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Scrupulosity in patients with obsessive– compulsive disorder: Relationship to clinical and cognitive phenomena

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Abstract

Scrupulosity is often encountered among individuals with obsessive–compulsive disorder (OCD), yet relatively few studies have examined this particular symptom presentation. Using a large sample of OCD patients, the present investigation examined (a) the relationship between religiosity and scrupulosity, (b) the association between scrupulosity and the severity of OCD, anxiety, and depressive symptoms, and (c) the connection between scrupulosity and cognitive domains related to OCD. Scrupulosity was correlated with obsessional symptoms and several cognitive domains of OCD, including beliefs about the importance of, and need to control intrusive thoughts, an inflated sense of responsibility, and moral thought–action fusion. These results are examined in terms of cognitive behavioral conceptualizations of OCD and the treatment implications of these findings are discussed.

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Obsessive–compulsive disorder (OCD) is an anxiety disorder involving (a) persistent unwanted anxiety-evoking thoughts, ideas, and images (i.e., obsessions) that are subjectively resisted, and (b) urges to reduce this anxiety via some other thought or behavior (i.e., compulsive rituals). The themes of OCD symptoms vary widely (e.g., contamination, aggression; for a review see McKay et al., 2004) with one of the more recalcitrant presentations involving obsessions and compulsions concerned with religion (e.g., Akhtar, Wig, Varma, Pershad, & Verma, 1975). Religious OCD symptoms, often referred to as *scrupulosity*, typically involve “seeing sin where there is none” and are frequently focused on minor details of the person’s religion, to the exclusion of more important areas. Examples include unwanted sacrilegious obsessional thoughts (e.g., about the Devil), excessive doubt regarding whether one has committed a sin (e.g., daydreaming while praying), and religious behavior taken to extreme (e.g., excessive confession).

Several studies suggest that scrupulosity is a common presentation of OCD.¹ Examining the content of obsessions among 425 individuals with OCD, Foa and Kozak (1995) found religion to be the fifth most common theme, with 5.9% of patients endorsing it as a *primary* obsessional symptom. Antony, Downie, and Swinson (1998) found that 24.2% of a sample of 182 adults and adolescents with OCD reported obsessions having to do with religion (not necessarily their primary obsession). Yet, despite the prevalence and recognition of scrupulosity as a presentation of OCD, relatively few studies have examined its cognitive and affective correlates.

Previous research suggests that a patient’s religious denomination and strength of religiosity can influence his or her OCD symptoms (Abramowitz, Deacon, Woods, & Tolin, 2004; Khanna & Channabasavanna, 1988; Sica, Novara, & Sanavio, 2002) and clinical observations indicate that scrupulosity is often inadvertently reinforced by the teachings of the individual’s religion. Furthermore, fear and intolerance of uncertainty (often seen in individuals with scrupulosity) result in distorted perceptions of the boundary between normal religious behavior and obsessive–compulsive symptoms (Greenberg, 1987) which may complicate cognitive behavioral therapy. As has been the case for other OCD symptom subtypes such as hoarding (Steketee, Frost, Wincze, Greene, & Douglass, 2000) and severe obsessions (Freeston et al., 1997), a clearer understanding of scrupulosity may facilitate the development of more effective treatment strategies for this particular presentation.

¹ Scrupulosity, with a focus on morality, is also mentioned in *DSM-IV-TR* as a symptom of obsessive-compulsive personality disorder (OCPD). However, whereas the thoughts and doubts pertaining to morality are experienced as *unwanted* and *unwelcome* (i.e., “ego-dystonic”) in OCD, they are experienced as consistent with the person’s world view (i.e., “ego-syntonic”) in OCPD. More specifically, scrupulous thoughts, ideas, and images (i.e., obsessions) in OCD are associated with (a) anxiety and fear, (b) subjective resistance (i.e., they elicit rituals and neutralizing responses), and (c) other types of obsessions (e.g., sexual, violent; McKay et al., 2004). In contrast, the scrupulous ideation in OCPD (a) does not evoke anxiety or fear, (b) is not subjectively resisted, and (c) is not associated with violent and sexual obsessions.

