Article

Moral Judgment and Empathic/ Deontological Guilt

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Abstract

Background: People often make complicated decisions to help or to punish perfect strangers. Harming someone or breaking some moral imperative is usually linked to feeling guilt, and several researches suggested the existence of two different kinds of guilt: altruistic/empathic and deontological.

Aim: Our study aimed to investigate the decision-making processes in moral and nonmoral judgments and assess how specific situations in which the subject is close to the victim or flanked by an authority can influence his decisions.

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Methods: We used three different moral conditions: Empathic Moral (the decision has made while physically close to the potential victims), Deontological Moral (the decision has made while flanked by an "authority"), and Standard Moral (without any influence); a fourth condition is represented by Nonmoral dilemmas (the subject must make a choice between two different things and this does not cause any harm or victims). Previously, a pilot study was carried out for validating the experimental stories to be used in the main study.
Results: We observed a higher number of utilitarian/positive responses when individuals had to respond to Empathic Moral condition, with respect to Deontological Moral and Nonmoral dilemmas. Moreover, looking at the time needed to read the dilemma, under empathic guilt condition, people tended to be slower in reading the dilemmas than in other conditions and this both in case of positive and negative responses. No significant differences in time needed to effectively respond emerged.
Conclusions: These findings suggested that be physically close to potential victims or be flanked by an "authority" differentially influence the decision-making processes in moral judgment, inducing slower decisions and more utilitarian answers, particularly in the scenario of physical proximity.

Keywords
Moral dilemma, guilt, altruistic, deontological, emotions, decision-making

Introduction

Morality plays a lead role in building the human nature: sense of fairness, concern for others, and observance of cultural norms shape people's judgments in helping or punishing a perfect stranger, involving them so much to risk material resources or their physical integrity in this process (Goodenough & Prehn, 2004; Zeki & Goodenough, 2006). In the last 25 years, moral dilemmas have been widely employed in psychology and neuroscience to investigate the interplay between emotional and cognitive processes in moral judgment and decision-making.

Higher cognition in the moral judgment had a main part in the development theories of moral psychology for years (Kohlberg, 1969). Other aspects of these theories emphasized both the role of intuitive and emotional processes in human decision-making (Damasio & Sutherland, 1994) and sociality (Bargh & Chartrand, 1999; Devine, 1989) having a deep influence in the relative literature (Haidt, 2001; Rozin, Lowery, Imada, & Haidt, 1999). Nowadays, some studies suggest a synthesis of these two perspectives (Greene & Haidt, 2002; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001) and put the idea forward that either emotion-based or rationally based cognitive subsystems are involved in moral reasoning processes.

According to people's reaction about these dilemmas, psychology investigates their moral judgments. An affirmative answer in facing a difficult choice is

considered functional though it agrees with John Stuart Mill's utilitarianism which argues that those moral actions are good if they maximize the well-being of the maximum number of agents involved in the situation (Mill & Bentham, 1987/2010). On the contrary, a negative one is supposed to be nonutilitarian or deontological, referring to Kantian deontology which evaluates the moral status of an action based not on the bases of their consequences but on the features of the act itself, relative to the moral rules regarding rights and duties of the agents involved in the situation (Kant & Paton, 2005).

According to Greene et al.'s (Greene, Nystrom, Engell, Darley, & Cohen, 2004; Greene et al., 2001) dual process model, this pattern of findings is due to the fact that moral judgments and decisions are driven by two systems in competition: a slow and rational system that would perform a cost-benefit analysis and lead individuals to endorse the option that maximizes the number of spared lives (the so-called utilitarian resolution of the dilemmas) and a fast and emotional system that produces an immediate negative reaction against the proposed action (i.e. killing a man), leading individuals to reject the utilitarian resolution.

To break a moral norm is emotionally alarming (Milgram & Sabini, 1978); our emotions do not always prevent us from contemplating morally reprehensible actions; for example, feelings of guilt or shame, typically, do stop us in committing immoral action. Harming someone or breaking some moral imperative or norm is usually linked to feeling guilt (Haidt, 2003; Smith & Ellsworth, 1985). Research on guilt rests on two main traditions: the intrapsychic theory (Wertheim & Schwarz, 1983) and the interpersonal theory (Baumeister, Stillwell, & Heatherton, 1994; Niedenthal, Tangney, & Gavanski, 1994; Tangney & Dearing, 2003).

