Obsessive Patients and Deontological Guilt: A Review

Amelia Gangemi\textsuperscript{a}, Francesco Mancini\textsuperscript{b}
\footnotesize\textsuperscript{a} Dipartimento di Scienze Cognitive, University of Messina, Via Concezione, 6/8, 98121- Messina, Italy.
\footnotesize\textsuperscript{b} Scuola di Specializzazione in Psicoterapia Cognitiva (SPC), Viale Castro Pretorio, 116, 00185 - Roma, Italy.

Abstract

In line with the Appraisal Theories of Obsessive-Compulsive Disorder (OCD), in this review we present some experiments aimed at demonstrating the role of fear of guilt in OCD. What kind of guilt do OC patients want to prevent? Several studies suggest the existence of two different types of guilt emotions, namely deontological guilt and altruistic guilt. This research suggests that the former, more than the latter, is involved in OCD. Moreover, it demonstrates that the deontological guilt is related to disgust, and that this relationship could explain why both fear of contamination and fear of guilt are often co-present in obsessive patients. Finally, research shows that the Not Just Right Experience (NJRE) in OCD can be influenced by the deontological guilt. Future research should further verify the actual role of deontological guilt in OCD, and its therapeutical implications.

Keywords: Obsessive-compulsive disorder, Appraisal theories, deontological guilt, fear of contamination, Not Just Right Experience

Correspondence to: Amelia Gangemi, Dipartimento di Scienze Cognitive, Università di Messina, Via Concezione, 6-8, 98122-Messina, Italy.
Tel: (+39) 090-47088
Fax: (+39) 090-43810
Email: gangemia@unime.it

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Table of Contents

Introduction
Fear of Guilt and OCD
What Kind of Sense of Guilt Want to Prevent OC Patients?
Altruistic and Deontological Senses of Guilt
Deontological Guilt and OCD
  The Relationship Between Fear of Deontological Guilt, Fear of Disgusting Contamination and NJRE in OCD.
  The Relationship Between Fear of Guilt and Fear of Contamination
  The Relationship Between Fear of Deontological Guilt and Fear of Contamination in OC patients
Fear of Guilt and NJRE
Conclusions
References
Introduction

In this paper we present a review of our studies demonstrating the role of the fear of guilt and specifically of deontological guilt in the genesis and maintenance of obsessive symptoms.

These research refers to the Appraisal Theories of Obsessive-Compulsive Disorder (OCD). In general, these theories assume that individual’s goals (i.e., desires, needs, values) and beliefs (i.e., cognitions, representations, assumptions) are proximal determinants of behavior (Castelfranchi & Paglieri, 2007). In particular, the appraisal-based theories claim that normal and abnormal emotional states are based on “a person’s subjective evaluation or appraisal of the personal significance of a situation, object, or event on a number of dimensions or criteria” (Scherer, 1999, p. 637). As regards OCD, Appraisal Theories assume that goals and beliefs are the proximal psychological determinants of obsessive compulsive symptoms. In this perspective, obsessions and compulsions are closely related in a functional manner: compulsions are activities aimed at preventing or neutralizing the threat which is represented by the obsessions (Abramowitz, 2006). According to the Appraisal Theories framework, the general thesis we investigated with our research is that obsessive symptomatology is based on the assumption that there is an imminent threat, the threat of being seriously guilty and the goal of preventing it.

This thesis is partially in line with the theory of inflated responsibility by Rachman (1993, 1997, 1998, 2002), Salkovskis (1985, 1996), and Salkovskis and Forrester (2002). Inflated responsibility has been defined as “The belief that one has power which is pivotal to bring about or prevent subjectively crucial negative outcomes. These outcomes are perceived as essential to prevent. They may be actual, that is having consequences in the real world, and/or at a moral level” (Salkovskis & Forrester, 2002). But our thesis differs from this for two main reasons. First, in the above reported definition, the authors stress the importance of factual beliefs, i.e., “The belief that one has power which is pivotal…” while we want to stress the motivational aspects, that is the patient has the goal of preventing a feeling of guilt that s/he evaluates as serious or unacceptable. Second, this definition does not account for the considerable anxiety that precedes and accompanies obsessive activity. If the mental state of the obsessive patient was, the state as defined by Salkovskis and Forrester (2002), then she/he ought to be quite serene. Indeed if an individual with an inflated perception of personal responsibility (a) has a goal of preventing a negative outcome, and (b) believes s/he has a pivotal influence on the negative outcome, thus regarding the achievement of that goal as entirely self-dependent, what reason would she/he have for being so anxious? (see Mancini & Gangemi, 2004). This anxiety may be accounted for by the individual’s prediction of not using his/her power properly, and for this reason to be guilty.