Tek and Ulug (2001) compared groups of OCD patients with and without religious obsessions, finding no between group differences in global OCD symptom severity. However, patients with religious symptoms endorsed a greater number of obsession categories on the symptom checklist of the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989a, 1989b) relative to patients without religious OCD symptoms. Consistent with this result, a growing number of factor and cluster analytic studies on the structure of obsessive-compulsive symptoms as assessed by the Y-BOCS symptom checklist have reported that religious obsessions load on a factor with sexual obsessions, and often with aggressive and somatic obsessions (e.g., Mataix-Cols, Rosario-Campos, & Leckman, 2005; McKay et al., 2004). Less often, religious obsessions were found to load with checking and mental compulsions. Taken together, these findings suggest that religious OCD symptoms do not necessarily represent a more severe presentation of OCD per se, but do appear to be most strongly associated with other obsessional phenomena, as opposed to with compulsive rituals (with the possible exception of checking and mental neutralizing).

Contemporary cognitive-behavioral models of OCD implicate specific cognitive phenomena in the development and maintenance of the disorder. These cognitions include: (a) overestimation of threat (the belief that negative events are especially likely and would be especially awful); (b) inflated responsibility (the belief that one has the power to cause, and/or the duty to prevent, negative outcomes); (c) overimportance of intrusive thoughts (the belief that the mere presence of a thought indicates that the thought is significant); (d) the need to control intrusive thoughts (the belief that complete control over one's mental processes is both necessary and possible); (e) perfectionism (the belief that mistakes and imperfection are intolerable); and (f) intolerance of uncertainty (the idea that it is important to be 100% certain that negative outcomes will not occur (Frost & Steketee, 2002). The essential tenet of cognitive-behavioral models (e.g., Rachman, 1998; Salkovskis, 1999) is that OCD develops when unpleasant, yet harmless, intrusive thoughts, doubts, impulses, and images are misinterpreted along the lines of the cognitive factors described above. This misappraisal evokes anxiety and motivates efforts to reduce this anxiety via neutralizing behavior (e.g., rituals) which is reinforced by the immediate (albeit temporary) reduction in distress it engenders (for further description, see Rachman, 1997).

Studies with nonclinical samples have found that certain OCD-relevant cognitive styles are related to religiosity (i.e., strength of religious devotion). For example, greater religiosity was associated with inflated responsibility, perfectionism, and dysfunctional beliefs about the importance of, and need to control, intrusive thoughts among Catholics in Italy (Sica et al., 2002) and among Protestants in the U.S. (Abramowitz et al., 2004). Rassin and Koster (2003) found that religiosity was positively correlated with the belief that thoughts (even involuntary ones) are the moral equivalent of actions (i.e., *moral thought-action fusion* [TAF]), but not the belief that thinking of a negative event increases the probability that the event will occur (i.e., *likelihood TAF*). Collectively, these

findings suggest possible relationships between religiosity, scrupulosity, and maladaptive cognitive processes in OCD. In the only study to date that has examined relationships between religious OCD symptoms and cognitive variables, *Tolin, Abramowitz, Kozak, and Foa (2001)* found that in comparison with patients with contamination or symmetry-related obsessions, those with religious obsessions were more likely to show increased perceptual aberration and magical ideation, and decreased insight into the irrationality of obsessional fears.

Understanding how scrupulosity is related to pertinent cognitive variables could help in advancing specific conceptual models of religious OCD symptoms from which effective cognitive-behavioral treatments might be derived. However, to date there is no research investigating associations between scrupulosity and these cognitive variables in OCD samples. The present study was therefore conducted to further investigate the phenomenon of scrupulosity in a clinical sample of patients with OCD. Specifically, we examined (a) the relationship between religiosity and scrupulosity; (b) the association between scrupulosity and the severity of OCD, anxiety, and depressive symptoms; and (c) the links between scrupulosity and other obsessive-compulsive symptoms and related cognitive phenomena. Findings from previous research led to the hypothesis that scrupulosity would be specifically related to increased obsessional symptoms and checking and neutralizing rituals, but not to global OCD, depression, or anxiety symptom severity. We also predicted that scrupulosity would be associated with the following cognitive variables: inflated responsibility, intolerance of uncertainty, beliefs about the importance of (and need to control) intrusive thoughts, and moral (but not likelihood) TAF.