On one hand, the intrapsychic theory implies that since our childhood, we are taught to recognize and interiorize inner moral rules and values where guilt represents the emotional result of a conflict between our interiorized moral authority rules/values and our behaviors (Fromm, 1947/1985). The evolutionary function of this theory connotes the respect for the authority and other people's rights associating guilt as the feeling of having disobeyed to one's own inner moral values, even without really acting or sharing with others; the person who feels guilty has the feeling of being a "bad person" (Lewis, 1971).

On the other hand, the interpersonal theory considers guilt as the awareness of having caused unjustified harm to another or, in a more general sense, of not having behaved altruistically, thus resulting in selfish behavior. This feeling is based on empathy and compassion (Baumeister et al., 1994). Within the interpersonal understanding, guilt might arise simply by observing someone who has been unjustly penalized (O'Connor, Berry, Weiss, Schweitzer, & Sevier, 2000).

Several recent studies come out of two different kinds of guilt: altruistic (interpersonal theory perspective) and deontological guilt (intrapsychic theory perspective) (Basile & Mancini, 2011; Carnì, Petrocchi, Del Miglio, Mancini, & Couyoumdjian, 2013; Mancini, 2008). These two guilt emotions

are well distinct not only under the phenomenological point of view but also under the perspective of their neurobiological substrates (Basile et al., 2011), and although both are normally present in the majority of guilt emotions experienced by people in their daily lives, they might appear alone and be elicited separately (Basile & Mancini, 2011; D'Olimpio & Mancini, 2014). Altruistic guilt is the interpersonal sense of guilt, related to altruism and particularly with the tendency to feel empathy. Deontological guilt is the intrapsychic sense of guilt, which arises out of the assumption of having slighted moral authority or norms.

Based on the above, our study aimed to investigate the decision-making processes in moral and nonmoral judgments and assess how specific situations in which the subject is close to the victim or flanked by an authority can influence his/her decisions. To this extent, as a first, we ran a pilot study aimed at identifying the best version of dilemmas to be used: Our main interest was to detect which version was able to elicit less utilitaristic responses, as reflection of an increase in difficulty of decision-making processes. Then, based on the results of the pilot study, three groups of participants were asked to respond to some different kind of moral dilemmas where the decision did harm other people, namely, Standard Moral (SM), Empathic Moral (EM), or Deontological Moral (DM); another group responded to different kinds of dilemma, namely, Nonmoral (NM), in which a choice has to be made between two different things, but this does not cause any harm or victims. As dependent variables' kind of response and reading/response times needed to provide an answer were taken into account.

On the basis of literature (Tangney & Dearing, 2003; Tangney, Stuewig, & Mashek, 2007), we hypothesize a higher number of positive/utilitaristic responses in empathic condition compared to other conditions with higher reading/response times.

Methods

Participants

Pilot study. Fifty subjects (29 females) participated in the preliminary study and were recruited from the University of L'Aquila (Italy) and from their friends and relatives. All of the participants voluntarily participated in the study and signed an informed consent; the study protocol was conducted in accordance with the Declaration of Helsinki, and it was approved by the internal review board. Participants had a mean age of 37.82 years (SD = 12.71; range = 20–60 years) and completed, in separate sessions, two different versions of dilemmas (''5 vs. 2'' and ''5 vs. 3''; see below).

Main study. One hundred twenty healthy subjects (69 females) participated in the study and were recruited from the University of L'Aquila (Italy) and from their

friends. All of the participants voluntarily participated in the study and signed an informed consent; the study protocol was conducted in accordance with the Declaration of Helsinki. Their demographic info as well as depression (Center for Epidemiological Studies-Depression (CES-D)), anxiety (State-Trait Anxiety Inventory (STAI-Y2)), and empathy (Interpersonal Reactivity Index (IRI)) scores have been reported in Table 1. Any neurological or psychiatric history and medication or drug intake was ruled out by means of both a questionnaire and a clinical interview.

As said before, participants were then assigned to one of the four subgroups (''Standard Moral,'' ''Empathic Moral,'' and ''Deontological Moral'' dilemmas, or ''Nonmoral'' dilemmas, see below).