In order to refine our thesis, in this review we will try first to define the mental state of the obsessive patient. To this aim we will show 1. the existence of two different types of guilt emotions, namely deontological guilt and altruistic guilt, and that 2. the former, more than the latter, is involved in OCD.

Fear of Guilt and OCD

A large amount of empirical evidence clearly demonstrates that the emotion of guilt plays a crucial role in the genesis and maintenance of Obsessive Compulsive Disorder (OCD). For example, a first group of studies shows that by experimentally decreasing feelings of responsibility, thus preventing the possibility of being guilty, OCD patients report a decreased urge to carry out their rituals (Lopatka & Rachman, 1995; Shafran, 1997). Helping the patient, within therapy, to decrease his sense of responsibility connected to his specific symptomatology (Ladouceur, Leger, Rhéaume, & Dube, 1996; Vos, Huibers, & Amntz, 2012) reduces the severity of symptoms. Moreover, it seems that, when patients learn to accept the possibility of being guilty, obsessive symptoms decrease, even when guilt acceptance does not directly refer to the patient’s symptomatic domain (Cosentino et al., 2012).

A second group of studies shows that in nonclinical samples, guilt leads to obsessive-compulsive (OC)-like symptoms, including increased threat perception (for a review see Shapiro & Stewart, 2011). For example, Ladouceur et al. (1995) induced responsibility in non-clinical participants by telling them that the errors they made during an experimental task would lead to harmful and undeserved outcomes. Experimental participants displayed a greater number of hesitations and checks and reported more guilt feelings than control participants. Moreover, Mancini and colleagues (Mancini, D’Olimpio, & Cieri, 2004) also showed that, in normal participants, inducing the responsibility for the outcome of a task has a consequence that the participants perform the task in a more “obsessive-like” mode.
(i.e., with greater uncertainty, checking, hesitations, etc.) than non-responsible participants. But, in the same study, they also showed that the task is performed in an even more “obsessive-like” way by responsible participants who are fearful of committing guilty errors. Finally, a third group of studies, with OC patients, demonstrates that the induction of responsibility and fear of guilt, in a non-symptomatic domain, leads to subjective OCD-like experiences and drives toward checking behaviours more in OCD patients, than in healthy controls and in non-OC anxious patients, and in OCD patients with a low score on the checking subscale of the Padua Inventory (Amzt, Voncken, & Goosen, 2007). These data support the hypothesis that, in general, OC patients, even if not within the checking subtype category, are specifically sensitive to feelings of responsibility and guilt (Amzt et al., 2007).

The role of guilt in OCD is also corroborated by two different neuroimaging studies. For example, Shapiro and Stewart (2011) show that in nonclinical neuroimaging samples, a guilt-state leads to brain activation in regions proximal to OCD-affected regions (Shin et al., 2000; Takahash et al., 2004). Other evidence comes from a number of correlation studies, which show that OC patients and control participants with OCD like symptoms tend to score higher on measures of responsibility and guilt (Freeston, Ladouceur, Gagnon, & Thibodeau, 1993; Freeston, Ladouceur, Thibodeau, & Gagnon, 1992; Frost, Steketee, Cohn, & Griess, 1994; Ladouceur et al., 1995; Menzies, Harris, Cummings, & Einstein, 2000; Rachman et al., 1995; Réháme et al., 1993a, 1995b; Salkovskis et al., 2000; Shafran, Watkins, & Charman, 1996; Steketee, Frost, & Cohen, 1995; Steketee, Quay, & White, 1991; Wilson & Chambless, 1999). This association seems to be specific to OCD, especially for checkers, and does not characterise other anxiety disorders (Foa, Amir, Bogert, Molnar, & Przeworski, 2001; Foa, Sacks, Tolin, Prezoworski, & Amir, 2002; Salkovskis et al., 2000). D’Olimpio et al. (2013) show that all the investigated OCD symptomatology, including washers, checkers and mixed group, seem to have an inflated propensity to guilt feelings. Moreover, inflated propensities to guilt are associated with the severity of OC symptoms, thus suggesting their specific role in OCD pathology.

Finally, a study with obsessive patients further demonstrates that obsessions and compulsions can be considered as activities aimed at preventing guilt for having acted irresponsibly (Mancini, Perdighe, Serrani, & Gangemi, 2009). In this study each patient’s most important obsessions and compulsions were recorded by three trained psychotherapists. Some judges were then asked to classify the patients’ evaluations for their critical events, according to four categories: Fear of harm, Fear of guilt, Fear of contamination, Fear of being ashamed. The results suggest the obsessive-compulsive behaviours of the obsessive patients were mainly directed towards the goal of preventing guilt.

