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RUNNING HEAD: Virtual Violence and Guilt

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Just a Game?

Unjustified Virtual Violence Produces Guilt in Empathetic Players

Tilo Hartmann

Erhan Toz

Marvin Brandon

VU University Amsterdam

The Netherlands

Please direct all correspondence to Tilo Hartmann, Ph.D., Assistant Professor,
Department of Communication Science, VU University Amsterdam, De Boelelaan 1081, 1081
HV Amsterdam, The Netherlands; Tel: +31 (0)20 598 6899, Fax: +31 (0)20 598 6820, email:
t.hartmann@vu.nl.

Abstract

Many avid gamers discount violent conduct in video games as morally insignificant as “it is just a game”. However, recent debates among users, regarding video games featuring inappropriate forms of virtual violence, suggest a more complex truth. Two experiments ($N_1 = 49$, $N_2 = 80$) examined users’ guilt responses in order to explore the moral significance of virtual violence. In both studies, justification of virtual violence and users’ trait empathy determined guilt in a structurally similar way to real-world scenarios: people felt guiltier if they engaged in unjustified virtual violence, especially if they were empathetic players. These results show that video games are capable of inducing affective moral responses in users. Accordingly, virtual violence may be considered morally significant action.

Keywords: violence, video games, guilt, empathy, justification, morality

Just a Game? Unjustified Virtual Violence Produces Guilt in Empathetic Players

“I know World of Warcraft is not real life. I know the Geneva Convention doesn't apply there. No real-life laws apply there. Blizzard could put a quest to rape characters in there: real life anti-rape laws wouldn't apply. Nevertheless, a lot of people would be very disturbed by such a quest.” (Bartle, 2008).

Virtual violence may be defined as any behavior intended to do harm to another video game character, who is motivated to avoid the harm-doing (Anderson et al., 2008; Baron & Richardson, 1994). Shooting virtual characters for example, in first-person shooter video games, provides a typical example of virtual violence. While many studies have shown that virtual violence depicted in video games increases aggression in users (Anderson et al., 2010), surprisingly little is known about how users perceive and experience virtual violence themselves (e.g., Scharrer & Leone, 2006, Young & Whitty, 2010).

Violent video games are designed for entertainment purposes. Consequently, regular violent game players do not typically feel as though they are doing something wrong when they shoot virtual characters. A frequent argument put forward by avid gamers is that they are well aware that the violence depicted in video games “is not real” (Ladas, 2002). For example, Klimmt, Schmid, Nosper, Vorderer, and Hartmann (2006, see also Whitty, Young, & Goodings, in press) asked avid gamers how they experience virtual violence personally. The majority of players replied that they enjoyed virtual violence as they believe that shooting virtual characters is “just a game” (comparable to chess) and has “nothing to do with killing”. This suggests that players maintain a psychologically detached and unaffected stance when playing violent games and that virtual violence is too artificial to be considered morally significant and thus trigger any moral response in the user.

However, Klimmt et al.'s (2006) study suggests that users may also perceive and judge virtual violence in a moral way. In their study, a number of players indicated that they would find it disturbing if they accidentally shot a child, for example, or if painful injuries were depicted in the video game. Related discussion of "inappropriate" virtual violence also exists in the video game community. Many video game-related online blogs and forums recently featured heated debate regarding a mission included in the popular online-role-playing game "World of Warcraft" ("Wrath of the Lich King" expansion; Blizzard, 2008). Within this mission, players are required to torture another character to accomplish their goals. An unsystematic review of the surrounding debate reveals that some players find this mission disgusting and inappropriate, while others stress that "this is fiction [and] you're supposed to enjoy it" (Kajex, 2009). A similar controversy surrounded a mission featured in the popular first-person shooter "Call of Duty: Modern Warfare 2" (Activision, 2009). In this (optional) mission, users must massacre civilians at an airport. An unsystematic examination of the related debate suggests that many players felt uncomfortable with this mission, with even avid gamers stating that they found the mission disturbing.

Taken together, it appears that violence depicted in video games is not unrelated to processes of moral perception and judgment. That the violence is depicted in a video game does not inevitably eliminate users' moral responses. Rather, both player factors and within-game factors influence users' moral responses to virtual violence. Some players feel more disturbed than others, especially when engaged in particular kinds of virtual violence (such as shooting innocent virtual characters, torture, or massacring). However, no study has yet examined users' affective moral responses to virtual violence. The present experiments aim to fill this gap. Two studies examine users' guilt responses to virtual violence. Specifically, the studies examine to

what extent justification of violence (as an important within-game factor) and trait empathy (as an important user factor) influence users' guilt responses to virtual violence.

Guilt Responses to Virtual Violence

Guilt can be defined as “the dysphoric feeling associated with the recognition that one has violated a personally relevant moral or social standard” (Kugler & Jones, 1992, p. 218; Tangney, Stuewik & Mashek, 2007). It is typically triggered by the appraisal that one has caused harm to somebody, particularly if the harmful action also creates a threat to one's communion with, or relatedness to, the victim (Haidt, 2003; Baumeister, Stillwell & Heatherton, 1994). Guilt may arise spontaneously. In his social intuitionist approach to moral judgment, Haidt suggests that people's moral judgments are generally the result of quick, automatic evaluations (intuitions), rather than deliberate reasoning. Accordingly, people may often have gut feelings about moral issues. Consequently, people may feel as though something is inappropriate or wrong, yet they may not be able to express why they feel that way. Haidt (2001) suggests that guilt resembles such a gut feeling. Guilt is a self-conscious emotion and thus inherently related to the self (Haidt, 2003; Tangney et al., 2007). Like any affective state, it holds informative value for the person experiencing it (Clore, Schwarz, & Conway, 1994; Pizarro, 2000). As such, guilt can be understood as a spontaneous feeling that “informs” a person that he or she did something wrong.