Instruments

To assess psychological characteristics of participants, the Italian version of CES-D (Radloff, 1977), STAI-Y2 (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), and IRI (Davis, 1983) have been used. CES-D is a 20-item measure that asks people to rate how often (from 0 = Rarely to 3 = Most or Almost All the Time) over the past week they experienced symptoms associated with depression. Highest scores indicate greater levels of depression. STAI-Y is a commonly used measure of trait and state anxiety: It has 20 items for assessing trait anxiety and 20 for state anxiety: Here, we assessed only trait anxiety. All items are rated on a four-point scale (from ''Almost Never'' to ''Almost Always''): higher the scores greater the anxiety. IRI is a scale for the multidimensional assessment of empathy based on 28 items to be answered on a five-point Likert-type scale (from ''does not describe me well'' to ''describes me very well''). It comprises four subscales: Perspective Taking (indicating the tendency to spontaneously adopt the psychological point of view of others), Fantasy (describing respondents' tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters), Empathic Concern (measuring ''other-oriented'' feelings of sympathy and concern for unfortunate others), and Personal Distress (quantifying ''self-oriented'' feelings of personal anxiety and unease in tense interpersonal settings). Furthermore, reading and comprehension skills have been assessed by means of ad hoc task, in which participants were asked to read a text and answer to questions regarding its contents: a good skill was reached if correct answers were 80% or more.

The main aim of the present study is to evaluate how the kind of response (Yes/No) and reading/response times can be influenced by different conditions of moral dilemmas and by different situations (i.e. close to the victim, flanked by an authority). To this extent, we created stories based on original trolley problem (Thomson, 1976) and first tested them in a pilot study: All dilemmas involved the deflection of an existing threat to save as much people as possible.

Table 1. Demographic and psychological features of the sample (mean ± standard deviation).

	Age	Education	Depression (CES-D)	Anxiety (STAI-Y2)	Empathy (IRI)			
					PT	EC	PD	F
Overall sample (120 subjects, 69 females)	29.30 ± 9.99	17.65 ± 1.13	11.52 ± 3.53	25.16 ± 3.53	17.37 ± 4.79	20.35 ± 3.83	10.87 ± 4.83	17.24 ± 5.39
Group 1 *Standard Moral* (30 subjects, 17 females)	32.63 ± 10.74	17.10 ± 1.04	10.34 ± 2.81	26.37 ± 2.33	16.78 ± 4.72	20.55 ± 3.53	9.46 ± 4.55	16.42 ± 5.91
Group 2 *Empathic Moral* (30 subjects, 17 females)	26.00 ± 8.64	18.03 ± 1.19	12.18 ± 4.02	23.92 ± 4.02	17.23 ± 4.21	19.04 ± 4.21	10.71 ± 4.32	15.73 ± 5.61
Group 3 *Deontological Moral* (30 subjects, 18 females)	29.33 ± 9.82	17.53 ± 1.14	9.75 ± 2.74	25.84 ± 3.48	17.34 ± 4.09	21.67 ± 3.83	12.28 ± 5.10	17.33 ± 4.19
Group 4 *Control Nonmoral* (30 subjects, 17 females)	29.20 ± 10.03	17.63 ± 1.13	10.24 ± 1.98	24.25 ± 4.89	17.96 ± 4.85	20.92 ± 4.67	11.37 ± 4.41	18.75 ± 5.17

Note: IRI subscales: PT: perspective taking; EC: empathic concern; PD: personal distress; F: fantasy. CES-D: Center for Epidemiological Studies-Depression; STAI-Y2: State-Trait Anxiety Inventory; IRI: Interpersonal Reactivity Index.

In the original trolley problem, there are five people who could die and, pulling the lever and switching the trolley, one person could die (5 ''saved'' vs. 1 ''sacrificed''). To avoid a high number of positive answers and make the subject's choice more difficult and suffered, in this preliminary study, we tested which alternative version of dilemmas (''5 saved vs. 2 sacrificed'' or ''5 saved vs. 3 sacrificed'') can induce greater difficulties in decision-making. Each participant was asked to cope with specific situations and provide a judgment of appropriateness (i.e. *It's right for you push the button to divert the runaway train?*).

