & Park, 2005). Third, there are few studies on this topic in Turkish samples (e.g., Tek & Ulug, 2001; Yorulmaz, Gencoz, & Woody, 2009) with an overwhelmingly Islamic population. Finally, checking the role of personality traits in the relationship between religiosity and OCD was often not taken into consideration.

The aim of this study, therefore, is to determine the connections between OCD and religiosity while exploring the role of personality traits in a non-clinical sample in Turkey, a predominantly Muslim country. More specifically, the aim is to determine whether (i) religiosity has any effect on OCD; (ii) OCD has a role in our understanding of religiosity; and (iii) personality traits have explanatory roles in the connections between these mutual relationships. It is assumed that knowing the connections between these two may improve QoL by (a) distinguishing between obsessive and non-obsessive forms of religiosity; (b) expanding current level of factors explaining OCD through personality traits, which may be handy for clinicians in their diagnosis; and (c) enabling Imams and religious educators to recognise the factors affecting OCD so that through this they improve their services in the mosque and in religious education.

Obsessive-compulsive disorder

OCD has a lifetime prevalence rate of 2.6, which renders it the fourth most common psychiatric disorder after depression, phobias and substance abuse (Bobes et al., 2007). It is a widespread, enduring and persistent disorder accompanied by unmanageable, recurring thoughts (obsessions) and behaviours (compulsions). On average, it affects 10% of the population directly or indirectly (Bobes et al., 2007).

The main features of OCD include concerns about Contamination; fears of harming oneself or others; thoughts of Symmetry; somatic concerns; and religious intrusions (Foa, Kozak, Goodman, Hollander, Jenike, & Rasmussen, 1995 cited in Himle, Chatters, Taylor, & Nguyen, 2011).

According to DSM V (American Psychiatric Association, 2013), the main diagnostic criteria for OCD are that obsessions, compulsions or both are present; they are time-consuming and cause significant distress in one's life. People with OCD exhibit dysfunctional beliefs, an exaggerated sense of responsibility, a tendency to overestimating threat, an intolerance of ambiguity, perfectionism, and the overvaluing of and need for control of thought. It is well elaborated in the literature that OCD is also connected with symptoms such as indecisiveness, restricted emotional expression, separation anxiety, resistance to change or novelty, disliking risk, high obedience/submissiveness, ambivalence, uncertainties, excessive devotion to work, high Morality, conservatism, excessive harm avoidance, and low sensation-seeking (Babbitt, Rowland, & Franken, 1990). It can be conveyed by social anxiety disorder and pessimism (Steketee, 2011).

There are a number of explanations on how OCD originates. It was argued that behind the genesis of OCD lies systematic criticism, over-protective care, and extreme codes of conduct faced by individuals during childhood, which result in growing a high level of responsibility for the harm pointed to her/himself and to others (Salkovskis, 1985). This high sense of responsibility, to Salkovskis, may lead to disturbing emotional states such as anxiety and depression (and feelings of guilt according to Rachman, 1993) when faced with real or imagined challenges; and developing neutralising actions – such rituals as ordering, arranging, washing, or checking – and others, which aim to maintain order. In this way, they consider, they become able to protect family members or to stop strangers. In addition, this emerging emotional state of anxiety invokes further possibility of other intrusions and fosters the perception of inflated responsibility, leading to a vicious cycle of negative thoughts and neutralisations. Accordingly, the sense of responsibility can also result in other dysfunctional reactions such as faults in reasoning and craving reassurance.

Connections between religion and OCD

Religiosity indicates socialisation with religious artefacts and in social norms (Argyle, 2000). It represents loyalty to family values. However, at times, religion may satisfy the psychological needs of the religious be it emotional, cognitive, or behavioural. It creates inner mechanisms of guilt and conscience and conformity to social norms with implications in, say, diets and social relations, among others (Argyle, 2000). Psychologically, it functions as a safe haven and coping resource for those who suffer from stress or have fears and malfunctions in other specific domains (Pargament, 2003).

A number of studies report of a positive correlation between religiosity and OCD (Cosgore, Cross, & Bhugra, 2011; Yorulmaz et al., 2009) in different cultural contexts (e.g., Turkey and the UK), across different religions or denominations (e.g., Catholics, Protestants, and Muslims) and among both clinical and non-clinical samples (Abramowitz, Huppert, Cohen, Tolin, & Cahill, 2002 cited in Himle et al., 2011; Lewis & Maltby, 1995; Yorulmaz et al., 2009). OCD tends to be more common and severe among more religious individuals than in less religious people (Koenig et al., 1993; Steketee, Quay, & White, 1991).

In terms of cultural difference, it was found that OCD symptoms and religious scrupulosity tend to be more common among Muslim countries and Orthodox Jewish people compared with Christians or with other faiths from Western cultures (Inozu, Karanci, & Clark, 2012; Okasha, Saad, Khalil, Dawla, & Yehia, 1994; Paloutzian & Park, 2005; Tek & Ulug, 2001 cited in Himle et al., 2012; Yorulmaz et al., 2009).

Another series of studies did not confirm this link between high religiosity and OCD symptoms as it has been observed in samples of Israeli Jews (Hermesh, Masser-Kavitzky, & Gross-Isseroff, 2003), American Protestants (Nelson, Abramowitz, Whiteside, & Deacon, 2006), Turkish Muslims (Tek & Ulug, 2001), and Iranian school children (Assarian, Biqam, & Asqarnejad, 2006). This inconsistency in findings may stem from the difference in methodology and selected sample types. Depending on these, Himle et al. (2011) regard these mixed results as complex and point out the need for further cross-cultural study.

Religion–OCD relations are acutely seen in the case of religious scrupulosity and pathological guilt concerning moral or religious issues (Abramowitz et al., 2002). In a study among Turkish OCD patients, Tek and Ulug (2001) found that OCD patients are likely to

reveal religious obsessions as its prevalence in 42% among them compared to two other studies, recording this as 11% and 34% (Eğrilmez, Gülseren, Gülseren, & Kültür, 1997; Millet, 1997 cited in Tek & Ulug, 2001). The more religiously devout individuals who suffer from OCD reported more religious obsessions and compulsions than other types of OCD symptoms (Nelson et al., 2006; Steketee et al., 1991).