Different From Playing Chess: The Moral Significance of Virtual Violence

One might argue that guilt is an unlikely affective response to virtual violence as video games create artificial, fictional worlds that do not feature existing social characters. Users may believe that all actions conducted in video games are morally irrelevant as they do not imply any harm-doing against living entities. In fact, avid users frequently argue that playing violent video

games is identical to playing chess, as neither chess figures nor video game characters can actually be harmed. However, the anecdotal evidence that some players feel irritated or bad when engaged in inappropriate violent actions in video games (like massacring civilians), suggests that the killing of video game characters is accompanied by more intense social and moral responses than the “killing” of chess figures.

Such a notion seems plausible for two further reasons. First, video games increasingly display realistic characters and environments which may affect the way users perceive them. In contemporary first-person shooters, users encounter three-dimensional characters displaying emotions and whose autonomous behavior is driven by artificial intelligence (Morrison & Ziemke, 2003). Computer characters now utilize cues which provoke automatic social responses, including eye-gazing, biological motion, display of natural facial activity, emotions and intelligence, as well as breathing and natural vocal tones (Holtgraves et al., 2007; Morrison & Ziemke, 2005; Shapiro, Peña & Hancock, 2006). It thus seems plausible that users perceive virtual characters differently to chess figures, which provide comparatively artificial representations of social beings (see also McCormick, 2001).

Several strands of research suggest that media technology is a powerful means of evoking social illusions. For example, research on movies and television shows typically presumes that characters are perceived as social beings displaying morally wrong or right behavior (e.g., Raney, 2002; Zillmann, 1991). The audio-visual representation of characters in video games is comparable to characters in movies or TV programs. The perception of video game characters may thus be similar to the perception of TV or movie characters. Further, human perception research suggests that people automatically identify social entities once they have detected biological motion (Ahlstrom, Blake & Ahlstrom, 1997; Morewedge, Preston & Wegner, 2007),

readily perceive simple action-sequences with artificial objects as social (Heberlein & Adolphs, 2004; Heider & Simmel, 1944; Oatley & Yuill, 1985; Scholl & Tremoulet, 2000), and anthropomorphize non-human characters (Epley, Waytz, & Cacioppo, 2007; Mar & Macrae, 2006). Given humans' tendency to perceive even simple animated objects in a social way, it seems plausible that the sophisticated display of video game characters will trigger intense social perceptions in users.

Other studies provide more direct support for the argument that virtual environments, such as video games, trigger social responses. For example, research by Yee and Bailenson (Proteus Effect, 2007, 2009) suggests that the character users navigate through a virtual environment shapes the way they perceive themselves and eventually influences their behavior in that environment. For example, users navigating an attractive character became friendlier to other characters than users navigating an unattractive avatar. Extending this research to virtual violence, Peña, Hancock, and Merola (2009) demonstrated that users navigating a character in a black robe developed more aggressive attitudes and intentions towards other players than those navigating a character in a white robe.

In general, the majority of studies suggest that users automatically treat computers and computer-animated agents as if they were human (Bente, Kraemer, Petersen & deRuiter, 2001; Yee, Bailenson, Urbanek, Chang, & Merget, 2007) or social actors (see "media equation"; Nass & Moon, 2000; Reeves & Nass, 1996; Gong, 2008). Users are inclined to feel empathetic with animated virtual characters (Morrison & Ziemke, 2005) and tend to feel as though they are in a social situation when a computer-animated character is displayed (Garau, Slater, Pertaub, & Razzaque, 2005). Likewise, studies show that characteristics of other virtual characters, such as gender (Guadagno, Blascovich, Bailenson, & McCall, 2007), or aspects of the interpersonal

virtual setting, such as interpersonal distance (Bailenson, Blascovich, Beall, & Loomis, 2003), influence the way users perceive and interact with these characters socially. In a study by Correll, Park, Judd, and Wittenbrink (2002), participants were required to shoot armed soldiers in a simple video game. Results showed that White participants shot armed African American soldiers more quickly than White soldiers, suggesting that the ethnicity of the virtual characters activated participants' stereotypes. A later study by Slater et al. (2006) replicated the Milgram obedience experiment in a virtual setting. Participants followed orders to give lethal electric shocks to a virtual stranger. The authors conclude that "in spite of the fact that all participants knew for sure that neither the stranger nor the shocks were real, the participants who saw and heard her tended to respond to the situation at subjective, behavioral, and physiological levels as if it were real". Taken together, these findings suggest that users tend to respond to virtual environments and virtual characters, such as those displayed in violent video games, in a social way.

Secondly, users may be motivated to become involved in a video game, as involvement results in heightened enjoyment (Sherry, 2004; Skalski, Lange & Tamborini, 2006). Users may thus seek to believe in the apparent reality provided by video games. Discarding the apparent reality evoked by media technology may be effortful, if not impossible (e.g., attempting not to see depth where a video game displays a three-dimensional space). Hence it seems unlikely that, while playing a video game, users constantly engage in the effort necessary to remind them that "this is not real" and that "these are not characters but just pixels on a screen". Such an effort is likely to lead to psychological detachment (Cupchik, 2002), diminishing their affective responses, including enjoyment (Sheppes & Meiran, 2007, p. 1522).

In light of the findings reviewed, it seems reasonable to conceive of users' actions in video games as morally significant and directed towards socially perceived characters. Accordingly, virtual violence differs from playing chess. Shooting a virtual character during a violent video game may lead to different moral responses than hitting a chess figure while playing chess. Harming virtual characters in a video game may have greater potential to trigger guilt than, for example, playing chess. In chess, guilt is an implausible reaction, as characters are unlikely to be perceived as social characters or moral entities, but merely as objects. Feeling guilty about shooting a virtual character seems a much more plausible reaction. However, guilt responses are likely to vary among different virtual violence scenarios and different users.

Within-Game Factor Influencing Guilt Responses: Justification of Violence

Violent video games are designed for entertainment purposes and most players engage in virtual violence because they enjoy it. Some violent video game scenarios, however, appear to involve violence that is not enjoyed, even by experienced users, and instead evoke irritation and perhaps even guilt. The examples we reviewed included scenarios involving torturing virtual characters, accidental shooting of children, and massacring innocent civilians. These examples suggest that virtual violence may only be enjoyable when it appears to be justified. If deemed unjustified, it may trigger guilt.

