Are responsibility beliefs inflated in non-checking OCD patients?

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Abstract

Cognitive models of obsessive-compulsive disorder [e.g., Salkovskis, P. M. (1999). Understanding and treating obsessive-compulsive disorder. *Behaviour Research and Therapy, 37*(Suppl. 1), S29–S52] propose a key role for inflated responsibility for harm. Studies evaluating such beliefs typically use heterogeneous samples including several OCD subtypes. A recent investigation by Foa et al. [Foa, E. B., Sacks, M. B., Tolin, D. F., Prezworski, A., & Amir, N. (2002). Inflated perception of responsibility for harm in OCD patients with and without checking compulsions: a replication and extension. *Journal of Anxiety Disorders, 16*(4), 443–453] found responsibility to be elevated in OC checkers, but not in non-checking OCD patients, relative to non-anxious controls. In that study, the responsibility measure included checking scenarios, thus leaving the possibility that these findings may have been due to criterion contamination. The present study investigated responsibility beliefs in OC checkers ($n = 39$) and non-checkers ($n = 20$), anxious controls ($n = 22$), and non-clinical controls ($n = 69$), using measures of responsibility which do not have item overlap with OCD symptoms. Results indicated that both OC groups showed greater responsibility beliefs relative to anxious and non-anxious controls. OC checkers endorsed greater responsibility appraisals than anxious and non-clinical control groups. In contrast, non-checking OCs reported greater responsibility appraisals than non-clinical controls, but did not differ from anxious controls and OC checkers. Results are discussed in the context of the cognitive model of OCD.
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1. Introduction

Cognitive–behavioral approaches to obsessive–compulsive disorder (OCD; Rachman, 1997; Salkovskis, 1985, 1999) are based on the idea that the appraisal of intrusive thoughts, images, impulses and doubts motivates compulsive behaviors, including washing, checking, and neutralising. The importance of inflated beliefs that one may be responsible for harm to oneself or others lies in two areas: firstly, general beliefs (assumptions) and secondly "on-line" appraisals, which occur as interpretations of the occurrence and/or content of intrusions. The overarching concept of responsibility is specifically defined by Salkovskis, Rachman, Ladoucer, and Freeston (1996) as "the belief that one has power which is pivotal to bring about or prevent subjectively crucial negative outcomes." Cognitive theories indicate that people suffering from OCD are likely to carry out compulsions if they believe they are responsible for preventing harm in a situation, even if the probability of harm occurring is very small. Moreover, there is evidence that people suffering from OCD believe that not preventing harm is morally equivalent to causing harm (Wroe & Salkovskis, 2000); this means that they are more sensitive to ideas of responsibility for harm arising from omissions.

The results of both descriptive and experimental studies are consistent with the proposed role of responsibility beliefs in OCD. Salkovskis et al. (2000) developed a measure of responsibility appraisals and beliefs and found elevations in harm-related responsibility assumptions and appraisals among OCD patients compared to anxious and non-clinical controls. Lopatka and Rachman (1995) found that experimentally decreasing responsibility in checkers via a contract led to a decline in urge to check. In the Foa, Amir, Bogert, Molnar, and Przeworski (2001) study, OCD patients reported more responsibility, greater urges to rectify, and more distress associated with obsessive and non-obsessive low-risk scenarios compared to anxious and non-clinical controls. Lastly, Shafran (1997) manipulated responsibility through varying the presence/absence of the experimenter during an exposure task. Using a mixed-symptom OC sample, she found that patients in the high responsibility condition reported greater responsibility for threat, greater urge to neutralize, greater perceived probability of threat, and greater distress than those in the low responsibility condition.

Rachman (1993) suggested that responsibility may be inflated in some OCD subtypes, such as checkers, but not in others. Foa, Sacks, Tolin, Prezworski, and Amir (2002) found evidence consistent with this hypothesis: responsibility was found to be elevated in OC checkers, but not in non-checking OCD patients, relative to non-clinical controls. However, in that study Foa et al. (2002) used a measure of responsibility that included several scenarios related to the concerns of checkers (e.g., "You see the knob on a gas oven was left on in a church kitchen"). Their findings may be a product of criterion contamination.