As the Penn Inventory of Scrupulosity (Abramowitz et al., 2002) revealed, religious scrupulosity has at least two aspects, i.e., fear of God and fear of sin. It is characterised as the religious form of OCD (Bonchek & Greenberg, 2009). Common religious scrupulosity symptoms include intrusive blasphemous thoughts related to religious themes, compulsive and/or extreme praying, hypermorality, touching and repeating rituals, repetitive reassurance-seeking from religious sources regarding religious matters, and cleaning/washing rituals (Greenberg, Witztum, & Pisante, 1987 cited in Himle et al., 2011), which, considered to be atonement for sinful thoughts or actions, are excessive attention to minor details of religion (Himle et al., 2011). A cardinal feature of scrupulosity is persistent uncertainty leading to anxiety and fear about whether or not one has committed religious or moral sin. The person with scrupulosity experiences intense guilt and worry, and may take extreme measures to reduce distress such as perfectionistic repetition of prayers or confessions, frequent reassurance-seeking from religious advisers, or avoiding situations that evoke doubts, which, in turn, foster further new intrusions and so on. The percentage of patients with religious symptoms among OCD patients range between 11% and 41% (Greenberg & Huppert, 2010).

What features of religion and OCD overlap and explain the relationship between the two? Some of the features of OCD mentioned above and rigid religiosity are strikingly similar. These, given the life of a strict Muslim, cover but are not limited to conservatism; resistance to change and novelty; perfectionism; risk aversion (avoidance of divine punishment); submissiveness (to the will of God); excessive Morality; and deep devotion. Al-Solaim and Loewenthal (2011) posit that OCD can reveal itself like religiosity in terms of strictness and literal mindedness. In Islam, excessive prayer and ritual feature prominently in the descriptions of religious OCD (cited in Bonchek & Greenberg, 2009).

The commonality is not only in the way they reveal themselves, i.e., symptomology, but may be found deep in their origins. It is possible to trace anxiety in the origins of both religiosity (Hood, Hill, & Spilka, 2009) and OCD. While the worry of being punished by God or of being excluded from the community may push people towards religion, the worry of daily stressors and perceiving the world as challenging could be leading some others to develop rituals to prevent or suppress these anxieties. Despite these similarities in theory, however, people with OCD are distinguished from religious adherents using the criteria that people with OCD feel distressed with their conditions and are more resistant to change than strictly religious people (Paloutzian & Park, 2005). A further question is: Is there a cause and effect relationship between the two?

Although OCD tends to be more common among religious devotees, there is little evidence that religion increases the risk of developing OCD (Greenberg & Huppert, 2010). No study to date has found that religious upbringing induces OCD. However, if OCD appears in an individual who is very religious, his or her religiosity (how religious the person is) is likely to express itself in the OCD forms. That is, religious individuals are more likely to present with scrupulosity as their primary symptom if they suffer from OCD, but little

evidence suggests that they are more likely to present with OCD than non-religious people (Greenberg & Huppert, 2010; Paloutzian & Park, 2005). In contrast, may OCD dispositions be fostering strict religiosity? There is no study supporting this thesis either. Ultimately, therefore, it is possible to argue that OCD dispositions and strict religiosity are two distinct features which might be fostered by a third factor, i.e., anxiety.

Given that the source of OCD is anxiety, religion – along with the notion of a god – provides an object of attachment for those who feel insecurity, which, in turn, leads to a sense of safety by providing emotional stability. Thus, it is assumed that people with high anxiety and a high sense of guilt and responsibility might have taken refuge in religion, as a psychologically secure place to ease their anxiety (Hood et al., 2009). With such teachings as repentance (*tawba*), solidarity of brotherhood and divine compassion and forgiveness, religions provide inner peace to their adherents preserving them from many forms of anxiety. In this respect, it is expected that religion reduces the anxiety of those who suffer from it, and religiosity could, in fact, be a form of alleviated anxiety.

Nevertheless, religion may be, at the same time, a source of anxiety and OCD by way of commanding, thus reinforcing, repetitive practices similar to OCD symptoms and by envisaging worrisome punishments for those who transgress the moral and religious norms. This heightened state of anxiety, in turn, may accelerate their religiosity further as the source of mitigation, ending in a vicious cycle. Additionally, considering that the feelings and conceptions regarding divine intervention is common, that God is all powerful, and that magical perceptions and operations (thus thought-action fusions) are widespread in the religious domain, these altogether may reinforce OCD symptoms. It has been suggested that religious adherence might provide a fertile context for the misinterpretation of unwanted, unacceptable, intrusive thoughts because of its emphasis on following strict rules of thought and conduct (Raphael, Rukholm, Brown, Hill-Bailey, & Donato, 1996), its high moral standards, inflexibility (Sica, Novara, & Sanavio, 2002), guilt (Shafran, Watkins, & Charman, 1996), and beliefs about the importance of thoughts (Rassin & Koster, 2003; cited in Inozu et al., 2012). In summation, a viable hypothesis could then be that religion, as a secure haven, may be embraced by individuals with high anxiety levels simply to assuage them and if religion fails in its role, then OCD is expected to be more common among religious people.

The role of personality traits as mediators between religiosity and OCD

Studies on the connection between OCD and personality traits are limited (Samuels et al., 2000). It was found that OCD patients produce a higher score on Neuroticism (in all facets) and a lower score on Extraversion than their non-OCD counterparts (Eysenck & Eysenck, 1985; Rector, Hood, Richter, & Bagby, 2002; Steketee, 2011). They are also less agreeable, prone to fantasy and feelings, and more conservative in terms of ideas and actions than non-OCD patients (Samuels et al., 2000). People with OCD yield low scores on two facets of Conscientiousness (competence and self-discipline) (Steketee, 2011). In general, individuals with OCD tend to be highly neurotic, reserved, not very friendly, extremely conservative, and have difficulty completing assigned tasks. High Neuroticism and low Extraversion (i.e., high introversion) scores were reported to be associated with susceptibility to OCD development (Rector et al., 2002).

In contrast, religiosity showed consistency, positive connections with Agreeableness, and Conscientiousness among Christian and Muslim samples (Francis, 1985; Ok, 2011; Saroglou, 2002).