Supporting this notion, justification has been highlighted as a crucial determinant of people's moral judgments of violence (Bandura, 2002). Inflicting harm upon others violates inner norms and results in guilt only if the harm-doing is considered unjustified (Tangney et al., 2007). Research on moral disengagement, for example, has shown that people commit cruelties without feeling guilty if the situational context frames their actions as justified or necessary (Bandura, 2002). Justification also plays a pivotal role in users' enjoyment of violence in

television shows and movies (Raney, 2006; Zillmann & Bryant, 1975). Justification of violence is also a typical feature of many violent video games (Smith, Lachlan, & Tamborini, 2003). In most violent games, users are required to shoot other characters to save the world or restore justice. Additionally, enemies are often portrayed as aggressive soldiers or aliens, which seem more appropriate opponents when compared with innocent civilians or children (Hartmann & Vorderer, 2010). Under these conditions, players may feel justified to engage in violence and may not feel guilty about shooting other characters. Unjustified virtual violence, however, may trigger guilt responses. For example, when shooting virtual soldiers for a bad reason, players may feel that they are doing something wrong. Accordingly, it can be assumed that:

H1. Players' feel guiltier when engaged in unjustified virtual violence than justified virtual violence.

User-Factor Influencing Guilt Responses: Trait Empathy

One of the most investigated personality traits to moderate individuals' responses to violent conduct is empathy (Miller & Eisenberg, 1988). Less empathetic people are more prone to dehumanize others and perceive them as objects (Haslam, 2006, pp. 262 - 263). Non-empathetic people are thus more prone to engage in real world aggression than empathetic people (e.g., Cohen & Strayer, 1996). Empathetic people, in contrast, tend to feel for the victim and suffer more readily if they see that others are hurt (Hoffmann, 2000). Consequently, empathetic people are more prone to feeling guilty (Hoffmann, 1998, 2000; Silfver & Helkama, 2007; Tangney et al., 2007), especially if they are involved in interpersonal violence (Thompson & Hoffman, 1980).

Likewise, research in the domain of television and movies suggests that more empathetic users feel more sympathetic towards victims of violence (e.g., Raney, 2002), and that users

dislike violence directed towards characters they feel empathetic with (Zillmann, 1991). In a study by Aluja-Fabregat and Torrubia-Beltri (1998), users scoring high on psychoticism (a trait linked to a lack of empathy) found TV violence more funny and thrilling than other users.

However, we know of no research that examines how trait empathy affects perceptions of virtual violence. Lemmens, Bushman and Konijn (2006) found that less empathetic boys are particularly attracted to violent games (see also Sigurdsson, Gudjonsson, Bragason, Kristjansdottir & Sigfusdottir, 2006). This corresponds to the notion that trait empathy influences users' affective responses to virtual violence in a similar way as it influences responses to real world violence. Accordingly, it can be assumed that:

H2. The stronger players' trait empathy, the guiltier they feel when engaged in virtual violence.

Two experiments were conducted to test the hypotheses. Study 1 provided a direct manipulation of justification of virtual violence. Study 2 manipulated justification of virtual violence indirectly, by varying the amount of background information presented prior to the game regarding potential victims. Shooting characters whose social background was known resembled more unjustified virtual violence than shooting completely anonymous characters. Both experiments assessed players' trait empathy as an additional factor. Experienced level of guilt was the outcome measure.

Study 1

Method

Design. A one-factorial (justified vs. unjustified virtual violence), between-subjects experiment on participants' guilt was conducted at a U.S. university¹. Trait empathy was measured as a second factor. The sample consisted of 49 students (39% male; mean age 19.83

years; $SD = 1.29$; average hours of video game play on a normal weekday: 0.76 hours; $SD = 1.22$; average hours of video game play during the weekend: 1.70 hours, $SD = 1.98$). Students were assigned randomly to one of two experimental conditions ($n_{\text{justified}} = 21$, $n_{\text{unjustified}} = 28$). Confirming a successful random assignment, independent sample t-tests showed that neither experimental condition differed significantly in terms of age, gender, amount of regular video game play, or trait empathy (all $p > .05$).

Manipulation and procedure. Students played a violent video game scenario adapted from the first-person shooter Operation Flashpoint™ (Bohemia Interactive, 2001). In order to manipulate the game, two student programmers were hired to edit the game's source code ("modding", Au, 2002). A new cinematic introduction was developed to introduce the game scenario. This was achieved by recording new voice-overs and attaching these to recorded virtual camera-flights through the newly developed scenario. The introduction depicted a torture camp in the fictional Oka region in which innocent people were murdered by paramilitary forces. Depending upon the experimental condition, students learned that they would play either a soldier from the United Nations (UN), attempting to attack the torture camp to restore humanity (justified condition), or a soldier from the paramilitary forces continuing the cruelty and defending the camp (unjustified condition). Following the cinematic introduction, the actual game play began. During the game, users were required to walk through the virtual torture camp and shoot as many opponents as possible (either UN soldiers or paramilitary soldiers). In order that the game was also suitable for novice users, the original game play of Operation Flashpoint was modified so that players could not die, had unlimited ammunition, and could only use one weapon (a pump gun). After 10 minutes of game play, students were asked to fill out a questionnaire.

Measures. *Trait empathy* was measured using a scale taken from Raney (2002). Respondents were asked to indicate their agreement to 11 different statements (e.g., “I am often touched by things that I see happen” or “When I’m upset at someone I usually try to put myself in their shoes for a while”) on a five point scale (1 = “I do not agree at all” to 5 = “I totally agree”). All items were collapsed into a mean-index ($\alpha = .72$; $M = 3.69$; $SD = .47$).