**What Kind of Sense of Guilt Want to Prevent OC Patients?**

Obsessive patients’ concern over a harmful event (e.g., a gas explosion) is substantially reduced if responsibility for the event is not their own, but someone else’s, regardless of the actual probability of harm (Lopatcka & Rachman, 1995). This suggests that OC patients’ concern is not about the consequences of the event so much as being responsible for it. Moreover, OC patients are frequently concerned about sins of a religious or sexual nature, even though no harm is caused to anyone. Thus it seems that a key factor in OCD is a sense of guilt, for which neither the worry for, nor the presence of, a victim, are necessary. However, this sense of guilt does not correspond to the guilt prototype as typically defined in moral psychology: “the core relational theme for guilt is something like: someone I am concerned about has been harmed and I have responsibility for that by virtue of what I have done or failed to do” (Prinz & Nichols, 2010, p.134). According to the authors, the prototype of guilt, at least in today’s Western culture, is defined by: (a) to have caused harm to others, by action or omission, and, (b) to have violated a moral norm. Indeed, most of the guilt feelings we experience in everyday life correspond to Prinz and Nichols’ prototype, and usually results from a concurrent assumption of having transgressed a moral norm and not having acted altruistically, i.e., harming others.
Altruistic and Deontological Senses of Guilt

We can feel guilty without having transgressed moral norms, but by having violated empathic/ altruistic principles (i.e. altruistic guilt), or having transgressed moral norms even if there is no victim (i.e. deontological guilt). These two kinds of guilt can act independently. Here is an example of altruistic guilt:

I suffered serious symptoms and was admitted to hospital. During this time I shared a room with another person and we became friends. After ten days doctor informed me that all was well and that I could go home. I was packing my bag when my friend came into the room. He was very distressed: the doctor had diagnosed him with cancer. Even today I can't stand the idea that I was able to resume my life and his became an ordeal. I feel guilty at not having shared his fate.

Here is an example of deontological guilt:

I had just graduated in medicine. One evening, when I arrived for a night shift, I found that a patient with terminal cancer had gone into a coma. Even in the torpor of his coma the patient complained of the pain. The head physician instructed me to give him massive doses of morphine, which would have eased his pain but would have speeded up his death. I was just about to inject the morphine when I was struck by the thought “who am I to decide on this person’s life or death? Who authorizes me to play God? It is not morally correct, I cannot do that”. This thought stopped me from acting.

Deontological guilt arises out of the assumption of having violated one's own moral rules. In the vignette, the moral rule that could be violated is “Do not play God” (Sunstein, 2005).

In altruistic guilt, there is always a victim and the assumption of not having been altruistic, but there might not have been any violation of moral rules. In deontological guilt, on the contrary, there might be no victims at all and one could feel guilty even if acting for the good of the victim, as, for example, in the case of euthanasia, where, in order to reduce the victim's suffering, the moral norm of “Do not play God” has to be violated (Mancini, 2008). Thus, the emotion of deontological guilt depends on the assumption of having violated an internalised moral rule.

There is consistent evidence that the two types of guilt are distinct. For example, deontological and altruistic guilt appear to be associated with different areas of the brain: the former includes the insulae and the anterior cingulate cortex, whereas the latter involves the medial prefrontal areas (Basile et al., 2011). The insulae are also involved in self-reproach and disgust (e.g., Rozin, Haidt, & McCauley, 2000), which suggests that deontological guilt involves self-reproach and self-loathing, more than altruistic guilt does. On the other hand, the medial prefrontal areas are activated in theory of mind tasks such as the representation of the intention of others and when experiencing empathy and compassion. This suggests that altruism requires an understanding of the victim’s mind (Blair, 1995; Moll et al., 2005; Shallice, 2001). Some empirical studies have tested the predictive power of this model, showing that it is possible to induce altruistic guilt and deontological guilt separately by using facial expressions combined with the internal dialog typically connected with each guilt feeling (Basile & Mancini, 2011).

Other evidence is found in behavioural studies which employ the switch version of the trolley problem. In its original form, the task requests people to imagine that “a trolley is running out of control down a track. In its path are five people who have been tied to the track. Fortunately, you can flip a switch, which will lead the trolley down a different track to safety. Unfortunately, there is one person tied to that track. Should you flip the switch?” When faced with the switch version of the trolley problem most participants (80–90%) prefer action to omission (that is, not intervening at all and letting nature take its course (see Greene et al., 2009). This moral dilemma requires participants to choose one of two undesirable courses of action (both involving loss of life) which put two sets of moral principles into conflict: a deontological one and an altruistic one. If one does not flip the switch, then one does not modify the “natural order” of things and respects the ‘Do not play God’ moral rule (Sunstein, 2005). However, in such a case, five people would die. If one pulls the lever, one saves four people, reducing the number of victims, but one is modifying the “natural order” of things and “playing God”. In fact, in a first investigation, Gangemi and Mancini (2013) found that individuals who chose omission tended to justify themselves by referring to the “Do not play God” rule (for example: “Who am I