Which personality mechanisms in religion may be playing a role in religion–OCD relations and how? Religiosity can be dissected into a number of variables to illustrate the OCD–religion relationship. The norms of traditional Islamic religiosity, like those of other religions, demand regularity in a number of tasks such as observing routinely religious rituals, *salat*, for example, repeating certain expressions (*dhikr* and *surah*) several times in a day, and washing some of the body organs meticulously for the purpose of payer, as well as obeying religious norms related to other aspects of life. These tasks train adherents in punctuality and perfectionism, which altogether resemble the features of Conscientiousness. Performing religious "obligations" on a regular basis is not only replications and exercises of perfections but is also the practice of Symmetry, considering the intervals between religious duties. It is well known that perfectionism is an important element of OCD and that religiosity is highly correlated with Conscientiousness (Francis, 2005). As such, it is highly probable that the incidence of OCD is higher among people who observe religious tasks on a regular basis than it is among those who do not.

Religion provides a community to identify with, inducing a sense of belonging. Adherents find more opportunity to socialise in groups by which they can overcome social anxiety and master their skills of Agreeableness. In this respect, OCD may conflict with religion. However, religion also encourages conformity to community norms and the conservation of established values, which, this time, is consistent with the features of OCD as featured above.

To recapitulate in the light of the discussions so far, a limited study on the religion–OCD link within a Turkish context, inconsistencies in findings, ignoring non-clinical public samples (Steketee et al., 1991), and ultımately the potential of personality traits to explain the religiosity–OCD link, led to the emergence of this study. The aim of the present study was to examine the connection between religion and OCD in a non-clinical Muslim sample, while also examining the role personality traits may have in explaining the connection.

Method

In order to find answers to the questions above, a survey study was conducted with non-clinical participants. The following instruments took place within the survey along with demographic variables of age and gender (1 = "male"; 2 = "female"; and 3 = "other").[1]

Participants

Data were collected from 298 conveniently selected participants who fell in one of the three age groups: age 16–19, Adolescents (32 in total); age 20–35, Young Adults (219 in total); and age 36–66, Middle Age Participants (47 in total) with a gender distribution of 113 (38%) men and 184 (62%) women. Noticeably, most of the sample consisted of students studying at universities in different cities of Turkey, both rural and urban, including the towns of Ankara, Istanbul, and Mus. The more mature participants were selected, sometimes using snowball sampling, from middle-class family members of the student populatıon and company staffers in the cities of Bursa and Istanbul.

The reason for selecting a non-clinical sample is that the effect of OCD, whether it (OCD) is in the diagnostic level or lower, is assumed to be widely destructive to the QoL in a wider population than in limited clinical samples; and that it could be more common than it appears, as many lay people had no desire to visit clinics for reasons such as the stigma attached to the "slur" of mental illness.

Instruments for data collection

OCD Scale: The Brief Obsessive-Compulsive Scale (BOCS) is widely used internationally and is based on the Yale-Brown Obsessive-Compulsive Scale (Bejerot et al., 2014). The 15-item self-report scale is used for assessing the symptoms of OCD and for diagnosing OCD. This 15-item Symptom Checklist Scale consists of five subscales, namely: Symmetry, Forbidden Thoughts, Contamination, Morality, and Dysmorphic Thoughts. Items were supported with examples written underneath. It was argued that BOCS has the ability to distinguish between OCD patients from non-OCD participants and that its utility in clinical works is supported strongly (Bejerot et al., 2014). In this study, the original three-response options of each item, e.g., "current", "past", and "never", were replaced with the five Likert-style options "never", "rarely", "sometimes", "usually", and "always", following the question: "How often do you experience the following thoughts and behaviours?" The scale items were translated by the two authors together with a third person whose standard of English was deemed to be "very good". Independently and subsequently the translations were compared and discussed until a consensus of three was arrived at. In the second stage, the translated scale (along with other scales) was applied to between five and eight people to get feedback regarding its clarity. It was found that three items in the original version did not make proper sense or could be perceived to have slightly different meanings. These were corrected in light of the feedback received. In the end, both authors were satisfied that the items (along with their examples) were adapted fully into Turkish.

The Ok-Religious Attitude Scale: The scale was developed by Ok (2016) to measure the degree of Islamic religiosity. The scale has four dimensions – Cognitive, Affective, Behavioural, and God-Relational – each consisting of two items. Each item was responded to on a five-point Likert style ranging from "not at all agree" to "totally agree". The scale is known to have high construct and criterion validity, which were derived from two different Turkish samples (see Ok, 2016).

The Big-Five Inventory: A 44-item scale developed by John and Srivastava (1999) which measures five dimensions of personality: Neuroticism (eight items), Extraversion (eight items), Openness (10 items), Agreeableness (nine items), and Conscientiousness (nine items). The instrument was translated and adapted into Turkish by the first author (Ok, 2011) in collaboration with another colleague. Although the full adaptation process such as conducting back translation was not followed, it was strictly and repeatedly examined, revised, and tested in pilot studies. It revealed satisfactory to high internal consistency ranging between .68 to .83 and construct validity even stronger than those of the Revised NEO Personality Inventory adapted into Turkish by Gulgoz (2002). All items are rated on a five-point Likert-type scale, ranging from "I do not agree at all" to "I strongly agree".

Procedure

Questionnaires were administered to people in the public sphere and in university settings. In the university, verbal permission was obtained from the lecturer to use the last 20 minutes of class/lecture time to administer the questionnaires. After talking about the aim of the survey participants were asked whether they would be willing to participate. A few objected and were withdrawn. Among lay people the snowball sampling method was applied in some instances.

The administrator of the questionnaire provided information verbally and in written format about the study and the ethical issues involved in participating, and only to those participants who had voluntarily agreed to participate were the questionnaire administered. Regarding ethical considerations, the study was conducted in accordance with the Codes of Ethics and Conduct prepared by The British Psychological Society (2009), as the participants were asked to provide details about their private lives, including the severity of OCD, their religious beliefs, personality, gender, and age. All participants provided written, informed consent. The researchers employed all necessary measures to preserve the psychological well-being, personal values, and dignity of the participants. The data-handling protocol was designed to ensure all data were safely processed and stored, so as to avoid inadvertent disclosure.

Treatment of data

Data were analysed using IBM SPSS Statistics for Windows v.22.0 (IBM Corp., Armonk, NY). After first screening the raw data for errors, all items were exposed to component analysis to check the construct validity of the OCD conception. The reason for using exploratory factor analysis was not for seeking confirmation of a constructed previous scale but to explore whether the construct was perceived in the way it was originally devised in this particular Muslim sample using this particular data.

