FlashReport

Too fatigued to care: Ego depletion, guilt, and prosocial behavior

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ABSTRACT

Although guilt feels bad to the individual, it is good for society because guilty feelings can prompt people to perform good deeds. This study tests whether fatigue decreases guilty feelings and subsequent prosocial behavior. Participants were randomly assigned to a depletion condition in which they watched a movie about butchering animals for their meat or skin and were told to express no emotions, or to a no-depletion condition in which they watched the same movie, but could express their emotions. Having participants play a game in which another person was punished for their errors induced guilt. Finally, participants played a dictator game in which they could leave money for the next participant. After the experiment, participants could also anonymously donate money to an anti-AIDS charity. The results showed that depleted participants felt less guilty than did non-depleted participants, and the less guilty participants felt the less helpful they were.

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Introduction

“Successful guilt is the bane of society”— Publilius Syrus (Roman author, 1st century B.C.)

For centuries guilt has got a “bum rap.” Guilt is an unpleasant emotional feeling that helps us know we did something wrong (Baumeister, Stillwell, & Heatherton, 1994). Although guilt feels bad to the individual, it is actually quite good for others. You would not want to have a boss, a lover, a roommate, or a business partner who had no sense of guilt. Such people are called psychopaths, and they are often a disaster to those around them (Hare, 1998). Psychopaths exploit and harm others, help themselves at the expense of others, are often a disaster to those around them (Hare, 1998). Psychopaths have no sense of guilt. Such people are called psychopaths, and they are often a disaster to those around them (Hare, 1998).

Guilt is a moral emotion, and moral emotions can lead to prosocial behaviors (Tangney, Stuewig, & Mashek, 2007). When people feel guilty about something they have done, they often try harder to perform prosocial actions to wipe away the guilt (Xu, Begue, & Shankland, 2011). People who are feeling guilty may even help strangers to reduce their guilt (Carlsmith & Gross, 1969).

There are a number of factors that can reduce guilt. Individual differences in the tendency to experience guilt, such as psychopathy, are difficult if not impossible to change (Hare, 1998). However, there are theoretical reasons to believe that situational factors, which are much easier to change, can also influence feelings of guilt. Moral, self-conscious emotions such as guilt involve controlled, conscious, higher-order cognitive processing, which are energy-taxing (Baumeister et al., 1994). To experience guilt people reflect on their behavior, reexamine the decision process, and draw factual or counterfactual conclusions about the incident. The appraisal and evaluation, along with the guilt, will be stored in memory to guide future behavior (Baumeister, Vohs, DeWall, & Zhang, 2007).

According to ego depletion theory, the energy needed to perform higher-order cognitive processing is a limited resource that can be exhausted, like a muscle (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Once energy has been expended performing one task, there is little energy left to perform subsequent tasks. Hence, if people are depleted of energy, it should be more difficult for them to reflect on their behavior, to reexamine the decision process, to draw factual or counterfactual conclusions, and to store appraisal and evaluation information in memory. Thus, depletion should make it more difficult to experience guilt, which should, in turn, decrease prosocial behavior.

Overview of present research

Previous research has already shown that ego depletion reduces prosocial behavior (DeWall, Baumeister, Gailliot, & Maner, 2008).
No research, however, has tested whether ego depletion can also reduce feelings of guilt. The present research fills this important gap in the literature. Moreover, the present study uses an implicit measure of guilt because people may be reluctant to admit their wrongdoing. The present research also tests whether guilt mediates the link between ego depletion and prosocial behavior. This is a major step forward from previous research because it offers one possible explanation of why ego depletion decreases helping.

In the present study, participants were randomly assigned to depletion or no-depletion conditions. Participants in the depletion condition watched a short movie about butchering animals for their meat or skin and were told to express no emotions. Participants in the no-depletion condition watched the same movie, but were free to express their emotions. Next, they were induced to feel guilty by playing a game in which another person was punished with blasts of loud, unpleasant noise for the errors they made in the game. Finally, participants played a dictator game in which they could leave some amount of money to the next participant (Bolton, Katok, & Zwick, 1998). As they exited the experiment, they could also anonymously donate money to an anti-AIDS charity. The amount of money given to the next participant and the amount of money donated to charity were used to measure prosocial behavior. We hypothesized that ego depletion would reduce guilt, and the less guilty participants felt the less helpful they would be.

**Method**

**Participants**

Participants were 47 adult patrons at a French municipal library (51% female; $M_{age} = 26.3, SD = 13.8$) who were paid 10€ ($14$).

**Procedure**

Participants were tested individually on a computer. They were told that the researchers were studying short-term memory and task performance. To measure their current perceived state of fatigue, they rated two items: (1) “Right now I have a lot of energy” (reverse scored), and (2) “Right now I feel tired” (1 = totally disagree, 5 = totally agree; Cronbach $\alpha = .89$).

Next, we used an affect regulation task that has been repeatedly employed in previous research (e.g., Baumeister et al., 1998). Participants watched a 10-minute movie clip about butchering animals for their meat or skin. They were randomly told to suppress their emotions and keep their expressions neutral (depleted condition), or to express any emotions they felt (non-depleted condition). Participants were told that their reactions would be videotaped to see whether that complied with instructions—all did.