Is responsibility relevant to other OCD subtypes? Clinical reports suggest it is. Some patients with washing or cleaning compulsions express concerns about their responsibility for ensuring that others (e.g., their children) are safe from germs. In addition, patients with obsessions but no overt compulsions often report feeling an exaggerated sense of responsibility for the occurrence of unwanted sexual, blasphemous, or aggressive thoughts; thought action fusion is a specific form of responsibility appraisal (Salkovskis & Forrester, 2002).

The present study sought to assess responsibility beliefs in OC checkers and non-checkers using measures unlikely to be relevant to specific OCD subtypes. OC checkers and non-checkers, anxious controls, and non-clinical controls were studied. We hypothesized that both OCD groups would report greater beliefs and appraisals of responsibility for harm than both control groups.

2. Method

2.1. Participants

Questionnaires were given to individuals meeting DSM-IV criteria for OCD (checking $n = 39$, and non-checking $n = 20$), to anxious controls ($n = 22$), and non-clinical controls ($n = 69$). All clinical diagnoses were made individually by trained psychologists or psychology doctoral students using the Structured Clinical Interview for DSM-IV. Participants with OCD were classified as checkers or non-checkers based on their primary OC symptom. The OCD patients were recruited from local therapists, advertisements in self-help newsletters, and a research trial that used cognitive–behavioral therapy. Anxious controls were obtained from a participant database and a social phobia research trial and had received diagnoses of either panic disorder or social phobia. The non-clinical controls were recruited from a community sample informed about the project and from a participant database.

2.2. Measures

Participants completed the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988). Both the BDI (Beck, Steer, & Garbin, 1988) and the BAI (Beck, Epstein, et al., 1988) have shown good reliability and validity. Participants also completed the Obsessive Compulsive Inventory (OCI; Foa, Kozak, Salkovskis, Coles, & Amir, 1998), a 42-item measure of OC symptoms, which possesses seven symptom subscales. The OCI correlates well with other OC measures and has shown good reliability (Foa et al., 1998). Beliefs about responsibility were assessed using the 26-item Responsibility Attitudes Scale (RAS; Salkovskis et al., 2000). Respondents are asked to indicate how much they agreed or disagreed with specific statements that could apply to them by choosing the anchor which best described what they believe. It was specified that, ''To decide whether a given attitude is typical of your way of looking at things, simply keep in mind what you are like MOST OF THE TIME'' (original emphasis). Statements such as ''I often feel responsible for things that go wrong'' and ''To me, not acting where disaster is a slight possibility is as bad as making that disaster happen'' are rated on a 1 (totally disagree) to 7 (totally agree) scale.

Responsibility appraisals were assessed using the Responsibility Interpretations Questionnaire (RIQ; Salkovskis et al., 2000). The RIQ is a 22-item measure, referenced to ''your reactions to intrusive thought that you have had in the *last two weeks*'' (original emphasis). Intrusive thoughts, impulses and images are then defined and respondents are told that these thoughts are experienced by ''most people.'' Five examples of intrusions are also given. In order to prime negative interpretations specific to intrusive thoughts, participants are asked to ''write down the intrusions that you have had in the last two weeks.'' They are then asked to rate the frequency of interpretations of intrusions on a 0 (never occurred) to 4 (always occurred) scale. Next, they are asked to rate the strength of belief in the interpretation on a 0 (I did not believe this thought at all) to 100 (I was completely convinced this idea was true) scale. Sample items of the RIQ include ''If I don't resist these thoughts it means I am being irresponsible'' and ''I'll feel awful unless I do something about this thought.'' Salkovskis et al. (2000) found both the RAS and the RIQ to possess good reliability and internal consistency. Although the RAS and RIQ were correlated, they each predicted unique variance in OCD symptoms. However, the reverse-coded items in the RIQ were psychometrically problematic in Salkovskis et al. (2000) study, so these items were excluded from our analysis.