Then, based on the result of pilot study, the main investigation was carried out. Each participant, as a function of group to which he/she was assigned, had to respond to 10 dilemmas: some answered to SM dilemmas (where the subject must decide if kill three people and save five people), other to 10 Moral dilemmas with EM guilt (where the subject is physically close to potential victims and must take a decision), other to 10 Moral dilemmas with DM guilt (where the subject must decide while it is flanked by an 'authority'; i.e. judge, police man, boss), and other to NM dilemmas (the subject must make a choice between two different things, and this does not cause any harm or victims). The choice to use different groups was motivated by the need to avoid decision biases and desensitization to (repeated) moral requests. Also in this case, each participant was asked to cope with specific situations and provide a judgment of appropriateness.

Examples of the different kinds of dilemmas:

Standard Moral

> A runaway train is coming down the track. It is headed towards five people who cannot get out of its way. The only way you can save them, is to move an exchange that will divert the train on a track on which there are three other men at work. In this way, the last 3 will die, but the other five will be saved. You are in in the cockpit of the station, next to the button to move the exchange.
>
> It's right for you push the button to divert the runaway train?

Deontological Moral

> A runaway train is coming down the track. It is headed towards five people who cannot get out of its way. The only way you can save them, is to move an exchange that will divert the train on a track on which there are three other men at work. In this way, the last 3 will die, but the other five will be saved. You are in the cockpit of the station, next to the button to move the exchange. You know that everything that happens in the cockpit is registered and supervised by the head of the railway and by the judge.
>
> It's right for you push the button to divert the runaway train?

Empathic Moral

> A runaway train is coming down the track. It is headed towards five people who cannot get out of its way. The only way you can save them, is to move an exchange that will divert the train on a track on which there are three other men at work. In this way, the last 3 will die, but the other five will be saved. You are in the cockpit of the station, next to the button to move the exchange. Distance that separates you from the five workers, who will be overwhelmed, is very small so that you can see the faces.
> It's right for you push the button to divert the runaway train?

Nonmoral

> You have to go to the home of a friend; You are along the coastal road that will take you at destination in 5 hours, enjoying a beautiful landscape. You approach to a junction where you can choose, turning left, to change course onto the highway that will take you from your friend in 3 hours, but the landscape is very boring and certainly you'll find traffic.
> It is appropriate for you to change course?

Procedure

As a first, participants were asked to complete both questionnaires and reading skills task. After this phase (both in pilot and main studies), they were tested in a soundproof, temperature-controlled environment and answered to the dilemmas presented in a randomized order by means of a dedicated software (Superlab 4.0 for Windows) that allows recording subject's responses and reading/response times needed to make a decision.

Each subject was positioned in front of a computer screen at a distance of 50 to 60 cm. Before the start of recording session, instructions were presented on the screen: in case of need, the participant could request more information to the experimenter. Then, the session started with the first dilemma; from this moment, the reading time was recorded. The subjects were invited to read it carefully and only when the situation was completely clear, he/she pressed a button on the keyboard and read the question related to the given situation (i.e. *It's right for you…?*). The question was associated with a graphical representation of the dilemma and from the moment it appeared on the screen, the counting of response time started. He/she was asked to respond by pressing two buttons on the keyboard: green button to positive response (Yes, it is appropriate) and red button to negative response (No, it is not appropriate).

Statistical analyses

Pilot study. A one-tailed Student's t test was used to compare the two conditions ("5 vs. 2" or "5 vs. 3") with regard to the total number (i.e. sum) of utilitaristic responses provided by the participants.

Main study. Also in this case, the total number of positive responses was submitted to a one-way analysis of variance (ANOVA) to compare the different conditions (SM, EM, DM, and NM). Then, reading time and response time were submitted to a mixed ANOVA condition (SM, EM, DM, and NM) × response (positive and negative). The level of statistical significance was set at $p < 0.05$; for post hoc comparison Fischer' LSD test was applied. Statistical analyses were performed using Statistica package (Statsoft Inc., version 8.1).

Results

Pilot study

Results showed that in "5 vs. 3" version (6.82 ± 3.47), participants provided less utilitaristic responses with respect to "5 vs. 2" version (7.25 ± 3.70), indicating a significant increase in difficulty of decision-making processes ($t = 2.67$; $p = 0.005$). As a consequence, in the main study, the "5 vs. 3" version was used because it ensured an increased difficulty in decision-making process, making the subject's choice more empathically suffered.