Immediately after the depletion manipulation, participants completed a measure of current mood valence—the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). This scale contains 10 negative items (afraid, ashamed, distressed, guilty, hostile, irritable, jittery, nervous, scared, upset; Cronbach $\alpha = .87$), and 10 positive items (active, alert, attentive, determined, excited, enthusiastic, inspired, interested, proud, strong; Cronbach $\alpha = .82$).

Next, participants completed three manipulation check items: (1) “Right now I feel tired,” (2) “Watching the video took a lot of my energy,” and (3) “The instructions of the video were hard to follow” (1 = totally disagree, 5 = totally agree; Cronbach $\alpha = .85$).

To measure ego depletion, participants also completed a 50-trial Stroop test, which required them to say the ink color, ignoring what the word said (e.g., if the word RED is printed in blue ink, the participant should say “BLUE”). The Stroop test has been successfully used to measure ego depletion in other studies (e.g., Hagger, Wood, Stiff, & Chatzisarantis, 2010).

The present research used a guilt-inducing procedure in which participants accidentally harmed another person. Participants completed the “game of illusory pictures,” in which they saw 10 visually illusory pictures, each displayed for 5 s, and had to determine whether the picture contained 17, 19, or 21 faces (Fig. 1). Because it was impossible to identify all the hidden faces in 5 s, participants had to guess. Participants were told that the next participant in the study would receive a 5-second blast of 100-decibel unpleasant noise (about the same level as a fire or smoke alarm) for each error made. Participants were told they had made 9 errors, although their predecessor had only made 5 errors. Thus, participants received only 5 noise blasts, but the next participants in the study would receive almost twice as many noise blasts—9. Similar procedures have been successful to induce guilt. In one study (Nelissen & Zeelenberg, 2009), for example, participants were asked to look at a visual stimulus consisting of many circles and dots. They estimated the number of dots within three seconds, which was impossible to determine. They were told that their correct answers would earn points for another participant. Participants who were told they only got 2 out of 10 estimations correct felt guiltier than did participants who were told they got 8 of 10 their estimations correct. In another study (Darlington & Macker, 1966), participants played an unsolvable game and were led to believe that they failed. Those who were told before the game that their success would earn points for the confederate’s examination score in a psychology course felt more guilt and were more willing to donate blood to a hospital than those who were told that the confederate would not earn points.

Next, participants completed an explicit measure of guilt—the 5-item (e.g., “I feel bad about something I have done”) guilt subscale of the State Guilt and Shame Scale (Marshall, Saffner, & Tangney, 1994; Cronbach $\alpha = .87$). They also completed an implicit measure of guilt—the Implicit Association Test (IAT; Greenwald, McGhee, &
Schwartz, 1998). The IAT requires participants to quickly categorize two target concepts paired with two category attributes; faster reaction times are interpreted as strong associations between the pairing in memory. In the present study, the target concepts “I” versus “others” were paired with the attributes “guilty” (e.g., guilty, blame-worthy) versus “innocent” (e.g., innocent, irreproachable).

To measure prosocial behavior, participants played the role of a dictator who assigned some fraction of 10€ to the next participant, who would have to accept the allocation (Bolton et al., 1998). The experimenter then left the room. Upon returning, the experimenter handed the participant an envelope containing 2€, the amount the previous participant had ostensibly left for them on the dictator game. The experimenter also casually mentioned that the lab was collecting money for an anti-AIDS charity, and they could leave money in a donation box if they wished. (The money left was donated to charity.) The experimenter left the room again.

A debriefing followed, which included a probe for suspicion. No participants expressed suspicion regarding the purpose of the study.

Results

Preliminary analyses

Age and sex differences

Because no effects were found for participant sex or age, these variables were excluded from the analyses.

Fatigue at baseline

As expected, fatigue scores did not differ between depleted and non-depleted participants before watching the movie, M = 5.54, SD = 1.86 and M = 4.74, SD = 1.84, respectively, F(1,45) = 2.21, p = .15. Thus, random assignment to conditions was successful.

Fatigue following movie

As expected, depleted participants felt more fatigued after watching the movie than did non-depleted participants, M = 9.17, SD = 3.17 and M = 6.48, SD = 2.27, respectively, F(1,45) = 25.20, p < .001, d = 1.50. Thus, the ego depletion manipulation was successful.

Positive and negative affect

We also examined the effects of our depletion manipulation on positive and negative affect. As expected, there was no effect of ego depletion on positive or negative affect, Fs(1,45) = 0.064 and 0.020, respectively, ps > .80. Furthermore, the item “guilt” in PANAS did not differ between the depletion and no depletion conditions, F(1,45) = 0.031, p = .86, which showed that the ego depletion manipulation did not affect guilt levels. In addition, positive and negative affect were not significantly correlated with any of the dependent measures, ps > .12. Furthermore, when positive and negative affect were included as covariates in the analyses, they were not significant, ps > .17. Thus, our effects cannot be attributed to mood.