1. Method

1.1. Participants

The sample consisted of 71 consecutively referred adult (≥ 18 years) patients (37 males, 34 females) who received a diagnosis of OCD at an outpatient anxiety disorders clinic (diagnostic procedures are described below). Patients with comorbid Axis-I disorders were included, yet those with Axis-II (personality) disorders were excluded. The most frequently occurring comorbid conditions were depressive disorders ($n = 22$; 29%). The mean age of the sample was 34.73 years (S.D. = 10.70). A large proportion of the patients was married (40.0%) and currently employed (46.4%). On average, patients had completed 15.3 years of education.

1.2. Measures

The following measures of OCD and related symptom severity, and related cognitive distortions, were completed for the study:

Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989a, 1989b). Global severity of OCD independent of the specific symptom theme was measured using the Y-BOCS, a semi-structured clinical interview that includes a symptom checklist and 10-item severity scale. The severity scale contains items assessing the following parameters of obsessions (Items 1–5) and compulsions (Items 6–10): (a) time, (b) interference, (c) distress, (d) resistance, (e) and degree of control associated with obsessions and compulsions. Each item is rated on a scale from 0 (no symptoms) to 4 (extreme), yielding a total severity score that ranges from 0 to 40, and obsessions and compulsions subscales ranging from 0 to 20. The measure has satisfactory psychometric properties (Goodman et al., 1989b) and is considered the gold standard measure of obsessive–compulsive symptom severity.

Obsessive–Compulsive Inventory—Revised (OCI-R; Foa et al., 2002). The severity of OCD symptom dimensions was assessed via the OCI-R, an 18-item self-report questionnaire based on the earlier 84-item OCI (Foa, Kozak, Salkovskis, Coles, & Amir, 1998). Participants rate the degree to which they are bothered or distressed by various OCD symptoms in the past month on a 5-point scale from 0 (not at all) to 4 (extremely). The OCI-R assesses six dimensions of obsessive–compulsive symptomatology: (a) washing, (b) checking, (c) obsessing, (d) neutralizing, (e) ordering, and (f) hoarding. Preliminary data suggest that the OCI-R possesses adequate internal consistency and test-retest reliability (Foa et al., 2002).

Beck Depression Inventory (BDI; Beck, Ward, Mendelsohn, Mock, & Erlbaugh, 1961). This is a widely used 21-item self-report scale that assesses affective, cognitive, motivational, vegetative, and psychomotor components of depression. It is regarded as an excellent measure of a patient's general distress. Scores of 10 or less are considered normal; scores of 20 or greater suggest the presence of clinical depression. The BDI has been shown to have good reliability and validity (Beck, Steer, & Garbin, 1988).

State-Trait Anxiety Inventory-Trait version, Form Y (STAI-T; Spielberger et al., 1983). The STAI-T is a 20-item scale that measures the stable propensity to experience anxiety and the tendency to perceive stressful situations as threatening. The STAI-T has demonstrated high test-retest reliability, internal consistency, and concurrent validity with other anxiety questionnaires (Spielberger et al., 1983).

Penn Inventory of Scrupulosity (PIOS; Abramowitz, Huppert, Cohen, Tolin, & Cahill, 2002) is a 19-item self-report measure developed to assess scrupulosity in the context of OCD (i.e., religious obsessions). The PIOS consists of two subscales: one measuring fears of having committed a religious sin (Fear of Sin; e.g., I am afraid of having sexual thoughts), and the other measuring the fears of punishment from God (Fear of God; e.g., I worry that God is upset with me). Items are scored on a 5-point scale ranging from 0 (never) to 4 (constantly). Participants are also asked to indicate their current religious affiliation and degree of religious devotion on a scale from 1 (not at all devoted) to 5 (very strongly devoted). Responses to the religious devotion item are strongly correlated with other aspects of religious observance, such as frequency of

attending religious worship services (Abramowitz et al., 2002). The PIOS has adequate psychometric properties in nonclinical samples (Abramowitz et al., 2002) but has not been studied in clinical groups.