Guilt was measured using a 3-item guilt subscale taken from Hartmann and Vorderer (2010). After reviewing existing measures to assess guilt, the authors opted for an adaptation of the guilt-subscale of the Differential – Emotion – Scale (DESIV; Kotsch, Gerbing & Schwartz, 1982) to directly assess guilt responses to violent video games. The three items assessed *how often* participants felt as though they did something wrong when playing the game (e.g., “feel regret”, “sorry about something you did” or “feel like you did something wrong”) on a five point scale (1 = “rarely or never” to 5 = “very often”). All three items were collapsed into a mean-index ($\alpha = .94$; $M = 1.95$; $SD = 1.22$).

To check for the effectiveness of the *manipulation*, students were asked to indicate agreement to the item “When playing the game I had the notion to fight for a justified purpose” (1 = “not at all” to 5 = “totally agree”; $M = 2.39$, $SD = 1.27$). Students were also asked how far they supported or opposed the motives of the authority they fought for (1 = “strongly opposed” to 5 = “strongly supported”; $M = 2.78$, $SD = 1.20$). Both items were substantially correlated ($r = .58$; $p < .01$) and were thus collapsed into a mean-index ($M = 2.58$, $SD = 1.10$).

Results

Manipulation check. Students in the unjustified violence condition (defending the torture camp) obtained significantly lower scores on the treatment check index ($M = 2.16$, $SD =$

1.05) than students in the justified violence condition (fighting for UN forces; $M = 3.14$, $SD = .2$, $t(47) = 3.44$, $p < .01$). The manipulation was therefore successful.

Hypotheses. Both hypotheses were tested in a joint hierarchical regression.² In a first step, to check for potential main effects, guilt as a dependent variable was regressed on the experimental factor (justification, entered as a contrast-coded -1/+1 variable) and trait empathy (z-standardized) as independent variables. In a second step, to check for potential interaction effects, guilt was regressed on a justification x trait empathy interaction term (see Aiken & West, 1991). Results are displayed in both Table 1 and Figure 1.

The analysis revealed a significant effect of justification on guilt (see Table 1). In line with H1, students who engaged in unjustified virtual violence reported higher levels of guilt when playing than students who engaged in justified virtual violence ($b = 0.48$, $\beta = .39$, $t(46) = 2.95$, $p < .01$). H1 was therefore supported. The analysis also revealed an effect of trait empathy on guilt, although this was only a statistical trend ($b = 0.29$, $\beta = .24$, $t(46) = 1.80$, $p = .079$). As assumed in H2, the more empathetic students felt guiltier when engaging in virtual violence. Results are in line with H2, although they do not reach statistical significance. These effects were qualified by a justification x trait empathy interaction that also approached significance ($b = 0.30$, $\beta = .24$, $t(45) = 1.88$, $p = .067$). As shown in Figure 1, simple slope analyses of guilt at three levels of trait empathy (low = one SD below the mean, average = mean, high = one SD above the mean) revealed a strong influence of justification on guilt, particularly for highly empathetic students ($b = 0.77$, $\beta = .63$, $t(45) = 3.48$, $p < .01$). Application of the Johnson-Neyman technique, following a procedure suggested by Hayes and Matthes (2009), revealed that the impact of experimental condition became significant at a level of empathy ≥ 3.49 .

[Please place Table 1 about here]

[Please place Figure 1 about here]

Conclusion

The present study examined users' guilt responses to virtual violence. In the study, players felt guiltier if they shot video game characters for an unjustified reason than if they shot characters for a justified reason. Additionally, more empathetic players tended to feel guiltier than less empathetic players. However, results suggest that the guilt responses are influenced by an interaction between both factors. Players felt guilty under conditions of unjustified violence if they scored high on trait empathy, but not if they scored low on trait empathy.

Taken together, the results suggest that violent video games are capable of inducing "moral responses" in users. Dependent upon both user factors and factors embedded within a video game, shooting virtual characters may induce in users a feeling of wrongdoing. This corresponds to the anecdotes of "immoral virtual violence" and contradicts the notion of some gamers that virtual violence is morally insignificant. Rather, the pattern of guilt responses observed in the present study is similar to that expected from comparable real-life situations. This similarity may support the notion that virtual violence is more "than just a game", as the same factors affecting people's guilt responses to real-world violence also affect their guilt responses to virtual violence.

Study 2

To confirm the results of Study 1, a second study was conducted. Study 2 utilized a new video game stimulus and a new treatment of justification of violence to examine if the results obtained in Study 1 may be generalized to other conditions of virtual violence. In contrast to the direct manipulation of justification of virtual violence applied in Study 1, Study 2 utilized an

indirect manipulation by examining if the presence or absence of social background information regarding virtual victims affected players' guilt responses.

The fungibility of opponents, i.e., “seeing people as interchangeable with others of their type” (Haslam, 2006, p. 253), is a characteristic of many real-world conflicts which involve uniform soldiers and, typically, opponents whose social background is completely unknown. Perceiving others as faceless or fungible entities has been identified as an aspect of objectified (Nussbaum, 1999) or dehumanized perception (Haslam, 2006). In other words, faceless or fungible opponents are likely to be perceived as objects rather than unique human beings. When people perceive others in an objectified or dehumanized way, they are more prone to deny that they are worthy of moral concern (Haslam, 2006). Violence enacted against such faceless individuals may be more easily perceived as justified.

Whether or not people perceive others as fungible entities seems to depend upon the accessibility of humanizing *social background information* regarding the private lives of others (Haslam, 2006; Nussbaum, 1999). People perceive others as human if they know about their private life, individual emotions, and subjective preferences. Learning about the social background of others provokes us to perceive these others in a more human light. Consequently, people concede proper moral treatment more readily to characters whose life they have knowledge of (Haslam, 2006). Fungible individuals are more likely to be perceived as objects whereas people, whose social background is known, are more likely to be perceived as social human beings. Harming individuals who appear fungible thus appears to be comparatively justified, whereas harming a person who is known appears to be unjustified. Guilt responses should consequently vary in accordance with this. Consistent with this assumption, Haidt (2003, p. 861) remarks that “guilt can be triggered in properly socialized adults even by the appraisal

that one has harmed a stranger, but guilt reactions appear to be stronger and far more common in close relationships.”