1 See also interpersonal guilt (Baumeister, Stillwell, & Heatherton, 1994).
to decide who lives and who dies”), whereas those choosing action tended to justify it by referring to the altruistic consequences, i.e., minimising the suffering of others (for example: “It’s better that one person dies instead of five”). However, when faced with the switch version of the trolley problem, most participants (80–90%) appear to prefer action (see Greene et al., 2009). To avoid this ceiling effect, the authors ran a second study in which they used a similar dilemma to the original one, but with a modified proportion of victims, i.e., five vs. three, instead of the five vs. one (see Gangemi & Mancini, 2013). They found that participants chose action and omission equally. In this study Gangemi and Mancini also varied the features of the protagonist. In the “authority version”, a moral authority (e.g., a judge) was close to the protagonist, whereas in the “closeness/altruistic version”, the protagonist was close to the five potential victims. Consistent with the hypotheses, the “authority version” led individuals to prefer the omission, presumably in order to prevent a deontological guilt emotion, while the “closeness version” led participants to prefer the consequentialist option, presumably in order to prevent altruistic guilt. To further prove that deontological guilt leads to a preference for omission over action, in an experiment, Mancini and Gangemi (2015) investigated whether a deontological guilt induction would actually result in more frequent choices of omission over action in moral dilemmas whereas the opposite would be true following an induction of altruistic guilt. To test this hypothesis, the participants of the study were assigned to one of the two guilt emotion induction conditions: deontological or altruistic guilt. Guilt emotions were induced separately by using ad hoc vignettes which were established as evoking either altruistic or deontological guilt, but not both. Participants were then asked to write about a deontological guilt-related or an altruistic guilt-related life event. They were then presented with the dilemmas. There were seven brief scenarios. Four scenarios concerned moral dilemmas and three control scenarios were included as filler items. They required participants to choose between action and omission, but there were no victims, harm, or violations of moral norms. The induced guilt emotional states were, thus, neither generated by, nor related to, these dilemmas. Consistent with the hypotheses, the group receiving the deontological guilt induction preferred omission to a greater extent than did the altruistic group.

Furthermore, Mancini and Mancini (2015) have empirically tested whether and how deontological guilt and altruistic guilt affect decision making differently. Three groups of participants were, respectively, induced with pride, deontological guilt, or altruistic guilt, to participate in a third-party version of an ultimatum game in which they were asked to decide on behalf of others to accept or reject economic offers with several degrees of fairness. Results revealed that only deontological participants had higher median acceptances of “moderately unfair” offers as compared to proud participants. However fairness judgments were not different between groups, suggesting that the deontological participants’ moral standards had not decreased. Crucially, a higher increase in DG was associated with an increase in the odds of accepting 30:70 offers. The opposite effects that DG and pride exert on self-worth can account for these results. Specifically, we suppose that proud participants felt entitled enough to take action in order to restore equity, while deontological participants seemed to follow the “Do not play God” principle, which limited their decisional autonomy, not allowing them to decide on behalf of others.

**Deontological Guilt and OCD**

Some functional magnetic resonance imaging (fMRI) studies (e.g., Mataix-Cols, Rosario-Campos, & Leckman, 2005; Rauch et al., 1998) have shown that OC patients undergoing a symptom provocation task have activation in similar areas of the brain (e.g., the anterior cingulate cortex and the insulae) as those activated in healthy individuals experiencing deontological guilt (Basile et al., 2011). This overlap suggests that during symptom provocation patients may be experiencing deontological guilt. These data are consistent with a fMRI study (Basile, Mancini, Macaluso, Caltagirone, & Bozzali, 2013) in which the authors investigated the brain responses of OC patients while they were processing deontological guilt (DG) and altruistic guilt (AG) stimuli. Compared to healthy controls, when processing DG stimuli OC patients showed decreased activation in the anterior cingulate cortex, the insula, and the precuneus. No significant differences were observed between groups when processing AG, angry, or sad stimuli. The authors suggested that this decreased activation may reflect patients’ cerebral efficiency, which results from their frequent

2 It’s a choice that does not consider the intrinsic character of the behaviour but its consequences, that is, whether the behaviour is harmful or harmless for others in a specific situation.
exposure to deontological guilt feelings, known as the “Neural Efficiency Hypothesis” (Neubauer & Fink, 2009). In two other studies, D’Olimpio and Mancini (2014) investigated whether deontological guilt induction activated checking and washing behaviours to a greater extent than an induction of altruistic guilt. Results showed that participants in the deontological group had greater doubts and discomfort, checked more and cleaned a Plexiglass cube more times than did participants in the altruistic induction group.