The subscales of the OCD were formulated according to the results of component analysis and follow-up item analyses. Next, descriptive features of the study variables with regard to the number of participants, range of values and mean scores, standard deviations, and alpha scores for the scales were presented. In the third stage, an inter-correlation matrix was produced to show the correlations between variables. Finally, the results of hierarchical multiple regression analysis were introduced, for which OCD and religiosity were put as predicted variables interchangeably. In predicting OCD, the first stage gender and age were entered into the model, followed by religiosity in the second stage. In the final stage, personality traits were added into the model. In predicting religiosity, the above order was protected with the exception of exchanging the place of religiosity with OCD.

Results

The results of component analysis of 15 OCD items can be seen in Table 1.

Initially, factor analysis was conducted with the criterion that only factors whose eigenvalue was 1.0 or above were allowed. The results revealed three factors. However, considering that some of the dimensions of OCD in the short version of the OCD scale were

Table 1. Factor loadings of OCD items based on principle component analysis and item endorsement of participants.

		Components						
Code	Items	Harm Control (forbidden thoughts)	Symmetry (controlling unconscious danger)	Contamination (avoiding unobservable danger)	Dysmorphic Thoughts (target change/self-inferiority/suppression/ guilt feelings)	Morality (collective/ ultimate control)	h^2	Item endorsement
Harm1	I fear that my actions might harm others.	**.73**	.17	.11	.15	.07	.79	25.7
Relig2	In order to prevent something terrible to happen I must have special thoughts or acts done in a special way.	**.70**	.10	.06	.05	.29	.74	23.1
Harm2	I fear I will lose control and do something I don't want to do.	**.68**	−.01	.19	.32	.02	.60	18.4
Justright	I have a compelling urge to repeat certain actions until it feels just right.	**.58**	***.52***	.13	.10	.03	.60	20
Check	I must check the stove or other electrical appliances, that I have locked the door or make sure that things have not disappeared.	**.45**	.24	***.40***	.05	.13	.50	36.1
Sym2	I get a compelling urge to put my things in a special order.	.07	**.80**	.19	.09	.25	.45	46.2
Sym1	How things are placed or how they are positioned is important to me. It needs to feel "just right"	.01	**.72**	.26	.09	*.34*	.62	3.2
Hoard	I must follow strong impulses to collect and hoard things.	*.34*	**.71**	−.01	.10	−.20	.60	14.5
Cont1	I am worried about dirt, germs, virus.	.09	.12	**.87**	.07	.10	.78	21.8
Cont2	I wash my hands very often or in a special way to be sure I am not dirty or contaminated.	.29	.18	**.77**	.01	.19	.71	31.1
Sdam	I do things that injure my body.	.06	.04	.10	**.81**	−.01	.76	9.9

(*Continued*)

Table 1. Continued.

		Components						
Code	Items	Harm Control (forbidden thoughts)	Symmetry (controlling unconscious danger)	Contamination (avoiding unobservable danger)	Dysmorphic Thoughts (target change/self-inferiority/suppression/ guilt feelings)	Morality (collective/ ultimate control)	h^2	Item endorsement
Somat	I have worries that I look peculiar; I am concerned that something is wrong with my looks.	.18	.28	.14	**.68**	−.02	.63	14.7
Sexobs	I have unpleasant forbidden or perverse sexual thoughts, images or impulses that frighten me.	.29	−.02	*−.31*	**.56**	.04	.67	6.5
Moral	I am occupied with morality issues, justice or what is right or wrong.	.14	.08	.11	.08	**.86**	.60	52.7
Relig1	My dirty words, thoughts and curses directed towards God bothers me; I have a fear of offending God.	.29	.26	.30	−.22	**.57**	.68	65.4
	Explained variance	**.32**	**.12**	**.08**	**.07**	**.06**		
	Total explained variance			**.65**				

Note: Scores < .30 were suppressed to ease the capture of the table. Harm1–2 = Harming Obsessions: Items 1 & 2; Relig1–2 = Religion/Magical thoughts/Superstition: Items 1 & 2; Just right = Just right/repeating rituals/counting; Check = Checking; Sym1–2 = Symmetry/Exactness/Ordering: Items 1 & 2; Hoard = Hoarding & Saving; Cont1–2 = Contamination/Cleanness: Items 1 & 2; Sdam = Self-damaging behaviours; Somat = Somatic obsessions; Sexobs = Sexual obsessions; Moral = Morality & Justice. Highest factor loadings are in bold and all secondary factor loadings .35 or above in italics. h^2, communality, i.e., the proportion of variance of a single item that is explained by the factor solution.

sometimes represented by one item, the results were checked with forced factor solutions despite being below the 1.0 eigenvalue criterion. In the end, a five-factor solution was found to be the most viable.

As evidenced in Table 1, five factors have emerged: *Harm Control/Forbidden Thoughts, Symmetry, Contamination, Dysmorphic Thoughts,* and *Morality/Religion*. Although factor loadings of items do not correspond to original constructions precisely, they are rather meaningful and, with few exceptions, fit with the overall idea of OCD, which forms both a new perspective and a point of intercultural criticism to be levelled against the original perspective.

As a rule of thumb, only loadings which are above .40 were considered within the coverage of related construct. The two items which simultaneously loaded into two constructs above .40 and another two items which reduced the alpha score of the construct they loaded were discarded in the scale computation. However, in OCD-total computation, all items were included as they altogether showed an ideal inter-item consistency level, i.e., .84.

The total average percentage of the high endorsement (*mostly* or *always*) is about 28, which could be taken as an indicator about the commonality of the OCD symptoms. However, the only *always* option score is about 10. Among these, the rate of the *Always* option of two items related to religion and Morality are rather high (40 and 21, respectively). Considering that the highest percentages of endorsement are related to religiosity (65%) and Morality (53%), it could be argued that many people feel some type of guilt between the "obligatory" religious duties and lagging behind the normative expectations.

The descriptive features of the scales can be observed in Table 2.

As seen in Table 2, the internal consistency of items composing the scales tend to be regarded as ideal or satisfactory, given the number of items perhaps with three exceptions of Agreeableness (.64), Dysmorphic Thoughts (.57), and Morality (.57) with relatively low alpha scores, which still could be used in initial or exploratory studies such as this (see

Table 2. Descriptive statistics.