Thought–Action Fusion Scale (TAFS; Shafran, Thordarson, & Rachman, 1996). This is a 19-item self-report measure of the tendency to believe that thoughts are equivalent to actions. Twelve items assess *moral* TAF, which is the belief that thoughts are the moral equivalent of actions (e.g., “Having a blasphemous thought is almost as sinful to me as a blasphemous action”); three assess *likelihood-self* TAF, which is the belief that merely thinking about harm coming to oneself increases the likelihood of being harmed (e.g., “If I think of myself being in a car accident this increases the risk that I will have a car accident”); and the remaining four items assess *likelihood-other* TAF, which is the belief that thinking about harm coming to someone else increases the likelihood of that person being harmed (e.g., “If I think of a relative/friend losing their job, this increases the risk that they will lose their job). Agreement with each item is rated on a scale from 0 (disagree strongly) to 4 (agree strongly). The instrument’s psychometric properties are good and have been described by Shafran et al. (1996). We combined the likelihood self- and likelihood-other scales in the following study.

Interpretation of Intrusions Inventory (III; Obsessive Compulsive Cognitions Working Group [OCCWG], 2003). The III is a 31-item semi-idiographic questionnaire that assesses appraisals or interpretations of unwanted, distressing intrusive thoughts, images or impulses. After reading a definition of unwanted mental intrusions (which includes several examples), respondents identify two intrusive thoughts, images, or impulses they have recently experienced. They then rate the extent to which they believe in each of the 31 statements as related to the identified intrusive thoughts (e.g., “Thinking this thought could make it happen”). Strength of belief is rated from 0 (“I did not believe this idea at all”) to 100 (“I was completely convinced this idea was true”). The 31 items form three subscales: (a) importance of thoughts, (b) responsibility, and (c) control of thoughts. As suggested by the scale’s developers (OCCWG, 2003), to ease interpretation we transformed the 100-point scale by dividing by 10.

Intolerance of Uncertainty Scale (IUS; Freeston, Rhéaume, Letarte, Dugas, & Ladouceur, 1994). The IUS is a 27-item self-report measure of the need for assurance (sample items: “Uncertainty makes life intolerable;” “I always want to know what the future has in store for me”). The scale has adequate psychometric properties and validity (Freeston et al., 1994). Items are rated on a scale from 1 (not at all characteristic of me) to 5 (entirely characteristic of me), and summed to produce a total score ranging from 27 to 135.

1.3. Procedure

Packets containing the self-report measures described above were mailed to the patient’s home in advance of the initial clinic appointment. Patients returned

their completed packets to their assessor at their first visit. Diagnostic evaluations took place in an anxiety disorders specialty clinic housed within a large academic medical center. Each patient received our standard 1.5- to 2-h diagnostic assessment performed by a trained psychologist who administered the anxiety and mood disorders sections of the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998), a structured diagnostic interview that has demonstrated good reliability (Sheehan et al., 1998). Axis II psychopathology was assessed by means of a semi-structured interview that was based on DSM criteria. On the basis of the primary symptoms identified by the Y-BOCS checklist, clinicians classified each of these patients according to the five cluster model of OCD symptom presentation identified by Abramowitz, Franklin, Schwartz, and Furr (2003). Thus, OCD patients were classified as belonging to one of the following five groups: harming ($n = 20$), contamination ($n = 15$), hoarding ($n = 2$), unacceptable obsessional thoughts with religious, violent, and sexual content ($n = 22$), or symmetry ($n = 9$). Clinicians had been instructed in how to classify patients in this way by observing while others conducted similar interviews, and by conducting such interviews themselves under direct supervision. All classifications (and supporting data) were subsequently reviewed with the clinic supervisor (the second author), and only patients for whom consensus was reached (100% agreement) were included in the study. This resulted in the exclusion of three patients for whom consensus was not reached.

2. Results

2.1. Descriptive statistics and internal consistency

As initial analyses indicated that the two subscales of the PIOS were highly correlated ($r = .85$, $P < .01$), and that both the Fear of God and Fear of Sin subscales correlated significantly with the total score (r^2 's = .94 and .98, p 's $< .01$), all analyses reported below were conducted using the PIOS total score. The ranges, means, and standard deviations for all study measures are displayed in Table 1. Examination of the shape of the distributions indicated that the range of scores was reasonably broad and, in the majority of variables, normally distributed. The distributions of the remaining variables were mildly positively skewed. A series of one-way analyses of variance (ANOVAs) indicated that scores on the study measures were not related to gender (all p 's NS). Similarly, correlational analyses indicated that scores were not related to age (all p 's NS). Measures of clinical severity demonstrated acceptable internal consistency (Cronbach's alpha): alpha coefficients ranged from .71 (Y-BOCS) to .91 (BDI). Other self-report measures also evidenced good internal consistency, with alpha coefficients ranging from of .91 (IUS) to .96 (PIOS).