Stroop test performance

As expected, depleted participants took longer to complete the Stroop test and made more errors than did non-depleted participants, Time: M = 710.78 s, SD = 272.60 and M = 538.65 s, SD = 209.72, respectively, F(1,45) = 5.85, p < .02, d = 0.67; Errors: M = 5.99, SD = 6.40 and M = 2.78, SD = 3.47, respectively, F(1,45) = 4.49, p < .04, d = 0.60. Thus, the depletion manipulation reduced self-control.

Primary analyses

Explicit guilt

As expected, depleted participants reported feeling less guilty than did non-depleted participants, M = 8.13, SD = 2.82 and M = 11.09, SD = 5.27, respectively, F(1,45) = 5.84, p < .02, d = 0.67.

Implicit guilt

Before analyzing IAT scores we first discarded reaction time latencies less than 100 ms and greater than 10,000 ms (see Greenwald, Nosek, & Banaji, 2003). We analyzed D-scores, which were computed as the difference in average response latency between the IAT’s two combined tasks (i.e., I + guilty vs. others + innocent and I + innocent vs. others + guilty), divided by the standard deviation of response latencies in those two combined tasks. Lower D-scores show stronger associations between “I” and “guilty.” As expected, non-depleted participants had lower implicit guilt levels than did depleted participants, M = −0.39, SD = 0.39 and M = −0.09, SD = 0.38, respectively, F(1,45) = 8.18, p = .006, d = 0.85.

Dictator game contributions

As expected, depleted participants left 61.7% less money for the next study participant in the dictator game than did non-depleted participants, M = 1.83€, SD = 2.55 and M = 4.78€, SD = 3.86, respectively, F(1,45) = 9.63, p < .003, d = 0.83.

Charitable donations

As expected, depleted participants donated 84.6% less money to the anti-AIDS charity than did non-depleted participants, M = 0.38€, SD = 0.58 and M = 2.48€, SD = 3.04, F(1,45) = 11.06, p < .002, d = 0.88.

Mediating effects of guilt on the link between depletion and prosocial behavior

Structural Equation Model analysis was used to test whether guilt (latent variable consisting of explicit and implicit guilt) mediates the link between ego depletion (depleted = 1, non-depleted = 0) and prosocial behavior (latent variable consisting of dictator game contributions and charitable donations). The model fit indices were very good, χ^2(3, N = 47) = 2.04, p > .56, RMSEA = .01, NFI = 1.09, CFI = .92 (Fig. 2). As expected, the indirect effect of ego depletion on helping was significant, 95% bootstrap confidence interval = −.49 to −.11, which excludes the value 0 (Preacher & Hayes, 2004). This analysis helps explain why ego depletion reduces prosocial behavior—by reducing guilt.

Discussion

The present research makes at least two significant contributions to the literature. First, it shows for the first time the negative effect of ego depletion on a moral, self-conscious emotion—guilt. Depleted participants felt less guilt compared with non-depleted participants, even with an implicit measure of guilt (i.e., IAT). This finding is important because it shows that certain moral, self-conscious emotions can be manipulated due to their dependence on the necessary cognitive resources and mental energy to arouse them. Second, it shows that guilt mediates the link between ego depletion and prosocial behavior. Previous research found that ego depletion reduces helping (DeWall et al., 2008), but our findings offer a causal mechanism to explain this effect. Ego depletion decreases prosocial behavior indirectly by reducing feelings of guilt. Our mediational analysis showed that ego depletion had a significant negative indirect effect on prosocial behavior. Depleted participants felt less guilty than non-depleted participants, and the less guilt participants felt, the less money they gave to another participant on the dictator game, and the less money they donated to charity.

One limitation of our study is that we did not include a no-guilt condition. Past research has shown that ego depletion decreases prosocial behavior (DeWall et al., 2008) and increases cheating (Mead, Baumeister, Gino, Schweitzer, & Ariely, 2008). It is plausible that depleted people have difficulty dealing with conflicts between moral standards and self interest, care less about impression management,
and are more apathetic. Our study cannot exclude these possibilities. This is an interesting topic for future research.

Another limitation is that our guilt manipulation might not be considered “wrong” by participants because they did not intentionally try to make errors. Perhaps “wrongness” is not the only factor that induces guilt. For example, researchers have documented survivor guilt, wherein people feel guilty because they survived an event that killed others (e.g., Friedman, 1981). Another example is overrewarded guilt, wherein people feel guilty about receiving more reward than they think they deserve (Baumeister et al., 1994). Perhaps participants in our study felt guilty simply because they were better off than their partner. Moreover, it is difficult in a laboratory setting to induce people to intentionally harm others. Future research can explore whether similar results are obtained when guilt is induced in other ways, such as in “win or die” competitions or in moral dilemmas.

In summary, on the basis of our findings, we would like to modify Syrus’ statement at the beginning of this article: “Successful guilt is the blessing of society” (rather than the bane of society) because it can increase prosocial behavior.

References

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