	N	Minimum	Maximum	Mean	Std deviation	*α*
Demographic variables						
Sex	298	1.00	2.00	1.62	.49	
Age	298	16.00	66.00	26.40	10.36	
Religiosity	299	1.00	5.00	3.99	.84	
Personality components						
Neuroticism (8)	299	1.13	5.00	3.03	.71	.80
Extraversion (9)	299	1.56	4.89	3.23	.63	.80
Openness (9)	299	1.67	5.00	3.20	.65	.81
Agreeableness (9)	299	1.44	4.78	3.66	.50	.64
Conscientiousness (9)	299	1.22	5.00	3.50	.64	.83
OCD components						
Harm control (3)	299	1.00	5.00	2.37	1.00	.70
Symmetry (2)	298	1.00	5.00	2.91	1.23	.80
Contamination (2)	299	1.00	5.00	2.66	1.05	.77
Dysmorphic Thoughts (2)	298	1.00	5.00	2.00	.94	.57
Morality (2)	297	1.00	5.00	3.61	1.04	.57
Repeating Rituals (1)	299	1.00	5.00	2.30	1.28	–
Checking (1)	299	1.00	5.00	2.94	1.30	–
Hoarding (1)	298	1.00	5.00	2.06	1.23	–
Sexual Obsessions (1)	296	1.00	5.00	1.78	.98	–
OCD-Total (15)	298	1.07	4.40	2.57	.68	.84

Loewenthal, 2004; Nunnally, 1978). The most common OCD component is Morality with a mean score of 3.61 followed by checking (2.94) and Symmetry (2.91). The least common theme is sexual obsessions with only 1.78 mean score. This could be restricted due to the taboo in the vocalisation and externalisation of sexuality in a predominantly conservative Turkish society. Participants' religiosity is quite high with a mean score of 3.99.

As seen in Table 3, men tend to show more Harm Control, Morality, Repeating Rituals, and Sexual Obsessions than do females. In terms of age, the younger stratum of the sample shows more dysmorphic actions and thoughts and hoarding habits compared with their relatively older counterparts.

Religiosity has positive correlations with OCD in general, and with Contamination, Symmetry, Morality, Repeating Rituals, and Checking in particular. It has a negative correlation with sexual obsessions. OCD kept correlating with religiosity even after removing Morality items from the scale.

In terms of personality, only Neuroticism and Conscientiousness are correlated positively with the OCD-total overall. However, relations of personality traits with OCD components differ at dimensional levels. For instance, while Agreeableness is positively linked with Symmetry and Morality, it negatively correlates with Dysmorphic Thoughts and sexual obsessions. In contrast, whilst Conscientiousness is positively linked with Contamination, Symmetry, Morality, and Checking, it is negatively linked with Dysmorphic Thoughts and sexual obsessions.

None of the OCD components has any significant connection with Extraversion and Openness, except a minor significant correlation between Contamination and Openness.

The results of regression analyses can be seen in Tables 4 and 5.

In predicting OCD, in the first step, sex (for men) significantly predicted OCD scores. However, sex along with age accounted for a very small but significant proportion of variance in OCD scores. In the second step, religiosity significantly predicted OCD, $\beta = .29$, $t(298) = 5.16$, $p < .001$. It explained a significant proportion of variance in OCD scores, $R^2 = .10$, $F(3, 298) = 12.35$, $p < .001$. In the third step, among the personality dimensions, Neuroticism and Conscientiousness significantly predicted OCD, $\beta = .24$, $t(298) = 4.19$, $p < .001$, and $\beta = .18$, $t(298) = 2.99$, $p < .001$, respectively. Personality variables altogether explained an additional 7% of the OCD variable. Sex, gender, religiosity, and personality dimensions altogether explained a moderate size of the OCD variable, $R^2 = .17$, $F(8, 298) = 8.43$, $p < .001$. It is noticeable that controlling personality variables did not

Table 3. Pearson's product moment correlations for OCD with religiosity and personality traits.

	Demographics		Religiosity	Personality				
OCD components	Sex	Age	Religiosity	*N*	E	O	A	C
Contamination	−.02	−.07	.22***	.05	.04	.13*	−.02	.27***
Harm Control	−.18**	−.07	.06	.09	−.01	.07	−.04	.03
Symmetry	.04	−.07	.30***	.14*	−.03	.07	.15**	.35***
Dysmorphic Thoughts	−.05	−.18**	−.10	.23***	−.07	.04	−.15**	−.16**
Morality	−.12*	.09	.51***	.11	.00	.09	.14*	.29***
Repeating Rituals	−.20***	−.06	.15*	.16**	−.05	−.05	.03	.06
Checking	−.10	.00	.17**	.11	−.04	−.08	.06	.26***
Hoarding	−.01	−.19**	.07	.06	−.01	.03	.07	.02
Sexual Obsessions	−.19**	−.02	−.15**	.09	−.01	.04	−.23***	−.20**
OCD-Total	−.14*	−.10	.25***	.19**	−.03	.08	.01	.19**

Note: N: Neuroticism; E: Extraversion; O: Openness; A: Agreeableness; C: Conscientiousness. ***$P \leq .001$; **$P \leq .01$; *$P \leq .05$.

Table 4. Summary of multiple regression analysis predicting OCD ($N = 298$).

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Sex	−.20	.08	−.14**	−.27	.08	−.19***	−.31	.08	−.22***
Age	−.01	.00	−.10	−.01	.00	−.14**	−.01	.00	−.16***
Rel. Attitude				.24	.05	.30***	.20	.05	.24***
Neuroticism							.23	.06	.24***
Extraversion							.01	.07	.01
Openness							.05	.06	.04
Agreeableness							−.09	.08	−.07
Conscientiousness							.20	.07	.19***
R^2			.02			.10			.17
F for change in R^2			4.50**			27.50***			5.55***

***$P \leq .001$; **$P \leq .01$; *$P \leq .05$.

Table 5. Summary of multiple regression analysis predicting religious attitude ($N = 298$).

	Model 1			Model 2			Model 3		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Sex	.28	.10	.13*	.35	.10	.17**	.25	.09	.12*
Age	.01	.00	.13*	.01	.00	.16**	.01	.00	.08
OCD				.36	.07	.29***	.27	.07	.21***
Neuroticism							.02	.07	.02
Extraversion							−.12	.08	−.09
Openness							.00	.07	−.01
Agreeableness							.42	.09	.25***
Conscientiousness							.36	.07	.28***
R^2			.04			.12			.26
F for change in R^2			6.34**			27.50***			12.27***

***$P \leq .001$; **$P \leq .01$; *$P \leq .05$.

affect the role of religion in predicting OCD, significantly causing only a small size decrease in Beta, $\beta = .23$, $t(298) = 3.87$, $p < .001$. Finally, it is also clear that sex and age significantly predicted OCD after controlling religiosity and personality dimensions.