We examined whether PIOS scores differed across patients with different OCD symptom presentations. Because there were only two patients with primary

Table 1

Range of scores, means, and standard deviations on measures of clinical severity, cognitions, and scrupulosity for 71 patients with obsessive–compulsive disorder

Domain and measure	Range	<i>M</i>	S.D.
Clinical severity			
Y-BOCS total	14.00–36.00	24.17	4.87
Y-BOCS obsession	6.00–18.00	11.76	2.71
Y-BOCS compulsion	7.00–18.00	12.41	2.87
OCI-R total	7.00–66.00	28.14	12.96
OCI-R washing	0.00–12.00	4.91	4.41
OCI-R checking	0.00–12.00	5.30	3.79
OCI-R neutralizing	0.00–12.00	3.00	3.57
OCI-R obsessing	0.00–12.00	6.80	3.91
OCI-R ordering	0.00–12.00	5.25	4.14
OCI-R hoarding	0.00–12.00	2.87	3.53
BDI	2.00–49.00	17.39	10.89
STAI-T	36.00–78.00	55.96	10.33
Cognition			
IUS	31.00–137.00	75.86	23.38
TAFS moral	0.00–44.00	19.70	11.61
TAFS likelihood	0.00–22.00	5.93	5.97
III importance of thoughts	0.00–90.00	36.59	23.22
III control of thoughts	3.00–100.00	58.65	24.44
III responsibility	0.00–99.00	54.67	26.43
Scrupulosity			
PIOS	0.00–70.00	26.96	18.88

Note. Y-BOCS = Yale-Brown Obsessive–Compulsive Scale; OCI-R = Obsessive–Compulsive Inventory—Revised; BDI = Beck Depression Inventory; STAI-T = State-Trait Anxiety Inventory, Trait Version; IUS = Intolerance of Uncertainty Scale; TAFS = Thought Action Fusion Scale; III = Interpretation of Intrusions Inventory; PIOS = Penn Inventory of Scrupulosity.

hoarding symptoms, we excluded this group from this analysis. Table 2 displays the means and standard deviations on the PIOS across groups. A oneway analysis of variance (ANOVA) indicated significant between-group differences, $F(3, 62) = 3.95, P < .05$. Post hoc Tukey HSD tests revealed that patients whose main OCD symptoms were unacceptable obsessional thoughts had higher scores than patients with primarily contamination symptoms ($P < .05$).

Table 2

Means and standard deviations on the PIOS for different OCD symptom presentations

Symptom presentation	<i>n</i>	<i>M</i>	S.D.
Contamination	15	15.13	11.41
Harming	20	27.05	21.40
Symmetry	9	23.89	20.62
Unacceptable thoughts	22	35.55	16.88

2.2. Relationship between scrupulosity, religiosity, and religious affiliation

Given that previous research with nonclinical samples found that scores on the PIOS were associated with religious affiliation and strength of religious devotion (Abramowitz et al., 2002), we examined these relationships in the present clinical population. This sample contained 19 Catholics, 32 Protestants, 3 Jews, 3 individuals of other religious affiliations, and 14 individuals who identified themselves as not religiously affiliated. To examine the association between scrupulosity and religious affiliation, we compared PIOS scores across religious groups, excluding the Jewish and “other religion” groups on the basis of insufficient power. A one-way ANOVA revealed significant between group differences, $F(2, 62) 4.32, P < .05$. Post hoc comparisons using Tukey HSD tests revealed that Protestant patients ($M = 33.47, S.D. = 18.12$) scored significantly higher ($P < .05$) on the PIOS than did patients with no religious affiliation ($M = 19.07, S.D. = 17.46$), but not significantly higher ($P > .05$) than did Catholic patients ($M = 20.74, S.D. = 19.79$). Correlational analyses, excluding the 14 non-religious patients, indicated that PIOS scores were not significantly related to the patient’s strength of religious devotion, $r(57) = .24, NS$. When we computed similar correlations for Catholic and Protestant patients separately, we found no significant relationships between PIOS score and strength of religious devotion in either of these groups.