Main study

The ANOVA on positive responses showed a significant main effect for condition ($F(3, 116) = 30.60$; $p = 0.01$; $\eta_p^2 = 0.44$), indicating a higher number of positive responses in EM condition with respect to SM, DM, and NM (see Figure 1). Post hoc comparison showed that EM was statistically different by both DM ($p = 0.006$) and NM ($p = 0.004$). No other main effects or interactions resulted statistically significant.

The ANOVA on reading time showed a statistically significant main effect for condition ($F(3, 85) = 6.43$; $p = 0.00056$; $\eta_p^2 = 0.18$) indicating that under altruistic guilt condition, people tend to be slower in reading the dilemmas. The interaction condition × response also resulted significant main effect ($F(3, 85) = 2.89$; $p = 0.039$; $\eta_p^2 = 0.09$), indicating that in positive responses under EM condition, reading times are slightly longer than under other conditions, as confirmed by post hoc comparisons ($0.05 > p < 0.03$) (see Figure 2). No other main effects or interactions resulted statistically significant.

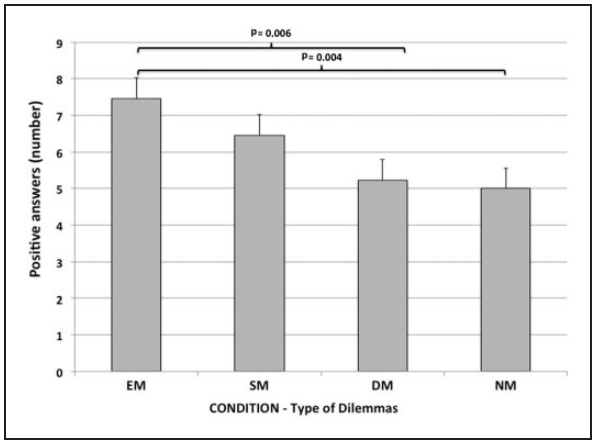

Figure 1. Total number of positive responses in different type of dilemmas.
EM: Empathic Moral dilemmas; SM: Standard Moral dilemmas; DM: Deontological Moral dilemmas; NM: Nonmoral dilemmas.

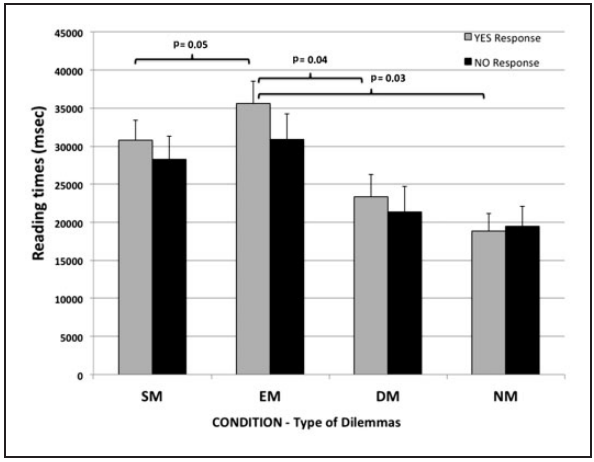

Figure 2. Interaction condition × type of response: effect on reading times.
EM: Empathic Moral dilemmas; SM: Standard Moral dilemmas; DM: Deontological Moral dilemmas; NM: Nonmoral dilemmas.

Discussion

This study aimed to investigate the decision-making processes in moral judgment and assessed how specific situations in which the subject is close to the

victim or flanked by an authority can influence his decisions. For this purpose, we created stories based on original trolley problem assessing both the reading/response time and the type of response to resolve the dilemma. Our results indicated a higher number of positive responses in EM condition with respect to DM and NM. Moreover, looking at the reading time, under altruistic guilt condition, people tend to be slower in reading the dilemmas than in other conditions, particularly for positive responses. No effect emerged in response time.