Finally, using again the switch version of the trolley dilemma, Mancini and Gangemi (2015) were interested in further investigating whether OC patients were more prone to preventing deontological guilt, than both healthy controls and patients with anxiety disorders by showing a preference for omission rather than action on the trolley task. Secondly, they expected that OC patients would be more prone to preventing deontological than altruistic guilt. With this in mind, all participants were given the same seven dilemmas we described above (4 moral dilemmas and 3 control dilemmas). As expected, the percentage of moral scenarios for which participants chose the omission alternative was significantly higher for OC participants, than for both patients with AD and healthy controls.

Our results partially overlap with those of Franklin, McNally, and Riemann (2009). These authors investigated moral choices in OC patients using the trolley dilemma, demonstrating that patients’ preference for the action choice was inversely related to the severity of their symptoms. Moreover, the stronger patients endorsed responsibility attitudes, the less likely they were to choose to kill one person to save the lives of others.

Overall, these data, together with those of other studies, suggest that OC patients are especially concerned about the possibility of transgressing a moral norm.

The Relationship Between Fear of Deontological Guilt, Fear of Disgusting Contamination and NJRE in OCD.

According to the appraisal theories (see above), in OCD, besides the goal of preventing a feeling of deontological guilt there are two main further goals: 1. the goal of preventing or neutralizing a disgusting contamination (Rachman, 2006), even if it does not imply any damage to anyone’s health or to morality, and thus any guilt, and 2. the goal of preventing or neutralizing the Not Just Right Experience (NJRE, Coles, Frost, Heimberg, & Rhéaume, 2003), even if this sensation does not imply or signal any damage for anyone. Two questions arise: what is the relationship between the fear of contamination and the fear of deontological guilt? what is the relationship between the NJRE and the fear of deontological guilt? With the research presented in the next paragraphs we will suggest that both goals can be attributed to the fear of deontological guilt.

The Relationship Between Fear of Guilt and Fear of Contamination

A wide literature suggests a close relationship between the sense of guilt and the sense of disgust (see Lee & Schwarz, 2011; Schnall, Haidt, Clore, & Jordan, 2008). It has been suggested that “a threat to one’s moral purity induces the need to clean oneself” and is revealed “through an increased mental accessibility of cleansing related concepts, a greater desire for cleansing products, and a greater likelihood of using antiseptic wipes. And most important “physical cleaning alleviates the upsetting consequences of unethical behavior and reduces threats to one’s moral self-image”: the “Macbeth effect” (Zhong & Liljenquist, 2006).

However, several studies have failed to replicate this effect (e.g., Earp, Everett, Madva, & Hamlin, 2014; Fayard, Bassi, Bernstein, & Roberts, 2009; Gámez, Diaz, & Marrero, 2011). This inconsistency might be due to the sense of guilt that was induced in the experimental participants. It was probably the guilt prototype, as it was described by

3 The “Neural Efficiency Hypothesis” postulates that trained individuals display a lower degree of cortical activation, than less trained people (Neubauer & Fink, 2009).

4 For example, in some OC patients the compulsions are aimed at preventing or neutralising the contamination from, for example, oiled substances, since they trigger a feeling of disgust, but the patients do not explicitly judge them as dangerous for the health of themselves or others.
Prinz and Nichols (2010, see above). It is indeed the most frequent and the one in which the components of both the senses of guilt, deontological and altruistic, are involved. However, it is possible that the “Macbeth effect” is mainly due to the deontological and not the altruistic sense of guilt. Some data are consistent with this hypothesis. As stated above, deontological guilt shares with disgust the same areas of the brain, the insulae and the anterior cingulate cortex (Basile et al., 2011). Moreover, deontological guilt induction activates washing behaviours to a greater extent than induction of altruistic guilt and feelings of deontological guilt, but not of altruistic guilt, decreased and feelings of happiness increased after washing behaviours (D’Olimpio & Mancini, 2014).

**The Relationship Between Fear of Deontological Guilt and Fear of Contamination in OC patients**

The “Macbeth effect” has been shown to be particularly prominent in individuals with OCD and was not limited to individuals with washing rituals, but it was also robust in individuals with checking and mixed rituals, suggesting that the relationship between cleansing and morality in OCD may be quite broad (Reuven, Lieberman, & Dar, 2013). These data are consistent with the idea that OC patients are more sensitive to the deontological guilt and that specifically this sense of guilt, and not altruistic guilt, is responsible for the “Macbeth effect”. This hypothesis is empirically supported by some other data. Ottaviani, Mancini, Petrocchi, Medea, and Couyoumdjian (2013) investigated the differences in patterns of autonomic reactivity, in particular the heart rate variability, between physical and moral disgust in participants with and without obsessive-compulsive tendencies, as rated by the Obsessive-Compulsive Inventory-Revised (OCI-R; Foa, Kozak, Salkovskis, Coles, & Amir, 1998). In participants with low OC tendencies, the induction of physical disgust led to a different autonomic reactivity than that observed after the induction of moral disgust. The authors concluded that in these participants, the induction of moral disgust is just a metaphor: “the bad taste” of moral disgust. On the contrary, in participants with high OC tendencies, the induction of moral disgust led to the same autonomic activation reported after the physical disgust. Results suggest that immorality relies on the same biological root of physical disgust only in participants with obsessive compulsive tendencies. In terms of appraisal, these participants may have interpreted immorality as potentially contaminating. Thus it seems that, in participants with high OC tendencies, moral judgement mainly involves deontological principles, whose transgression seems particularly related to disgust.