In most contemporary first-person shooters, opponents remain interchangeable, faceless, and fungible. Users are frequently required to fight against soldiers or characters wearing uniform. In addition, users’ typically do not learn about the social background of opponents. Thus, shooting these virtual opponents may not evoke any moral irritation or guilt in users. Guilt responses may differ, however, if users are required to shoot opponents whose social background (e.g., family background, individual preferences etc.) is known. Under such circumstances, virtual opponents may resemble human beings, whose killing may thus feel wrong. Accordingly, it can be assumed that:

H1. Shooting game characters whose social background is known results in higher levels of guilt than shooting game characters whose background is not known.

Study 2 tested this modified version of H1 (with social background providing an indirect manipulation of justification of violence). In addition, H2 was tested again (the higher the trait empathy, the stronger the feelings of guilt when engaged in virtual violence).

Method

Design. A one-factorial (social background vs. no social background) between-subjects experiment on participants’ perceived guilt was conducted at a Dutch university. Trait empathy was again assessed as a second factor. Overall, 80 participants (66% male; mean age 22.30 years; $SD = 6.22$; average number of days of video game play in a normal week: 1.69 days, $SD = 2.22$; average number of hours in a normal gaming session: 1.92 hours, $SD = 1.61$) were assigned randomly to one of two experimental conditions (both $n = 40$). Confirming a successful random assignment, independent samples t-tests revealed that the two experimental conditions did not

differ significantly in terms of age, gender, trait empathy, and amount of regular video game play (all $p > .05$).

Manipulation and procedure. Students played a manipulated version of a first-person shooter game for 10 minutes. The game was developed with FPS Creator™ (www.thegamecreators.com), a commercially available, semi-professional editor. For the present study, a hotel scenario was developed in which students played the role of a special agent. In a short mission briefing they were told that the hotel was occupied by some people and that they should chose a gun and eliminate them.

The manipulation of available social background information regarding game characters was introduced before game play. Students received profiles of each character that they needed to eliminate during the mission (see Figure 2). Each profile included a photo of the character (matching the figure in the game), a name, and occupation (e.g., secretary). In addition, half of the participants received social background information about each character (e.g., the town the character comes from, if s/he has children and a partner, his or her individual preferences, etc.). The remaining half did not receive this information.

[Please place Figure 2 about here]

Measures. The same *trait empathy* measure utilized in Study 1 was applied. Again, all items were collapsed into a mean-index ($\alpha = .75$; $M = 3.38$; $SD = .57$).

Guilt was also measured as in Study 1. Again, items were collapsed into a mean-index ($\alpha = .80$; $M = 2.18$; $SD = 1.05$).

As a *treatment check* on the manipulated background information, participants were asked to indicate their agreement to two statements: “I feel like I personally know the characters that I just saw” (1 = totally disagree to 7 = totally agree; $M = 2.00$, $SD = 1.10$) and “The

characters I just read about all seem to have their unique personal characteristics” (1 = totally disagree to 7 = totally agree; $M = 3.41$, $SD = 1.23$). Both items were reasonably correlated ($r = .31$, $p < .01$) and were collapsed into a mean-index ($M = 2.71$; $SD = .94$).

Results

Manipulation check. Participants who received background information regarding the characters in the game, obtained significantly higher scores on the treatment check index ($M = 2.95$; $SD = .90$) in comparison to participants who received no background information ($M = 2.46$, $SD = .94$, $t(78) = 2.38$, $p < .05$). The manipulation was therefore successful.

Hypotheses. As in Study 1, the two hypotheses were tested in a moderated regression (Aiken & West, 1991). Guilt was regressed on background information and trait empathy in a first step, and on a background information x empathy interaction term in a second step. Results are displayed in both Table 2 and Figure 3.

[Please place Table 2 about here]

[Please place Figure 3 about here]

The regression revealed a main effect of available social background information on guilt, although this was only a statistical trend ($b = 0.20$, $\beta = .19$, $t(77) = 1.80$, $p = .075$). In line with H1, players who shot game characters with a known social background (unjustified virtual violence) reported higher levels of guilt than players who shot game characters with an unknown social background (justified virtual violence). This effect only approached significance, but the results are in line with H1.

The regression further revealed a significant effect of trait empathy on guilt ($b = 0.28$, $\beta = .27$, $t(77) = 2.51$, $p < .05$). In line with H2, the more empathetic players felt guiltier when inflicting virtual violence upon game characters. H2 was therefore supported.

As in Study 1, both effects were qualified by a social background information x trait empathy interaction which was observed as a statistical trend ($b = 0.19$, $\beta = .18$, $t(76) = 1.67$, $p = .099$). Probing this interaction further reveals that highly empathetic players felt guilty when shooting characters with a known social background ($b = 0.39$, $\beta = .37$, $t(76) = 2.48$, $p < .05$), whereas the guilt reported by non-empathetic players did not differ between conditions. Application of the Johnson-Neyman Technique (Hayes & Matthes, 2009) revealed that the effect of experimental conditions became significant at a level of empathy ≥ 3.44 .

Conclusion

As in the first study, Study 2 examined users' guilt responses to virtual violence. If virtual violence can be characterized by the phrase "it's just a game", as many avid players claim, affective moral responses should be similar regardless of whether virtual characters' social background is known or unknown. However, as in real-life situations, the present study suggests that people felt guiltier when they shot video game characters whose private social background was known than when the character's background was unknown. In addition, as in Study 1, and in line with what one might expect from real-life settings, this effect was true only for the more empathetic players. Non-empathetic players did not feel guiltier in one or the other condition.