2.3. Relationship between scrupulosity and measures of clinical severity and cognition

Pearson correlation coefficients were computed to examine the relationship between the PIOS and the measures of symptom severity and cognition. Because of the large number of correlations, we used a Bonferroni-corrected significance level of $P < .003 (.05/18)$. The results of this analysis, which are displayed in Table 3, revealed a moderately strong and significant relationship between the PIOS and the obsessing subscale of the OCI-R. However, no other significant relationships with OCI-R subscales were detected. In addition, the PIOS was not related to either the Y-BOCS total or subscale scores, nor to either the BDI or STAI-T. A number of cognitive measures were significantly related to the PIOS, including the moral (but not the likelihood) subscale of the TAFS, and all of the III subscales.

2.4. Prediction of the PIOS total score through measures of clinical severity and cognition

Multiple regression analysis was conducted to predict the total PIOS score. As we thought that a tendency toward obsessional thinking would predict scrupulosity, the OCI-R obsessing subscale was included in Step 1. Given the relationship between OCD and general distress, Step 2 incorporated the BDI and

Table 3

Pearson correlation coefficients between the PIOS and measures of clinical severity and cognition for 71 OCD patients

Domain and measure	<i>r</i> with PIOS total score
Clinical severity	
Y-BOCS total	-.01
Y-BOCS obsession	-.08
Y-BOCS compulsion	.06
OCI-R total	.01
OCI-R washing	-.04
OCI-R checking	-.04
OCI-R neutralizing	-.12
OCI-R obsessing	.40*
OCI-R ordering	-.22
OCI-R hoarding	.06
BDI	.28
STAI-T	.32
Cognition	
IUS	.30
TAFS moral	.44*
TAFS likelihood	.04
III importance of thoughts	.44*
III control of thoughts	.60*
III responsibility	.44*

Note. PIOS = Penn Inventory of Scrupulosity; Y-BOCS = Yale-Brown Obsessive–Compulsive Scale; OCI-R = Obsessive–Compulsive Inventory—Revised; BDI = Beck Depression Inventory; STAI-T = State-Trait Anxiety Inventory, Trait Version; IUS = Intolerance of Uncertainty Scale; TAFS = Thought Action Fusion Scale; III = Interpretation of Intrusions Inventory.

* $P < .003$.

STAI-T. The cognitive measures found to be significantly related with scrupulosity (i.e., the III subscales and the TAFS moral subscale) were entered into Step 3 of the model. Table 4 shows the results of this analysis. As expected, the OCI-R obsessing subscale significantly predicted scores on the PIOS. However, in Step 2, the BDI and STAI-T did not contribute significantly to the explanatory power of the model. In Step 3, the III control of thoughts and TAFS moral subscales (partial r 's = .39, .32, respectively; p 's < .05), but not III responsibility or importance of thoughts subscales, added significantly to the regression model. In the final regression model, the OCI-R obsessing subscale, the III control of thoughts subscale, and the TAFS moral subscale were significant predictors that accounted for 45.0% of the variance in the total PIOS score.

3. Discussion

The present study is the first to address the phenomenon of scrupulosity and its affective and cognitive correlates in a clinical sample of OCD patients. We

Table 4

Hierarchical regression analysis for variables predicting the PIOS total score

Predictor	<i>B</i>	<i>SE_B</i>	β	<i>R</i> ²	ΔR^2	<i>P</i>
Step 1				.16		.001
OCI-R – obsessions	1.94	0.53	.40			.001
Step 2				.20	.04	.002
BDI	0.16	0.33	.09			NS
STAI-T	0.24	0.35	.13			NS
Step 3				.45	.025	.000
TAFS-moral	0.47	0.17	.29			.009
III-importance	−0.02	0.02	−.29			NS
III-responsibility	0.01	0.01	.11			NS
III-control	0.04	0.01	.55			.001

Note. OCI-R = Obsessive–Compulsive Inventory—Revised; BDI = Beck Depression Inventory; STAI-T = State-Trait Anxiety Inventory, Trait Version; TAFS-M = Thought Action Fusion Scale, moral subscale; III = Interpretation of Intrusions Inventory.

sought to examine the nature of this particularly understudied presentation of OCD because of the challenges it poses in psychological treatment. Our data indicate that scrupulosity symptoms are present in each presentation of OCD. Although, as expected, patients suffering primarily with severe unacceptable obsessional thoughts (i.e., religious, violent, and sexual obsessions) evidenced greater levels of scrupulosity compared to those with primary contamination symptoms. Also it is of note that the present clinical sample scored substantially higher on the PIOS ($M = 26.96$, $S.D. = 18.88$) relative to the nonclinical sample on which the scale was validated ($M = 18.98$, $S.D. = 11.66$; Abramowitz et al., 2002).