Moreover, D’Olimpio et al. (2013) showed that OCD patients are more prone to guilt feelings than both anxious and control participants. This propensity to guilt feelings was significantly correlated to disgust propensity only in the OCD group. Moreover, they found that all the investigated OCD symptomatology, including washers, checkers and mixed group, have an inflated propensity to guilt feelings and disgust. Finally, propensity to guilt feelings and to disgust was significantly correlated with OC symptom severity. These findings are in line with results of other research suggesting that OCD patients suffer from deontological guilt, which is strictly connected to disgust.

**Fear of Guilt and NJRE**

Individuals with obsessive-compulsive disorder (OCD) frequently report the Not Just Right Experience (NJRE, Coles et al., 2003; Coles, Heimberg, Frost, & Steketee, 2005). It is usually defined as “the feeling that things are not the way they should be” (Coles et al., 2003, 2005). Furthermore, OC individuals often describe the feeling of being driven to perform an action until this uncomfortable sensation is reduced. In recent years many studies have shown that this uncomfortable sensation is more frequent and intense in OC patients than in other patients and in non-clinical controls (Sica, Caudek, Chiri, Ghisi, & Marchetti, 2012), and some order and symmetry rituals are aimed at decreasing such negative feelings (Coles & Horng, 2006; Ecker & Gönner, 2008). Moreover, NJREs are significantly more strongly correlated with features of OCD than other domains of psychopathology (e.g., general distress, trait-anxiety, social anxiety, worry, depression, (Coles et al., 2003; Ghisi, Chiri, Marchetti, Sanavio, & Sico, 2010; Taylor et al., 2014). Obsessive symptomatology is thus connected to the NJRE, i.e. obsessions and compulsions are activities aimed at preventing or neutralizing the NJRE. So, likewise the fear of contamination, also the NJRE raises a question to be addressed. What is the relationship between the NJRE and the fear of guilt? Is it possible to ascribe the goal of preventing or neutralising this feeling that has the goal of preventing guilt? The results of two experiments found that fear of guilt actually influences the sensation of things being not just right. For example, Mancini and colleagues (Mancini, Gangemi, Perdighe, & Marini, 2008) found that the induction of a guilt emotion resulted in increased NJRE
in non-clinical individuals. This finding was qualified by an interaction with trait guilt. In two different experiments, with healthy individuals, participants were divided into high and low-trait-guilt groups on the basis of a measure of trait guilt. They were then assigned to one of the three affect induction conditions (guilty, victim of a wrong doing, neutral). Affects were induced by asking participants to write about a guilty, or about to be victim of a wrong doing, or about a neutral life event. The emotional states were thus neither generated by nor related to the task used in the experiment. All the participants were then told that their task was to rearrange a number of pieces of cardboard representing a set of dominos on a desk, using what they considered to be the best criterion for them, i.e., the one that satisfied them most. Finally, all the participants were asked to fill in the State-NJRE survey questionnaire (ST-NJRE Q).

Results show that the responsiveness to NJRE was actually affected by state guilt, and that this effect was stronger in high-trait-guilt individuals. More specifically, high-trait-guilty individuals felt stronger NJRE after the guilt induction than after the induction of the other two affects. Low-trait-guilty individuals did not display this pattern. Furthermore, Mancini and colleagues found a significant relationship between the NJRE state and the levels of OC features. Moreover, the occurrence of the NJRE state was significantly related to all types of OCD symptom types (washing, checking, rumination, etc.). This last finding is consistent with the idea that the guilt trait is linked to all OCD domains. It is worth noting that in these experiments, participants in the guilt induction condition felt the NJRE state more, than the comparison groups even if (a) their guilt referred to a domain that was different from those related to the source of the guilt experienced, (b) the rearranging task was not related to morality but rather to aesthetics or ordering standards, and (c) it was not subjectively crucial for the subject. Indeed, the task related to a set of dominos and the standard to be achieved was of the aesthetic or ordering type. This finding may help to explain why individuals with OCD are responsive to NJRE also in domains that are not so crucial for them, and furthermore that an increase in responsiveness to NJRE might come from feelings of guilt regarding totally unrelated events.