Discussion

This article presents two studies which examined guilt as an affective moral response to virtual violence. Avid users of violent video games often refer to the argument that video game play is "just a game" and that they are always able to distinguish between fiction and reality (Ladas, 2002). In line with this argument, a number of avid violent video game players compare virtual violence to playing chess and deny that virtual violence bears any moral significance.

Results of the present studies, however, suggest that unjustified virtual violence triggers stronger guilt responses in users than justified virtual violence, particularly when users are more empathic. This indicates that video game violence is capable of evoking moral responses in users. Whether or not violent actions carried out in a game are considered right or wrong, and thus trigger guilt responses, depends upon within-game factors and user factors. Consequently, a key finding of the present studies is that virtual violence is morally more significant than the claim “this is just a game” would suggest.

The results of these studies suggest that not only is virtual violence capable of triggering guilt responses in users, but that the observed pattern of guilt responses is structurally identical to the pattern one would expect in real-world scenarios. Prior research on real-world violence suggests that justification effectively diminishes guilt when harming others (Bandura, 2002; Opatow & Weis, 2000) and that empathetic people feel guiltier than others when engaging in interpersonal violence (Thompson & Hoffmann, 1980). The present studies suggest that the same factors shape users’ guilt responses to virtual violence. Interestingly, in both studies even the more empathetic players did not feel guilty when they shot game characters for a justified reason. Similar to real-world conflicts, good justification allowed even empathetic players to enter a state of moral disengagement (Hartmann & Vorderer, 2010) and to inflict harm upon others without feeling guilty.

It is tempting to speculate as to *why* virtual violence is capable of inducing guilt responses and also why the same factors underlie guilt responses to real and virtual violence. In the present studies, guilt was conceptualized as an automatic response to a situation. In line with Haidt’s (2001) social intuitionist approach of moral judgment, it was argued that guilt may be understood as a spontaneous feeling resulting from intuitional moral judgments. In this article,

more empathetic users engaged in unjustified virtual violence may have spontaneously felt as though they did something wrong, whereas others may have spontaneously judged their actions to be appropriate. Although not directly tested, users may have felt spontaneously guilty independent of their awareness that the depicted violence was not real. Such a notion is speculative, but corresponds to a growing amount of research indicating that users automatically respond to virtual environments to a certain extent as though they were real (Bailenson, Blascovich, Beall & Loomis, 2003; McCall et al., 2009; Nass & Moon, 2000; Slater et al., 2006; Weber, Ritterfeld, & Mathiak, 2006; Yee, Bailenson, & Ducheneaut, 2009). Bailenson et al. (2003) argue that users respond to real and virtual settings in a similar way only in terms of their automatic responses, yet distinguish between real and virtual settings when utilizing consciously controlled processes. Research related to the “media equation” (Reeves & Nass, 1996; Nass & Moon, 2000) also suggests that people, despite the apparent asocial nature of computers, tend to treat computers as social, because they respond to them in a mindless way. Users’ guilt responses in the present studies may thus be interpreted as the result of automatic processes (and related intuitional moral judgments, Haidt, 2001).

Methodological Limitations

There are a number of limitations with the current studies. First, both relied on small sample sizes. As a consequence, the power to detect significant effects was quite low. In addition, both studies relied on student samples, which tend to be highly educated. While trait empathy and amount of regular video game play did not differ between randomly assigned conditions, it may be that students experience (virtual) violence in a systematically different way than older and/or less educated people. Future studies must replicate the present findings with more diverse and larger samples.

Secondly, both studies relied on self-report to assess users' feelings of guilt. While both questionnaires mixed guilt items with other items, an explicit measure of guilt may induce suspicion in participants and thus trigger demand characteristics or social desirability effects (Schwarz & Oyserman, 2004). Future studies should also incorporate *implicit* measures of guilt (Zhong & Liljenquist, 2006). Additionally, retrospective questionnaires may be prone to bias, particularly when seeking to assess the intensity or frequency of human experiences (Schwarz & Oyserman, 2004). Future studies may thus complement the present results by applying process-based measures of guilt.

Future Considerations

The present findings raise a number of new questions. Players felt guiltier when engaged in unjustified violence against other video game characters. An intriguing follow-up would be to explore to what extent video game characters hold the potential to be perceived as “moral entities”, in possession of moral status (Olthof et al., 2008; Warren, 1997) and thus deserving of proper moral treatment? Where should video game figures be positioned in the (perceptual and also moral) continuum between objects such as chess figures and existing human beings? The present research suggests that video game characters are perceived as more social than objects, yet do not trigger the same perceptions as human beings. Future media-psychological research bridging the various perspectives (e.g., computer-visualization, perception, moral psychology; see Kwan & Fiske, 2008) may help to further illuminate the moral status of video game characters.

A second, related question is whether guilt responses also depend upon the display qualities of virtual characters. It may be argued, for example, that affective moral responses will become more likely in the future, as video games portray characters in an increasingly realistic

way (see Gong, 2008). Based on a semiotic approach, Zillmann (2006) suggests that we must distinguish between the iconic and the symbolic qualities of media content. A media stimulus has a high iconic quality if it mimics the physical features of a stimulus. A media stimulus has a high symbolic quality if it does not mimic the physical qualities, yet still identifies a certain stimulus by triggering culture- or convention-based associations (e.g., a red heart reminds people of love). Accordingly, virtual violence may evoke guilt responses due to the iconic qualities of contemporary video games, i.e., the fact that they display characters in an audio-visual way which matches the physical properties of human beings. Alternatively, virtual violence may evoke guilt responses due to the symbolic qualities of video games. Would empathetic users also feel guilty if they shot less realistic characters (such as Pac-Man) for unjustified reasons, particularly if these characters were symbolically represented as a “protect-worthy” group (e.g., baby Pac-Men)? Future research may help answer this question and clarify whether the present findings may also be generalized to virtual violence against other virtual characters.