Consistent with our first hypothesis, scrupulosity was significantly associated with obsessional symptoms as assessed by the OCI-R. However, in contrast to our expectations, checking and neutralizing rituals were not related to scrupulosity. The moderately strong relationship between scrupulosity and obsessional problems is in line with the between-groups analysis discussed above, and with several studies finding that religious obsessions load together with sexual and violent/aggressive obsessions and comprise a collection of especially anxiety-evoking (unacceptable, repugnant, immoral) obsessional thoughts (McKay et al., 2004). This finding is also in line with cognitive-behavioral models of OCD. That is, individuals with scrupulosity, who by their nature impose strict moral standards upon themselves and are hypervigilant of moral/religious sin, might be exquisitely sensitive to intrusive sexual or sacrilegious thoughts that conflict with their belief/value system. For example, a scrupulous individual might find even the passing thought of an extramarital sexual encounter with a stranger more disturbing, and resist it more intensely, than would an individual without scrupulosity, leading to obsessional problems.

In one previous study, Abramowitz et al. (2003) found that mental compulsions that patients use to neutralize obsessional distress (e.g., mentally “cancelling out”

bad thoughts) co-occurred with sexual, harming, and religious obsessions. Our failure to find a relationship between scrupulosity and neutralizing deserves further comment. One possible explanation for this null finding is that all of the items on the neutralizing subscale of the OCI-R involve numbers and counting (e.g., I feel I have to repeat certain numbers). Whereas some patients with OCD use numbers and counting to neutralize obsessional fear, clinical observations indicate that patients with religious obsessions typically use other neutralizing strategies (e.g., thought suppression, mental phrases or prayers) to neutralize these kinds of obsessions. Similarly, the lack of a relationship between scrupulosity and checking symptoms requires further interpreting since some factor analytic studies report that religious obsessions load with checking rituals (e.g., [Leckman, Grice, Boardman, & Zhang, 1997](#)). However, items on the OCI-R checking subscale mainly assesses the checking of household items such as appliances, doors locks, and drawers, as opposed to checking with religious authorities or checking for harm or mistakes, which are more likely to be present among individuals with scrupulosity. Thus, although scrupulosity may be related to some types of neutralizing and checking symptoms, the items on the OCI-R may not be sensitive to the specific sorts of neutralizing and checking rituals displayed by individuals with scrupulosity.

Consistent with previous findings (e.g., [Tek & Ulug, 2001](#)), we found that scrupulosity was unrelated to global OCD symptom severity (e.g., time spent with symptoms, functional interference) as assessed by the interviewer administered Y-BOCS. This supports the view that compared to other types of obsessions and compulsions, religious symptoms do not represent a generally more severe variant of OCD. Although the correlation coefficients between scrupulosity and depressive (.28) and anxiety symptoms (.32) were significant at the $P < .05$ level, they were somewhat weak and not significant at the more conservative Bonferroni-corrected significance level of $P < .003$. Thus, even if religious obsessions are not associated with especially high frequency, interference in functioning, difficulty with resistance or control (i.e., the symptom parameters assessed by the Y-BOCS), these phenomena might represent a particularly *distressing* presentation of OCD. Although additional research is needed on this topic, the fact that scrupulosity involves the perception of sin, violation of one's moral standards, and fear of punishment (e.g., from God), it is not surprising that religious obsessions are experienced as highly depressing and anxiety-evoking.