In sum, it seems that feelings of guilt are linked to feelings of things not being right, and this relationship is analogous to “the Macbeth effect” that, as shown above, connects feelings of guilt and disgust: a threat to one’s moral purity induces the need to have a sensation of things being ”just right”. Thus, again, OC symptomatology can be attributed to the goal of preventing guilt.

Conclusions

The research presented in this paper suggests that deontological guilt is involved in the genesis and maintenance of obsessive symptoms. Deontological guilt arises when one violates an inner moral rule, while altruistic guilt arises if one does not behave altruistically (Mancini, 2008, see above). Deontological and altruistic guilt appear to be associated with different areas of the brain: the former includes the insulae and the anterior cingulate cortex, whereas the latter involves the medial prefrontal areas (Basile et al., 2011).

Some behavioural data from non-clinical participants (D’Olimpio & Mancini, 2014) suggest that the induction of deontological guilt, more than altruistic guilt, triggers cleaning behavior and, in turn, these behaviours reduce feelings of deontological, but not altruistic guilt. Moreover, the induction of deontological guilt in non-clinical participants resulted in more frequent choices of omission than action in trolley moral dilemmas, whereas the opposite was true following an induction of altruistic guilt. (Mancini & Gangemi, 2015).

Some other evidence from OC patients shows that they are more sensitive to deontological guilt, than non-obsessive patients. Compared to healthy controls, when processing deontological guilt stimuli, OC patients showed decreased activation in the anterior cingulate cortex, the insula and the precuneus. No significant differences were observed between groups when processing altruistic guilt stimuli (Basile et al., 2013). Moreover, obsessive patients showed a preference for omission rather than action in the trolley task, like non-clinical people if deontological guilt is induced (Mancini & Gangemi, 2015). Finally, deontological guilt induction activated obsessive like behavior, that is checking and washing behaviours, to a greater extent than the induction of altruistic guilt (D’Olimpio & Mancini, 2014).

A number of studies also demonstrate that there is a relationship between the deontological sense of guilt and disgust. Indeed, deontological guilt induction leads to the activation of the insulae, which are also involved during a disgusting experience. This relationship could explain the contradictory results reported in the experiments aimed at demonstrating “the Macbeth effect” (e.g., Earp et al., 2014; Fayard et al., 2009; Gámez et al., 2011), that is the influence of the sense of guilt on cleaning and the power of washing in reducing this feeling. Indeed, this effect seems
to be present only after the induction of a deontological sense of guilt and not after an induction of an altruistic sense of guilt (D’Olimpio & Mancini, 2014). In line with these results, “the Macbeth effect” is more prominent in individuals with OCD, than in patients affected by other anxiety disorders (Reuven et al., 2013). Moreover, only in non-clinical participants with high scores at the Obsessive-Compulsive Inventory-Revised (OCI-R; Foa et al., 1998), both the moral disgust and the physical disgust are related to the same physiological patterns. In the participants with low scores for the OCI-R the moral disgust seems to have a sort of metaphoric role (see above, Ottaviani et al., 2013). These results suggest that in participants with a high attitude to obsessions and compulsions, moral judgment easily triggers disgust. Finally, OC patients show a higher propensity to both guilt feelings and disgust, than non-clinical controls and patients with other anxiety disorders. This last result suggests that this propensity to guilt could be a propensity to deontological guilt (D’Olimpio et al., 2013).

Lastly, some research shows that there is a relationship between the sense of guilt and NJRE. For example, Mancini et al. (2008) showed that the induction of a guilty emotion resulted in increased NJRE in non-clinical individuals. However, there is no study that specifically demonstrates the influence of deontological guilt emotion on NJRE.

To sum up, it seems that there are two different senses of guilt: the deontological one and the altruistic one. The former seems to be more involved in OC patients, than the latter. Moreover, the former is related to disgust, and this relationship could explain why both fear of contamination and fear of guilt are often co-present.

All the data we reviewed in this paper suggest further lines of research. A first should deeper investigate the differences among altruistic guilt, deontological guilt and shame emotions. In particular, it should be verified whether deontological guilt activates different physiological arousal patterns from both altruistic guilt and shame, and the same patterns as for the disgust. This hypothesis is suggested by some functional magnetic resonance imaging (fMRI) studies which demonstrate that deontological and altruistic guilt are associated with different areas of the brain: the former includes the insulae and the anterior cingulate cortex, whereas the latter involves the medial prefrontal areas (Basile et al., 2011), and that the insulae are instead involved in self-reproach and disgust (e.g., Rozin et al., 2000). Other studies demonstrate also that in participants with high OC tendencies, the induction of moral disgust led to the same autonomic activation reported after the physical disgust (Ottaviani et al., 2013). The presence of physiological patterns that discriminate among deontological guilt, altruistic guilt and shame might allow to assess these emotions without the limits of the self report measures.