3. Results

3.1. Comparisons on demographic characteristics and clinical symptomatology

One-way ANOVAs and chi-square tests were carried out to compare groups on different demographic characteristics and clinical measures; where main effects were significant, Tukey LSD tests were used. Groups did not differ in age, $F(3,146) = .49$, $P > .6$. However, the balance of gender did significantly differ between groups, with anxious controls (2 male, 20 female) and non-clinical controls (28 male, 41 female) having significantly more females than males, $\chi^2 = 9.93$, $P < .05$. All clinical groups scored significantly higher than non-clinical controls on measures of anxiety (BAI; $F(3,146) = 37.37$, $P < .0001$, partial eta squared = .434) and depression (BDI; $F(3,144) = 41.66$, $P < .0001$, partial eta squared = .465). OC checkers also reported significantly greater BAI scores than non-checking OCs. Group differences were also observed on measures of general OC symptoms, $F(3,144) = 88.77$, $P < .0001$, partial eta squared = .649, and on the OCI checking subscale, $F(3,144) = 92.10$, $P < .0001$, partial eta squared = .657. OC checkers scored higher than all other groups on measures of general OC symptoms. Non-checking OCs scored higher than non-clinical controls in general OC symptoms. However, they did not significantly differ from anxious controls in general OC symptom scores. Table 1 presents means and standard deviations of demographic characteristics and clinical measures.

3.2. Comparisons on responsibility beliefs and responsibility appraisals

ANOVAs were conducted to compare the four groups with respect to responsibility beliefs and responsibility appraisals. With respect to responsibility beliefs, as measured by the RAS, a significant main effect of group was noted, $F(3, 145) = 23.27$, $p < .0001$, partial eta squared = .325. Post-hoc LSD tests were conducted to identify specific between-group differences. Results revealed that checking and non-checking OCD patients did not significantly differ on total RAS scores, and both groups scored significantly higher than anxious controls and non-clinical controls. In order to assess whether between-group differences were due to

Table 1
Demographic and psychometric data

	Non-clinical controls		OCD checking		Anxious controls		OCD non-checking	
Gender	28 male, 41 female		19 male, 20 female		2 male, 20 female		8 male 12 female	
	Non-clinical controls		OCD checking		Anxious controls		OCD non-checking	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
BDI	5.20	4.4	19.82	8.1	18.27	9.3	15.00	10.6
BAI	6.17	4.4	21.97	10.4	21.72	12.0	15.40	10.3
OCI total	14.63	15.5	79.23	28.2	24.05	18.2	34.50	15.2
OCI checking	2.73	6.1	20.55	6.5	2.55	3.3	6.15	3.6
Age	38.97	16.3	37.51	11.5	40.91	10.4	41.35	10.1
RAS	95.71	22.2	130.08	23.8	109.45	27.8	130.40	19.4
RIQ-freq	0.91	.7	1.81	.9	1.38	.7	1.85	.8
RIQ-belief	30.53	17.4	50.54	18.8	37.44	19.7	44.86	17.6

differences in anxiety, depressive symptoms, and gender makeup, a univariate ANCOVA was carried out which controlled for gender, and BDI and BAI scores. The findings remained unchanged, $F(3, 140) = 6.90$, $p < .0003$, partial eta squared = .129.

Significant main effects of group were also observed with respect to responsibility appraisals, both in terms of frequency, $F(3, 139) = 13.65$, $p < .001$, partial eta squared = .228, and strength of belief, $F(3, 133) = 10.11$, $p < .001$, partial eta squared = .186, of the RIQ. Post-hoc tests revealed a similar pattern of group differences in frequency and strength of belief. Both OC checkers and non-checkers reported higher scores than non-clinical controls on both scales of the responsibility appraisals. OC checkers also reported greater responsibility appraisals than anxious controls, although non-checkers did not. Table 1 presents the scores on these responsibility measures across the four groups.