In predicting religiosity, in the first step, both sex (for women) and age significantly predicted religiosity scores. However, they explained a very small but significant proportion of variance in religiosity scores. In the second step, OCD significantly predicted religiosity, $\beta = .29$, $t(298) = 5.16$, $p < .001$. It explained a significant proportion of variance in religiosity scores, $R^2 = .10$, $F(3, 298) = 12.40$, $p < .001$. In the third step, among the personality dimensions Agreeableness and Conscientiousness significantly predicted OCD. Personality variables explained an additional 17% of the religiosity variable. Sex, gender, OCD, and personality dimensions altogether explained a moderate size of the religiosity, $R^2 = .27$, $F(8, 298) = 13.47$, $p < .001$. It is noticeable that controlling personality variables did not affect the role of OCD in predicting religiosity at a significant level with only a small size decrease in Beta.

Discussion and conclusion

The findings can be summarised as follows.

The present study confirmed that religiosity connected with OCD significantly in a non-clinical sample. The connections between religiosity and OCD components are weak or moderate. Only about 10% of OCD is explained by religiosity and a further 8% by

Neuroticism and Conscientiousness. In contrast, 10% religiosity is explained by OCD and a further 17% by personality factors, i.e., by Agreeableness and Conscientiousness.

Participants with high Neuroticism and Conscientiousness are more prone to OCD than people with low Neuroticism and Conscientiousness. This typically corresponds to both anxiety and the aspect of compensating ritualisation of OCD characteristics. Considering that religion has no significant relationship with Neuroticism and that OCD has a connection with it (Neuroticism) and that both religion and OCD is connected with Conscientiousness, it could be argued that the relationship between OCD and religion is partially mediated by the role of Conscientiousness, which is also supported by the result of a partial correlation in which Conscientiousness (but not Neuroticism) reduced religion–OCD relationship from .25 ($p < .001$) to .19 ($p < .01$). This may also support the hypothesis that religion is not a state of anxiety but could be an alleviated form of anxiety.

There is no effect of religiosity in the positive connection between Neuroticism and OCD-total as it was revealed in the partial correlation in which the level of correlation between the two did not change significantly after controlling the effect of religion. This means that religion may not be an anxiety-reducing factor in OCD nor a type of Neuroticism, as Freud (1961) claimed, protecting individuals from wider OCD symptoms.

Despite sex having a positive correlation with Neuroticism (.14, $p < .05$), its relations with four components of OCD (e.g., Harm Control, Morality, Repeating Rituals, and Sexual Obsessions) are negative, in that men tend to exhibit more OCD symptoms than women, which is in line with the findings related to men by De Mathis et al. (2011). It could be interpreted that despite a stricter childhood upbringing in Turkish society, women might have internalised anxiety-reducing norms as legitimate more so than men – to use the theories regarding the origin of OCD above.

It is possible to argue that a certain level of existential anxiety is intrinsic to religiosity. Although religion has no connection with Neuroticism, it has a positive link to OCD, a close ally of Neuroticism. How could this be explained? It could be argued that the intrinsic feelings of anxiety stemming from a rigid upbringing might have been transformed by the committed believer into a religious lifestyle, a type of "obsessions and compulsions", which could be playing a role of attempted neutralisation (Himle et al., 2011).

The negative relations of OCD-total with Extraversion and Agreeableness; and positive relation with Openness were not confirmed in the current study. Therefore, the findings that OCD negatively correlated with Extraversion and Agreeableness in previous studies (e.g., Eysenck & Eysenck, 1985; Samuels et al., 2000) in clinical samples could be taken as that introversion and Poor Agreeableness could be the effect of OCD on personality rather than on natural personality predictors of it.

The conceptualisation of religious scrupulosity in the measure used in this study is somewhat dubious as it was indicated by the factor analysis. Although the factors revealed in the present study matches well overall with some cultural variations in the original constructs of the scale, the convergent and discriminant validity of the BOCS needs to be replicated. One item of religiosity (*relig 2*) particularly is nothing to do with religion in terms of content.

There are a number of implications of the present findings for both clinical practice and religious ministry. With regard to clinical practice, it is understood that some forms of religiosity may involve OCD symptoms. This can be understood in cases where people with scrupulosity may routinely pursue advice or reassurance about trivial religious or moral

issues, and where people spend more time than is necessary for religious rituals such as washing and worship. The overall duty of the therapist is not to stop patients practising their faith but to help them live a satisfying religious life and to show that the current symptoms are interfering with their daily functioning (Huppert, Siev, & Kushner, 2007). Similarly, as Greenberg and Huppert (2010) indicated, mental health practitioners need to have the skills to be able to distinguish between functional religious thoughts and behaviours and pathological ones.

On the part of the clergy, it is suggested for practitioners to learn how to distinguish scrupulosity from religious practice so that they can refer members of the congregation with OCD to mental health practitioners as soon as OCD symptoms are noticed. Religious educators and mental health practitioners should be aware that religion may have a securing role in alleviating social anxiety, and that stricter conception and socialisation of religion may harm the mental health of believers.

The limitations of the study are that despite the (strong and positive) size of high endorsement to OCD items, the selected sample consisted only of a non-clinical group. In addition, the alpha coefficient scores of three variables (i.e., Agreeableness, Dysmorphic Thoughts, and Morality) are relatively low, and thus their items need to be worked out. The final imperfection could be related to item sizes of the OCD scales emerged as a result of factor analysis. Although at least three items are desired for each of the factors emerged from factor analysis, there emerged only two items in two of the factor loadings in the present study which does not meet this criterion. However, it is possible to find exceptions regarding this rule in the literature as in the case of Brief Personality Scales (see Gosling, Rentfrow, & Swann, 2003).

Note

1. As only one participant selected the "else" option, this was not included in the calculations of sex variable.

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No potential conflict of interest was reported by the authors.