A second line of research should verify whether the action dispostions in deontological guilt is different from those characterizing altruistic guilt and shame. According to Mancini (2008), deontological guilt is alleviated through confession or apology, while altruistic guilt is characterized by the desire to sacrifice oneself to help or, to alleviate suffering of the victim, even at the expense of one's own. Shame is characterized by the disposition to hide, disappear, avoid the contact with the other. If all these differences would be confirmed, they could lead to a clearer definition of the so-called Dobby Effect (Nelissen & Zeelenberg, 2009), that is the tendency for self-punishment. A third line of research should investigate the moral implications of the two guilt emotions. For example, it should be verified whether differently from altruistic guilt and shame, deontological guilt leads to a move downword of the Self on the Social Cognitive Chain of Being, that individual attributes to the self (cf. Mancini & Mancini, 2015). This result could also revise Lewis’ (2000) and Tangney and Dearing’s (2002) thesis, according to which, the object of shame is the self, while the object of guilt is one’s own action or omission.

As regards the role of fear of deontological guilt in OCD, all the results described in the present paper are not sufficient to actually state it. To this aim, two further lines of research should be pursued. A first should check whether in OC patients the selective reduction of deontological guilt would imply the reduction of obsessive symptoms. The second should verify whether the selective induction of the deontological guilt in obsessive patients would activate OC behaviours more than in other clinical and non-clinical groups. It would be also interesting to verify whether the deontological guilt induction would lead to a higher NJRE more than the altruistic guilt induction in non-clinical individuals, and whether this effect would be greater in OC patients than in other patients and in non-clinical controls. The confirmation of the hypothesis that OC patients are especially concerned about the possibility of transgressing a moral norm could contribute to improving the moral appraisal theory of OCD (cf. Rachman, 1993; 2002; Radomsky, Shafran, Coughtrey, & Rachman, 2010; Salkovskis, 1985).
Exposure and response prevention (ERP) remains the psychological treatment of choice for Obsessive-Compulsive Disorder (OCD) (National Institute for Health and Care Excellence, 2005). However, this technique has several limits. For example, a significant proportion of cases still fail to respond to ERP, or refuse it, or drop out. Moreover, it is not easy to apply it with patients that present covert and very different and pervasive obsessive symptoms. ERP is also not effective enough when the emotion involved is disgust. Finally, the risk of relapse are not irrelevant (Abramowitz, Franklin, Schwartz, & Furr, 2003; Mason & Ricahrdson, 2012; Rufer, Fricke, Moritz, Kloss, & Hand, 2006; Tolin, Maltby, Diefenbach, Hannan, & Worhunsky, 2004).

This has prompted the search for new target areas for intervention, in the hope that outcomes can be improved (Veale, Page, Woodward, & Salkovskis, 2015). The data reviewed in this paper could contribute to suggest these new targets. Indeed, if they would be further confirmed, then the three following ingredients would be necessary for developing obsessive symptoms: 1. the belief that being guilty in deontological sense could be a catastrophe, 2. that this possibility is imminent and 3. that the goal of preventing this possibility is active. Thus, the treatment and change of these conditions could be sufficient for reducing obsessive symptoms. If these targets are plausible, than there are at least two therapeutical implications. First, the therapy could be addressed to treat non-symptomatic domains as well. This target could be useful especially when the symptomatology is pervasive and mainfold of the ERP ineffective. Second, the achievement of the target should lead to a reduction of the vulnerability to OCD, and thus a reduction of the relapses, usually observed after ERP. In a pilot study, Cosentino et al. (2012) examined the efficacy of a clinical intervention aimed at increasing acceptability of being guilty in non-symptomatic domains. This intervention adopted different techniques, such as Socratic dialogue, two-chairs technique (Perls, Hefferkine & Goodman, 1971), and modified double standard (van Oppen & Arntz, 1994). A significant improvement in OC symptoms was obtained in all patients (even in those in which ERP provoked a resistance) and remained stable also at the one-year follow-up.

To conclude, two further remarks seem useful. First, several research suggest the existence of early experiences that could have contributed to sensitize patients to the possibility of being guilty in a deontological sense (for a review see Tenore, 2016). Second, there are several techniques addressed to realaborate memories of early negative experiences, such as the Imagery Rescripting Technique (Arntz, 2012; Arntz & Weeterman, 1999). Using this technique, Veale et al. (2015) obtained relevant improving in 7 patients (out of 12) in only one session. It would be interesting to verify whether better results could be obtained with memories specifically related to deontological guilt.

References