In support of our second hypothesis, scrupulosity was moderately associated with multiple cognitive biases believed to underlie the development of obsessional symptoms, including moral TAF, overestimates of the importance of and need to control intrusive thoughts, and inflated perceptions of responsibility. These findings are consistent with previous research suggesting that among religious individuals, an overly stringent moral code coupled with the tendency to catastrophically misinterpret the significance of intrusive unwanted thoughts set the stage for the development of obsessional problems (e.g.,

Abramowitz et al., 2004; Sica et al., 2002). Our regression analysis indicated that scrupulosity was best accounted for by the triumvirate of (a) obsessional symptoms, (b) beliefs that unwanted thoughts are the moral equivalent of unacceptable behavior (moral TAF), and (c) maladaptive beliefs about the necessity of controlling unwanted intrusive thoughts. Abundant research indicates that it is quite difficult to control or suppress intrusive thoughts (e.g., Abramowitz, Tolin, & Street, 2001). Accordingly, the clinical manifestation of scrupulosity may arise from the fear of negative religious consequences (e.g., punishment from God, eternal damnation) resulting from inability to control intrusive thoughts (e.g., sexual, sacrilegious) that are perceived as sinful and morally unacceptable (i.e., equivalent to sinful behavior). In an effort to reduce obsessional distress, individuals engage in compulsive (neutralizing) behaviors such as excessive prayer, confession, and checking for reassurance from religious authorities, among other strategies.

Whereas scrupulosity was not associated with likelihood TAF, it was related with moral TAF. This is consistent with results reported by Rassin and Koster (2003) and in line with the idea that certain aspects of religious doctrine foster the belief that thoughts should be treated as the moral equivalent of actions. For example, that *thinking about* harming someone is the same as *committing* harm. Indeed, religious doctrine explicitly states that certain thoughts are sinful. For example, in the *Sermon on the Mount*, Jesus cautions, “You have heard that it was said ‘you shall not commit adultery’; but I say to you, that everyone who looks on a woman to lust for her has committed adultery with her already in his heart” (Matthew 5:27–28; New American Standard Version). Research indicates that many strongly religious Christians incorporate this doctrine into their belief system (e.g., Cohen & Rozin, 2001). Future studies should examine the ways in which individuals with religious OCD symptoms (regardless of their level of religiosity) acquire such beliefs. The relationship between scrupulosity and moral TAF also raises the question of how much the PIOS and TAF-moral subscale overlap in what they purport to measure; indeed, both assess to some degree the tendency to regard thoughts and behaviors as equivalent.

An important aim of psychopathology research is to inform clinical practice, and the present findings have implications for the treatment of religious OCD symptoms. Research indicates that exposure and response prevention (ERP) is the most effective treatment for OCD (Kozak & Coles, 2005a), although many OCD patients with scrupulosity have difficulty accepting and adhering to ERP because it involves directly confronting situations and thoughts that are perceived to be sinful. Some authors (e.g., Kozak & Coles, 2005b) have suggested using cognitive therapy (CT) techniques to increase adherence to ERP, although to date, this suggestion has not been studied empirically. Nevertheless, we speculate that some CT techniques have relevance for facilitating ERP in cases of scrupulosity. For instance, patients could be taught that everyone sometimes experiences unwanted (morally repugnant) thoughts. The therapist could also arrange a meeting between the patient and a clergy member to disconfirm the idea that the occurrence of

intrusive and *unwanted* thoughts (as opposed to deliberately thinking such thoughts) is equivalent to committing sinful behavior. Prior to such a meeting, the therapist should ensure that the clergy member understands the problematic nature of the patient's dysfunctional interpretations of intrusive thoughts. Patients with scrupulosity might also benefit from learning an explanation for the increased frequency and seemingly uncontrollable nature of obsessional thoughts and doubts. For example, the patient can conduct an *in vivo* test of the thought suppression paradox and be taught about the role attempted suppression plays in maintaining obsessional thoughts. When patients recognize that faulty appraisals of normal intrusive thoughts as "immoral" lead to affective distress and ill-fated attempts to suppress such thoughts, it leads to the use of exposure techniques (as opposed to suppression and avoidance) as a way of learning to reduce the obsessional problem. Clark (2004) and Abramowitz (2001) provide treatment descriptions illustrating the implementation of such strategies as a means of making it easier for patients to engage in ERP.

A number of limitations of the present study should be pointed out. First, the present study is cross-sectional in nature, which makes difficult to ascertain whether individuals with religious obsessions and compulsions are more likely to endorse particular cognitive biases, or if these biases predate the development of scrupulosity. Longitudinal research is necessary to answer questions about causal factors. Second, the present study included primarily self-report assessment measures. Thus, the relationships between variables may have been inflated by the solitary method of assessment.

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