4. Discussion

Consistent with current cognitive–behavioral formulations (e.g., Rachman, 1997; Salkovskis, 1999), our findings indicate that compared to anxious or non-clinical controls, OCD patients are more likely to show elevated levels on measures of responsibility for harm without regard to the presence of checking compulsions as their primary symptom. These findings are different from those obtained by Foa et al. (2002), who found inflated responsibility in OC checkers, but not non-checking OCD patients.

Inflated levels of responsibility assumptions (as measured by the RAS) and appraisals (as measured by the RIQ frequency scores) were noted relative to both healthy and anxious controls for both OCD groups. The belief ratings for responsibility appraisals in non-checking OCD patients as compared to anxious controls did not significantly differ; examination of the means suggest that this may be a power issue. Additionally, there was some evidence of relatively elevated levels of obsessionality in the anxious control sample, with their OCI total not being significantly different from non-checking obsessionals. Despite this, it is interesting to note the differences between these groups on two of three measures of responsibility belief.

Overall, the results are consistent with the hypothesis that beliefs concerning responsibility for harm may be *specific* to OCD. The interest in such beliefs lies in their explanatory power. Cognitive theories (Rachman, 1993; Salkovskis, 1985, 1999) suggest that beliefs concerning responsibility for harm *motivate* neutralizing and other safety-seeking behaviors. Thus, the occurrence and/or content of intrusive thoughts, images impulses and doubts result in counter-productive safety seeking when the person interprets them as indicating that they could be responsible for preventable harm to themselves or other people.

Differentiating obsessional subtypes in cognitive (as opposed to symptomatic) terms will probably most fruitfully proceed according to two directions. Firstly, different types of responsibility appraisals are likely to have different behavioral consequences; the ''washing'' and ''checking'' subtypes of OCD may be better characterized by ''verification'' and ''restitution.'' Verification, in which the person fears that they may be in danger of causing harm, corresponds to checking and will be most strongly associated with anxiety. In restitution, on the other hand, the idea of perhaps already having caused harm, corresponds to washing and other types of neutralizing and is more likely to be characterized by depression and discomfort as well as anxiety. Secondly, OCD relevant beliefs (such as perfectionism) may influence obsessional behavior as well as other types of psychopathology. The interplay between OCD specific and OCD relevant beliefs in the production of the spectrum of symptoms seen in OCD is likely to reward research effort (Salkovskis & Forrester, 2002). Experimental research examining

responsibility as a possible contributor to OC symptoms such as cleaning, ruminating and checking is particularly needed.

There are two potential obvious issues which require caution in terms of the interpretation of the present results. OC checkers, relative to OC non-checkers, were found to have greater OC symptoms, as measured by the OCI totals. The OCI primarily assesses overt compulsions, and this difference may have arisen from two factors: firstly, the non-checking OCD group included a significant number of obsessionals who reported no overt compulsions (ruminators) and secondly, the non-checkers by definition would have low scores on one subscale (checking), whilst the checkers were not constrained in this way, almost certainly resulting in lower total scores as an artifact rather than a severity difference. If OC checkers had actually reported significantly greater responsibility beliefs than OC non-checkers, this issue might be of greater concern. The other reason for caution relates to the cross-sectional nature of the study, which does not allow us to draw any definitive conclusions regarding a causal relationship between responsibility and OC symptoms. However, given the findings of previous experimental research on responsibility (e.g., Shafran, 1997) and the beneficial effects of an intervention specifically targeting responsibility beliefs in OCD (Ladouceur, Leger, Rheaume, & Dube, 1996), it seems increasingly unlikely that inflated responsibility is simply an epiphenomenon of OCD symptoms.

An implication of the present findings is that clinicians working with OCD patients should seek to address beliefs concerning inflated responsibility; if appraisals concerning responsibility for harm are crucial to the motivation of safety-seeking behaviors, then changing such appraisals will make it much easier for patients to choose not to ritualize and neutralize. Techniques used to test inflated responsibility beliefs have been described elsewhere (Clark, 2004; Salkovskis, 1999). Such techniques, suitably modified according to the pattern in any given patient, are likely to be helpful in the treatment of *both* checking and non-checking OCD symptoms.

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