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Reports

Macbeth and the Joystick: Evidence for moral cleansing after playing a violent video game

Mario Gollwitzer [a,*], André Melzer [b]

[a] Philipps-University Marburg, Department of Psychology, Gutenbergstrasse 18, 35032 Marburg, Germany
[b] University of Luxembourg, Faculty of Language and Literature, Humanities, Arts and Education, route de Diekirch, 7220 Walferdange, Luxembourg

HIGHLIGHTS

- Playing a violent video game can evoke moral distress among inexperienced players.
- Such distress leads to a desire to physically cleanse oneself (i.e., "Macbeth effect").
- Inexperienced players selected more hygiene products after playing a violent game.
- This effect was partially mediated by moral distress.
- Experienced players felt less distressed irrespective of the game they played.

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ABSTRACT

The "Macbeth effect" denotes the phenomenon that people wish to cleanse themselves physically when their moral self has been threatened. In this article we argue that such a threat to one's moral self may also result from playing a violent video game, especially when the game involves violence against humans. The cleansing effect should be particularly strong among inexperienced players who do not play video games on a regular basis, because frequent players may apply other strategies to alleviate any moral concerns. Seventy students played one of two violent video games and were then asked to select 4 out of 10 gift products, half of which were hygiene products. Inexperienced players reported more moral distress when the game involved violence against humans (compared to violence against objects), and selected more hygiene products in this condition than frequent video game players. Frequent players, on the other hand, reported less moral distress, irrespective of the game they played.

Introduction

Behaving in opposition to socially shared rules of conduct or internalized moral standards usually evokes a state of ethical dissonance and makes people feel bad about themselves. However, people are also equipped with a number of strategies to reduce such ethical dissonance, to cope with guilt and shame, and to avoid self-condemnation. Bandura (1990, 2002) has coined the term moral disengagement to describe several self-regulatory cognitive processes such as rationalizing, excusing, or justifying one's actions. More recent research has broadened the view of moral self-regulation, including such strategies as moral licensing, strategic social (or temporal) comparisons, moral compensation, or moral cleansing (see Ayal & Gino, 2012, or Zhong et al., 2009, for overviews).

Moral cleansing means that people counterbalance their bad deeds by behaving in ways that symbolically reaffirm the values that had been undermined (Carlsmith & Gross, 1969; Tetlock et al., 2000). Based on the notion that moral considerations are grounded in experiences of physical cleanliness (Lakoff & Johnson, 1999), scholars have argued that physical cleansing, such as washing one's hands with antibacterial soap, can be regarded a special form of moral cleansing. In line with that reasoning, Zhong and Liljenquist (2006) demonstrated that threatening one's moral self evokes a desire to physically cleanse oneself. People who recalled an unethical deed from their past were more likely to choose an antiseptic wipe instead of a pencil when they were offered both products as a gift for taking part in the experiment. Zhong and Liljenquist (2006) refer to this finding as the "Macbeth effect", hinting to Lady Macbeth's compulsion to wash imagined blood from her hands in Shakespeare's famous play.

These findings indicate a strong connection between physical and moral (im)purity, meaning that moral concerns have an embodied component. Related research shows that moral disgust seems to have its origins in physical disgust (Chapman et al., 2009). Exposing people to a disgusting scent can increase the severity of moral judgments (Schnall et al., 2008b), whereas exposing people to a scent

* Corresponding author.
E-mail addresses: mario.gollwitzer@staff.uni-marburg.de (M. Gollwitzer), andre.melzer@uni.lu (A. Melzer).

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that is associated with cleanliness makes people more cooperative (Liljenquist et al., 2010). In light of these findings, the "Macbeth effect" can be understood as an attempt to purify oneself from a contamination with immorality, and to cope with moral distress (see also, Schnall et al., 2008a).

Violent video games and moral concerns

Moral concerns are typically evoked when a person has violated shared moral standards, and when this violation happened in a meaningful social context (Baumeister et al., 1994). Recently, scholars in the field of media psychology have argued that moral concerns can also be elicited by violating moral standards in a virtual environment (Klimmt et al., 2006, 2008). These authors demonstrate that regular players of violent video games try to regulate moral concerns to maintain their entertainment experience by engaging in moral disengagement strategies, such as emphasizing the difference between the "virtual" and the "real" world, or justifying one's violent behavior in the game. For instance, Hartmann et al. (2010) asked participants to play a violent video game in which the opportunity to justify the aggressive acts of the player's avatar in the game was experimentally manipulated: Participants who believed that they were fighting for a just purpose (i.e., the avatar was introduced as a United Nations soldier rescuing innocent people from a torture camp) experienced less guilt than participants who believed that they were defending evil (i.e., the avatar was introduced as a member of the paramilitary forces trying to defend a torture camp). More importantly, Hartmann and Vorderer (2010) demonstrated that players who had the opportunity to generate defensive attributions for their avatar's actions in the game felt less distressed and enjoyed the game more than players who did not have the opportunity to engage in such strategies.