References

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 Journal*, *20*, 70–76. doi:10.1002/da.20021

Abramowitz, J. S., Huppert, J. D., Cohen, A. B., Tolin, D. F., & Cahill, S. P. (2002). Religious obsessions and compulsions in a non-clinical sample: The Penn Inventory of Scrupulosity (PIOS). *Behaviour Research and Therapy*, *40*, 825–838. doi:10.1016/S0005-7967(01)00070-5

Al-Solaim, L., & Loewenthal, K. M. (2011). Religion and obsessive-compulsive disorder (OCD) among young Muslim women in Saudi Arabia. *Mental Health, Religion & Culture*, *14*(2), 169–182. doi:10.1080/13674676.2010.544868

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.

Argyle, M. (2000). *Psychology and religion: An introduction*. London: Routledge.

Assarian, F., Biqam, H., & Asqarnejad, A. (2006). An epidemiological study of obsessive–compulsive disorder among high school students and its relationship with religious attitudes. *Archives of Iranian Medicine*, *9*, 104–107. Retrieved from http://razi.ams.ac.ir/AIM/0692/004.pdf

Babbitt, T., Rowland, G. L., & Franken, R. E. (1990). Sensation seeking and participation in aerobic exercise classes. *Personality and Individual Differences*, *11*, 181–183. doi:10.1016/0191-8869(90)90011-F

Bejerot, S., Edman, G., Anckarsäter, H., Berglund, G., Gillberg, C., Hofvander, B., … Frisén, L. (2014). The Brief Obsessive–Compulsive Scale (BOCS): A self-report scale for OCD and obsessive–compulsive related disorders. *Nordic Journal of Psychiatry*, *68*(8), 549–559. doi:10.3109/08039488.2014.884631

Besiroglu, L., Karaca, S., & Keskin, I. (2014). Scrupulosity and obsessive compulsive disorder: The cognitive perspective in Islamic sources. *Journal of Religion and Health*, *53*(1), 3–12. doi:10.1007/s10943-012-9588-7

Bobes, J., Garcia-Portilla, M. P., Bascaran, M. T., Saiz, P. A., Bobes-Bascaran, M. T., & Bousono, M. (2007). Quality of life in obsessive-compulsive disorder. In M. S. Ritsner & A. G. Award (Eds.), *Quality of life impairment in schizophrenia, mood and anxiety disorders: New perspectives on research and treatment* (pp. 293–303). Dordrecht: Springer.

Bonchek, A., & Greenberg, D. (2009). Compulsive prayer and its management. *Journal of Clinical Psychology*, *65*(4), 396–405. doi:10.1002/jclp.20558

Cirhinlioğlu, F. G., & Ok, Ü. (2010). İnanç ve dünya görüşü biçimleri ile intihara yönelik tutum, depresyon ve yaşam doyumu arasındaki ilişkiler [Relationships between the styles of faith/worldview and attitude to suicide, depression and life satisfaction]. *C. Ü. Sosyal Bilimler Dergisi*, *34*(1), 1–8. Retrieved from http://dergipark.gov.tr/download/article-file/49841

Cosgore, E., Cross, S., & Bhugra, D. (2011). Religious devotion: A risk factor for mental illness? Examining the link between religiosity and obsessive-compulsive disorder. *South Asian Journal of Psychiatry*, *2*(2), 1–8. Retrieved from http://www.saarcpsychiatry.com/view?chapter=c11

De Mathis, M. A., De Alvarenga, P., Funaro, G., Torresan, R. C., Moraes, I., Torres, A. R., … Hounie, A. G. (2011). Gender differences in obsessive-compulsive disorder: A literature review. *Revista Brasileira de Psiquiatria*, *33*, 390–399. doi:10.1590/S1516-44462011000400014

Eğrilmez, A., Gülseren, L., Gülseren, Ş., & Kültür, S. (1997). Phenomenology of obsessions in a Turkish series of OCD patients. *Psychopathology*, *30*, 106–110. doi:10.1159/000285037

Ellison, C. G., & Levin, J. S. (1998). The religion–health connection: Evidence, theory, and future directions. *Health Education & Behavior*, *25*, 700–720. doi:10.1177/109019819802500603

Ethics Committee of the British Psychological Society. (2009). *Code of ethics and conduct*. Leicester: The British Psychological Society.

Eysenck, H. J., & Eysenck, M. W. (1985). *Personality and individual differences: A natural science approach*. New York, NY: Plenum Press.

Francis, L. J. (1985). Personality and religion: Theory and measurement. In L. B. Brown (Ed.), *Advances in the psychology of religion* (pp. 171–184). Oxford: Pergamon Press.

Francis, L. J. (2005). *Faith and psychology: Personality, religion and the individual*. London: Darton, Longman and Todd.

Francis, L., Ok, Ü., & Robins, M. (2017). Religion and happiness: A study among university students in Turkey. *Journal of Religion and Health*, *56*(4), 1335–1347. doi:10.1007/s10943-016-0189-8

Freud, S. (1961). *The future of an illusion*. London: Norton.

George, L. K., Ellison, C. G., & Larson, D. B. (2002). Explaining the relationships between religious involvement and health. *Psychological Inquiry*, *13*, 190–200. doi:10.1207/S15327965PLI1303_04

Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality*, *37*(6), 504–528. http://doi.org/10.1016/S0092-6566(03)00046-1

Greenberg, D., & Huppert, J. D. (2010). Scrupulosity: A unique subtype of obsessive-compulsive disorder. *Current Psychiatry Reports*, *12*, 282–289. doi:10.1007/s11920-010-0127-5

Greenberg, D., Witztum, E., & Pisante, J. (1987). Scrupulosity: Religious attitudes and clinical presentations. *British Journal of Medical Psychology*, *60*, 29–37. doi:10.1111/j.2044-8341.1987.tb02714.x

Gulgoz, S. (2002). Five factor theory and NEO-PI-R in Turkey. In R. R. McCrae & J. Allik (Eds.), *The five-factor model of personality across cultures* (pp. 175–196). New York, NY: Kluwer Academic/Plenum Publishers.