Thirdly, future research should investigate users’ guilt responses in light of more reflective perceptions of virtual violence. In particular, future studies may investigate if players’ spontaneous moral responses are regulated upon conscious reflection (Schramm & Wirth, 2008), and if these responses are influenced by’ awareness that video games are “not real”. A study by Hartmann and Vorderer (2010) suggests that users’ guilt responses and negative affect are negatively correlated with awareness that depicted violence is “just a game”. Players may also differ in their motivation to enjoy virtual violence and become engaged in a violent game, in their knowledge of virtual violence, and also in their use of effective distancing strategies. Future studies may clarify if users’ guilt responses to virtual violence are affected by these factors, and if and how players regulate their moral affective responses to virtual violence.

Impact on Existing Lines of Research

The present studies contribute to several existing lines of research. First, they contribute to the study of the impact of violent video games on aggression (Anderson et al., 2010). Past research suggests that the impact of violent video game play on aggression increases the more players become involved in the game play (e.g., Farrar, Krcmar, & Nowak, 2006; Persky & Blascovich, 2008). Based on the present findings, we may speculate that those players who feel that they are doing something wrong begin to regulate the noxious experience (Schramm & Wirth, 2008). They may thus enter a more critical and distanced reception mode, which may also serve to diminish the aggressive effects of the displayed virtual violence. This may be the case particularly if noxious feelings of guilt arise. Guilt induced by a spontaneous empathetic feeling for a victim “typically compels us to stop short of immoral action” (Huebner, Dwyer & Hauser, 2009, p. 1; Pizarro, 2000), and may exert the same effect in the context of virtual violence.

In the present study, *empathetic* people felt particularly guilty. A number of researchers have considered players’ empathy as a potential moderator of the aggressive effects of violent video game play (Bartholow et al., 2005; Konijn, Bijvank, van der Heijden, van Der Molen, & Hoorn, 2008). Anderson et al. (2008, p. 1071) state that “there is some evidence from television research that a focus on the pain and suffering of the victims of violence may reduce its harmful impact”. Based on the present studies, we may speculate that empathetic people feel particularly guilty when engaged in unjustified virtual violence which, in turn, may urge them to cease the immoral action (e.g., stop shooting characters), or to re-consider the situation and take a more critical perspective on the game play. These and similar processes may moderate the aggressive effects. Future studies may thus explore whether empathy-driven guilt moderates the effects of violent game play on aggression.

The present findings may also connect to entertainment research. If people feel guilty about something they did to others, and do not have the chance to repair the harm done, they engage in self-punishment through self-denied pleasure ('Dobby' effect, Nelissen & Zeelenberg, 2009). This same self-punishment may occur if people feel guilty when playing violent video games. Sporadic evidence exists to suggest that guilt reduces enjoyment of violent video games (Hartmann & Vorderer, 2010). We may speculate that non-empathetic people may feel particularly entertained by violent video games, while empathetic people enjoy them less. Indeed, Lemmens et al. (2006) found that less empathetic boys were particularly attracted to violent games (see also Sigurdsson et al., 2006). Future studies may explore more fully the relationship between users' trait empathy, their affective experiences of virtual violence, and exposure to violent video games.

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Author Notes

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Notes

¹This study is presented in full detail in Hartmann and Vorderer (2010). However, the effects of trait empathy have not yet been analyzed.

²Following recommendations from related methodological literature (Bissonnette, Ickes, Berstein, & Knowles, 2006; Cohen, 1983; Irwin & McClelland, 2003), we favored a moderated regression over an ANOVA in order to avoid dichotomization of the empathy variable based on a median split. In the moderated regression, we examined simple slopes by applying the SPSS macro offered by O'Connor (1998).

Table 1

Study 1: Summary of Hierarchical Regression Analysis for Variables Predicting Guilt (N = 49)

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Justification	.48	.16	.39**	.48	.16	.39**
Empathy	.29	.16	.24 [†]	.27	.16	.22 [†]
Justification x Empathy				.30	.16	.24 [†]
<i>R</i> ²		.196			.255	
<i>F</i> for change in <i>R</i> ²		5.62**			3.52 [†]	

Note: Justification was a binary variable, contrast-coded as -1/+1; empathy was z-standardized. 95% CI of unstandardized regression coefficients in Model 2: Justification = 0.16–0.80; empathy = -0.05–0.59; justification x empathy = -0.02–0.62; [†]*p* < .1, **p* < .05, ***p* < .01.

Table 2

Study 2: Summary of Hierarchical Regression Analysis for Variables Predicting Guilt (N = 80)

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Background Information	.20	.11	.19 [†]	.20	.11	.19 [†]
Empathy	.28	.11	.27*	.31	.11	.29**
Background info. x Empathy				.19	.11	.18 [†]
<i>R</i> ²		.112			.144	
<i>F</i> for change in <i>R</i> ²		4.88*			2.79 [†]	