Taken together, playing violent video games can evoke moral distress among players, and players employ self-regulatory strategies to cope with such distress. As yet, however, no study has investigated whether playing violent video games also can evoke a desire to physically cleanse oneself after playing (i.e., a "Macbeth effect"). The present study is the first to test this hypothesis.

Video games experience as a moderator

A "Macbeth effect" in the context of playing violent video games may not be equally likely to occur among all players. Given that regular players are used to applying self-regulatory strategies to alleviate any moral concerns (Klimmt et al., 2006), they may be less likely to experience moral distress during or after game play than inexperienced players. Thus, we expect that frequent players should be less motivated to engage in physical cleansing after playing the game. In contrast, a "Macbeth effect" should be more likely to occur among those who do *not* play video games on a regular basis. More precisely, inexperienced players who played a game that involved violence against humans should be more likely to feel bad about themselves and the game. This should motivate them to prefer hygiene products over non-hygiene products in order to wash away their moral distress (cf. Zhong & Liljenquist, 2006).

Research on moral cleansing has shown that physical cleansing can not only wash away negative states such as guilt, shame, or post-decisional dissonance (Lee & Schwarz, 2010a), but also positive states such as the belief in one's good luck (Xu et al., 2012). Therefore, if the moral disengagement strategies applied by regular players were effective in attenuating moral distress, acts of physical cleansing would be counterproductive for them because these acts would also remove the positive experiences of playing games, namely fun, enjoyment, and entertainment. Preferring hygiene products over non-hygiene products would thus even be disadvantageous for frequent players.

In the present study, two popular video games were used. *FlatOut 2* (©Vivendi Universal Games) is a popular racing video game that has different playing modes. In the so-called *Demolition Derby* scenario players are supposed to wreck all other cars; at the same time, they should avoid the destruction of their own cars. *FlatOut 2* provides the player with realistic impressions of car accidents. However, there is no violence against humans in the German version of *FlatOut 2*. In contrast, realistic depictions of violence against humans are an essential part of the other game used in the present study, *Grant Theft Auto: San Andreas* (henceforth called *GTA*; ©Rockstar Games). In the scenario selected here the avatar's task is to drive a car and cause as much havoc as possible by running over pedestrians. We reasoned that violence against human characters should evoke stronger moral distress than violence against non-human objects, since the latter do not fall into the "scope of justice" (Opotow, 1995). Therefore, we assume that among inexperienced players, a "Macbeth effect" is more likely after playing *GTA* than after playing *FlatOut*: Inexperienced players are expected to experience more moral distress, and, consequently, prefer more hygiene products in the *GTA* condition than in the *FlatOut* condition. This effect should not occur among frequent players. Technically speaking, we expect a moderated mediation effect: The moderator effect of video game experience on the effect of game type on moral cleansing should be mediated by moral distress.

Method

Design and participants

Participants were randomly assigned to playing either *FlatOut 2* that required violence against objects, or *Grant Theft Auto: San Andreas* (*GTA*) that contained violence against human characters. A total of 76 students from different faculties at the University of Luxembourg took part in the experiment (*GTA*: $n = 39$; *FlatOut*: $n = 37$). Participants were recruited in classes and on campus. Six participants were omitted because they either correctly suspected the study to be about "feeling bad after playing a violent video game" ($n = 5$) or had severe problems with the game controller ($n = 1$). The final sample therefore consisted of 70 participants (26% male), who were naïve to the conditions of the experiment. Ages ranged between 18 and 35 years ($M = 21.4$; $SD = 2.3$). Students were paid 5 Euros for their participation.

Materials and procedure

Video game experience was measured with four items (How frequently do you play video games? How many hours per day do you usually play video games during the week/on weekends/during holidays?). Participants rated each item on a 4-point scale ranging from 1 = *never* to 4 = *regularly* (Item 1), and 1 = *never* to 4 = *more than 3 hours* (Items 2–4). The mean across these four items was used as an aggregate measure of video game experience (Cronbach's $\alpha = .86$). Since the distribution of this variable was positively skewed (Skewness = 1.12), we dichotomized participants into inexperienced ($n = 36$) and experienced ($n = 34$) players at the Median (1.5). Importantly, game type was unrelated to dichotomized experience ($r = .06$), $\chi^2(1, n = 70) = 0.22$, $p = .81$, that is, inexperienced and experienced players were equally distributed across the two game conditions.[1]

[1] We also ran analyses in which video game experience was treated as a continuous variable. The predicted interaction effect between condition and video game experience (log-transformed) was significant on the number of hygiene products ($p < .01$), but not on moral distress ($p = .13$). However, since video game experience was so heavily skewed that even log-transformation did not substantially normalized its distribution, we argue that dichotomizing this variable is more appropriate in this case.