Hermesh, H., Masser-Kavitzky, R., & Gross-Isseroff, R. (2003). Obsessive–compulsive disorder and Jewish religiosity. *Journal of Nervous and Mental Disease*, *191*, 201–203. doi:10.1097/00005053–200303000-00012

Higgins, N. C., Pollard, A. A., & Merkel, W. T. (1992). Relationship between religion-related factors and obsessive compulsive disorder. *Current Psychology: Research and Reviews*, *11*(1), 79–85. doi:10.1007/BF02686830

Himle, J. A., Chatters, L. M., Taylor, R. J., & Nguyen, A. (2011). The relationship between obsessive-compulsive disorder and religious faith: Clinical characteristics and implications for treatment. *Psychology of Religion and Spirituality*, *3*(4), 241–258. doi:10.1037/a0023478

Himle, J. A., Taylor, R. J., & Chatters, L. M. (2012). Religious involvement and obsessive compulsive disorder among African Americans and Black Caribbeans. *Journal of Anxiety Disorders*, *26*, 502–510. doi:10.1016/j.janxdis.2012.02.003

Hood, R. W., Hill, P. C., & Spilka, B. (2009). *The psychology of religion: An empirical approach* (4th ed.). New York, NY: Guilford Press.

Huppert, J. D., Siev, J., & Kushner, E. S. (2007). When religion and obsessive compulsive disorder collide: Treating scrupulosity in ultra-Orthodox Jews. *Journal of Clinical Psychology*, *63*, 925–941. doi:10.1002/jclp.20404

Inozu, M., Karanci, A., & Clark, D. A. (2012). Why are religious individuals more obsessional? The role of mental control beliefs and guilt in Muslims and Christians. *Journal of Behavior Therapy and Experimental Psychiatry*, *43*, 959–966. doi:10.1016/j.jbtep.2012.02.004

John, O. P., & Srivastava, S. (1999). The big-five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (Vol. 2, pp. 102–138). New York, NY: Guilford Press.

Koenig, H. G., Ford, S. M., George, L. K., Blazer, D. G., & Meador, K. G. (1993). Religion and anxiety disorder: An examination and comparison of associations in young, middle-aged, and elderly adults. *Journal of Anxiety Disorders*, *7*, 321–342. doi:10.1016/0887-6185(93)90028-J

Lewis, C. A., & Maltby, J. (1995). Religious attitude and practice: The relationship with obsessionality. *Personality and Individual Differences*, *19*, 105–108. doi:10.1016/0191–8869(95)00027-4

Loewenthal, K. M. (2004). *An introduction to psychological tests and scales*. Hove: Psychology Press.

Nelson, E., Abramowitz, J. S., Whiteside, S. P., & Deacon, B. J. (2006). Scrupulosity in patients with obsessive–compulsive disorder: Relationship to clinical and cognitive phenomena. *Journal of Anxiety Disorders*, *20*, 1071–1086. doi:10.1016/j.janxdis.2006.02.001

Nunnally, J. C. (1978). *Psychometric theory*. New York, NY: McGraw-Hill Inc.

Ok, Ü. (2011, August). *Five factors of personality and religiosity*. Paper presented at the Congress of International Association for the Psychology of Religion, Bari, Italy.

Ok, Ü. (2016). The Ok-Religious Attitude Scale (Islam): Introducing an instrument originated in Turkish for international use. *Journal of Beliefs & Values*, *37*(1), 55–67. doi:10.1080/13617672.2016.1141529

Okasha, A. A., Saad, A. A., Khalil, A. H., Dawla, A., & Yehia, N. (1994). Phenomenology of obsessive-compulsive disorder: A transcultural study. *Comprehensive Psychiatry*, *35*(3), 191–197. doi:10.1016/0010-440X(94)90191-0

Paloutzian, R. F., & Park, C. L. (2005). *Handbook of the psychology of religion and spirituality*. New York, NY: The Guilford Press.

Pargament, K. I. (2003). God help me: Advances in the psychology of religion and coping. *Archive for the Psychology of Religion/Archiv für Religions pychologie*, *24*, 48–63. doi:10.1163/157361203X00219

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

Raphael, D., Rukholm, E., Brown, I., Hill-Bailey, N., & Donato, E. (1996). The quality of life profile – adolescent version: Background, description, and initial validation. *Journal of Adolescent Health*, *19*, 366–375. doi:10.1016/S1054-139X(96)00080-8

Rassin, E., & Koster, E. (2003). The correlation between thought–action fusion and religiosity in a normal sample. *Behaviour Research and Therapy*, *41*, 361–368. doi:10.1016/S0005-7967(02)00096-7

Rector, N. A., Hood, K., Richter, M. A., & Bagby, R. M. (2002). Obsessive-compulsive disorder and the five-factor model of personality: Distinction and overlap with major depressive disorder. *Behaviour Research and Therapy*, *40*, 1205–1219. doi:10.1016/S0005-7967(02)00024-4

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

Samuels, J., Nestadt, G., Bienvenu, O. J., Costa, P. T. J., Riddle, M. A., Liang, K. Y., … Cullen, B. A. M. (2000). Personality disorders and normal personality dimensions in obsessive-compulsive disorder. *British Journal of Psychiatry*, *177*, 457–462. doi:10.1192/bjp.177.5.457

Saroglou, V. (2002). Religion and the five factors of personality: A meta-analytic review. *Personality & Individual Differences*, *32*, 15–25. doi:10.1016/S0191-8869(00)00233-6

Shafran, R., Watkins, E., & Charman, T. (1996). Guilt in obsessive-compulsive disorder. *Journal of Anxiety Disorders*, *10*(6), 509–516. doi:10.1016/S0887-6185(96)00026-6

Sica, C., Novara, C., & Sanavio, E. (2002). Religiousness and obsessive–compulsive cognitions and symptoms in an Italian population. *Behaviour Research and Therapy*, *40*, 813–823. doi:10.1016/S0005-7967(01)00120-6

Steketee, G. (Ed.). (2011). *The Oxford handbook of obsessive compulsive and spectrum disorders*. Oxford: Oxford University Press.

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

Subramaniam, M., Soh, P., Vaingankar, J. A., Picco, L., & Chong, S. A. (2013). Quality of life in obsessive-compulsive disorder: Impact of the disorder and of treatment. *CNS Drugs*, *27*(5), 367–383. doi:10.1007/s40263-013-0056-z

Tek, C., & Ulug, B. (2001). Religion and religious obsessions in obsessive compulsive disorder. *Psychiatry Research*, *104*(2), 99–108. doi:10.1016/S0165-1781(01)00310-9

Tolin, D. F., Abramowitz, J. S., Przeworski, A., & Foa, E. B. (2002). Thought suppression in obsessive-compulsive disorder. *Behaviour Research and Therapy*, *40*(11), 1255–1274. http://doi.org/10.1016/S0005-7967(01)00095-X

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