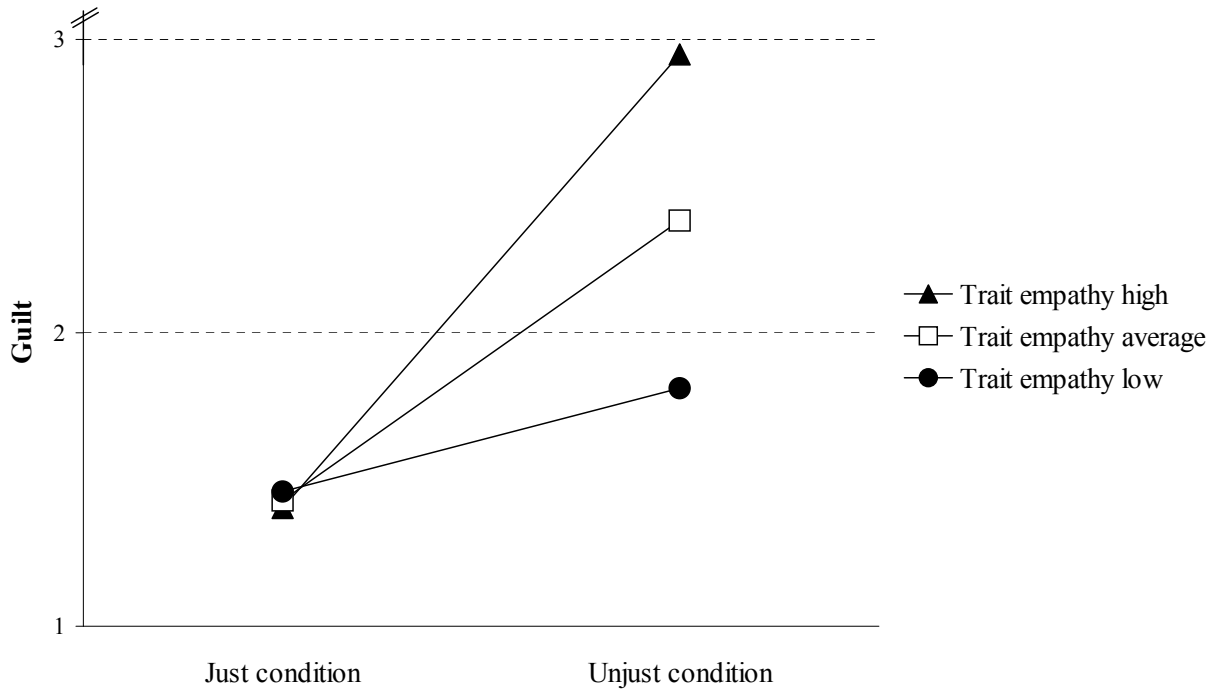
Note: Background information was a binary variable, contrast-coded as -1/+1; empathy was z-standardized. 95% CI of unstandardized regression coefficients in Model 2: Background information = -0.02–0.42; empathy = 0.08–0.53; background information x empathy = -0.04–0.41; [†]*p* < .1, **p* < .05, ***p* < .01.

Figure Captions

Figure 1. Interaction between Justification of Virtual Violence and Trait Empathy on Guilt ($N = 49$).

Figure 2. Example of the profiles used to manipulate social background information in Study 2. The left profile includes no social background information and the right profile includes social background information. Descriptions are in Dutch.

Figure 3. Interaction between Background Information about Video Game Opponents and Trait Empathy on Guilt ($N = 80$).



Note: Trait empathy was z-standardized and split at three levels; low = one SD below the mean, average = mean, high = one SD above the mean.

TOP SECRET

Confidential information



Name: Anna
Function: Secretaresse

Profile: UNKNOWN



TOP SECRET

Confidential information

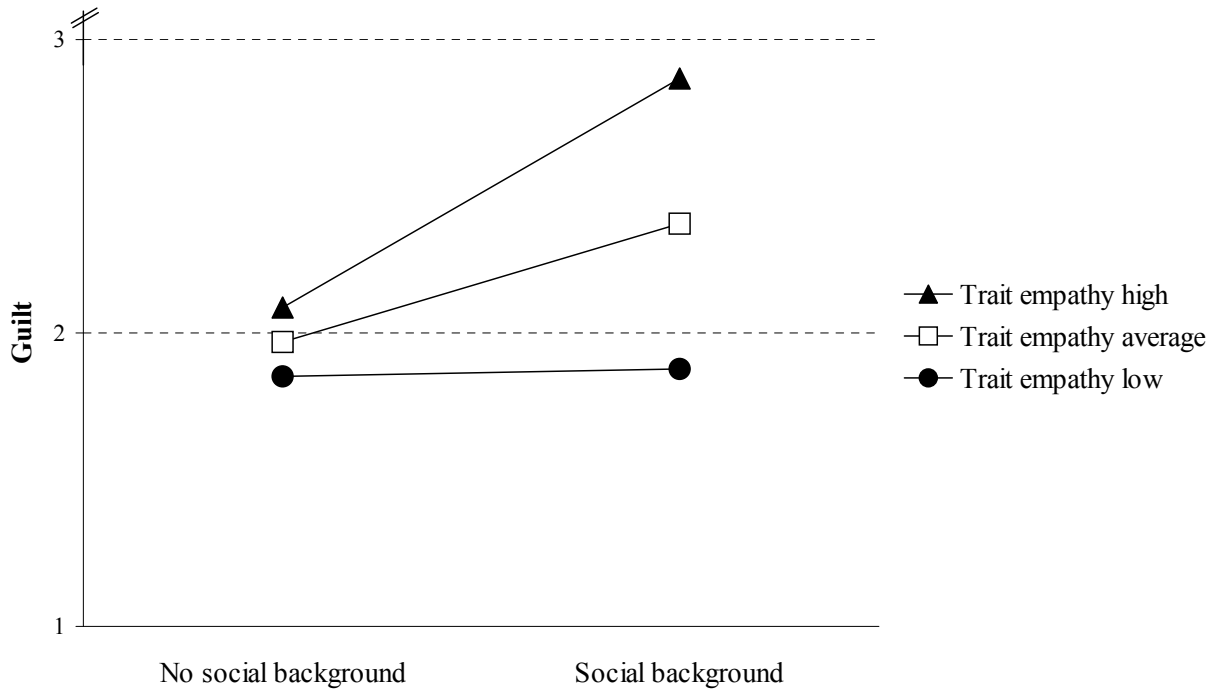


Name: Anna
Function: Secretaresse

Profile:

Anna werkt als secretaresse. Anna had het liefst zelf advocaat willen worden, maar dat is haar niet gelukt. Anna heeft nu simpelweg niet de tijd en middelen om alsnog aan een studie te beginnen gezien het moederschap. Toch vindt ze het wel erg leuk om op deze manier een ondersteunende rol uit te oefenen. Anna is alleenstaande moeder en heeft 3 dochters; Maria, Lisa en Anouk. Anna houdt zieleveel van haar dochters en doet er alles aan om zo vaak mogelijk bij ze te kunnen zijn, al is dat soms moeelijk te combineren met haar baan.





Note: Trait empathy was z-standardized and split at three levels; low = one SD below the mean, average = mean, high = one SD above the mean.