A higher number of utilitaristic/positive responses in EM reflect the moral decision-making processes underlying the altruistic/empathic behavior. Affirmative response to this dilemma (five people are safe, but three people die) is said to be utilitarian, since it agrees with John Stuart Mill's utilitarianism which argues that those moral actions are good if they maximize the well-being of the maximum number of agents involved in the situation (Mill & Bentham, 1987/2010). The subject is physically close to the potential victims and, according to interpersonal theory (Tangney & Dearing, 2003), guilt originates in the relationship with others and has been considered as a prosocial emotion, promoting constructive and proactive pursuits, leading to reparative and more emphatic behavior (Tangney et al., 2007). Our findings showed that the subject physically close to potential victims has to cope with a particular situation, saving the higher number of persons and judging appropriate sacrifice three people to save five. Another possible explanation, according to Pletti, Lotto, Tasso, and Sarlo (2016), is that the participants tended to choose the option that minimized the intensity of the aversive emotions experienced after the decision. In our case, the participants in EM condition are close to the potential victims, they can see them; this condition could induce negative emotion that could influence the decision-making in moral dilemma.

Conversely, in deontological guilt condition, the subject presented a lower number of positive response. According to intrapsychic theory (Monteith, 1993), guilt represents emotional result of a conflict between introjected moral authority rules/values and behaviors. In this case, the subject is flanked by an authority (that represents rules or values) and the choice to omit can be explained on the basis of his/her moral compulsory need that reflects an overgeneralization of the ''Do not play God'' principle (Gangemi & Mancini, 2013; Mancini & Gangemi, 2015; Sunstein, 2005). In this perspective, omissions or inactions interfere less with the ''natural order.'' Omission generally carries less negative moral weight than commission, since it interferes less with individual's destiny. Moreover, as shown by Haidt and Baron (1996), playing a role in the higher level hierarchy allows increasing the decision-making autonomy and considers morally even omission acts; consequently, individual in a lower hierarchical level gives authority more right to interfere with the natural order.

Our study also showed a significant effect of reading time: particularly, under empathic guilt and with positive responses, the subjects were slower with respect

to other condition. In response time, any statistically significant difference was observed. This finding suggests that the decision-making processes occur and take place during the dilemmas reading; as a consequence, response time does not change since the decision has been already taken previously.

This finding of higher reading times in EM condition is in agreement with some previous literature (Migliore, Curcio, Mancini, & Cappa, 2014): In this study, the individuals showed higher reaction times when they were directly involved in moral dilemmas. In empathic condition, the subject that identifies and recognizes the potential victims is physically close to them, and these factors are involved in the moral evaluation (Cushman, Young, & Hauser, 2006). Moreover, in our study, we observed that, when the subject is physically close to potential victims, he has an "altruistic" attitude (more positive response) and this behavior is associated with an increase of reading time. This means that the possible consequences of doing a choice have a direct effect on the subject's decision-making processes (Tangney et al., 2007). Our results are in line with previous research (Greene et al., 2001): These authors showed that to judge "appropriate" to sacrifice a person in order to save many others produce slower reaction time in moral decision-making. Moreover, when the subject are directly involved, the brain areas activated were the medial prefrontal cortex, the posterior cingulate/precuneus, and the superior temporal sulcus/temperoparietal junction, areas that are usually associated with emotion and social cognition. Empathy and prosocial behaviors, typically activated in this context (Tangney et al., 2007), lead the subject to take some more time to make a decision.

Conversely, in deontological condition, the individual is flanked by an authority and is far from the potential victims; your response time is faster because, as mentioned above, it is a lower hierarchical level and delegates the choice to authority.

The present study has some limitations. As a first due to the between-groups design, some more participants could help to give greater stability to the results. Moreover, a higher number of participants could have given the possibility to show other effects or interactions between factors under investigation. Another possible limitation is that it does not have manipulated guilt emotion previously in our experimental design; this procedure can highlight the guilt emotion role in decision-making process.

In conclusion, our study suggests that be physically close to potential victims or be flanked by an "authority" differentially influence the decision-making processes in moral judgment, inducing slower decisions and more utilitarian answers in the first scenario. Overall, this finding extends current knowledge on the decision-making processes underlying the moral choice, in particular, highlighting that our behavior in moral context can be influenced by different situations; and, consequently, we will make different choices with important consequences about other people's lives. Future studies need to be specifically designed to investigate these aspects in some psychopathological conditions, as,

for example, in obsessive-compulsive disorder where the emotion of guilt plays a pivotal role, or in depressed patients that are characterized by elevated rumination and thus by an exponential increase of guilt feeling.

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Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the Helsinki declaration and its later amendments or comparable ethical standards.

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Informed consent

Informed consent was obtained from all individual participants included in the study.

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