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It's Okay to Shoot a Character: Moral Disengagement in Violent Video Games

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Playing video games has become one of the most popular leisure activities among youth (Smith, 2006). Violent video games, particularly first-person-shooters like *Half-Life II* or *Doom3*, are among the best-selling video games. Male adolescents are especially prone to play violent video games (Hartmann & Klimmt, 2006; Jansz, 2005). Violent games have been criticized and praised both in society and in science. Critics' biggest concern is that violent games could make their user more aggressive. Indeed, abundant research finds evidence that playing violent games increases short-term aggressive cognitions, feelings, and behavioral intentions (Anderson, 2004). Users easily perceive computer-mediated characters as social beings (Scholl & Tremoulet, 2005). Accordingly, research finds that aggressive video game play stimulates the same brain activity as real-life aggression does (Weber, Ritterfeld, & Mathiak, 2006). With this in mind, it seems immoral to play violent games, as the virtual violence appears to have serious consequences (Elton, 2000). Those who enjoy playing violent video games, however, often say that they feel no wrong committing virtual violence (Ladas, 2002). Rather, they highlight their enjoyment from playing violent games (Jansz, 2005).

Little past research has tried to examine both sides of the debate together, determining the circumstances under which virtual violence produces enjoyment rather than moral distress and distaste. The present studies pursue this goal by studying the psychological processes of moral disengagement in violent video games. We assume that violent games are generally enjoyable when players consider shooting virtual characters to be justifiable.

The puzzle of enjoyable virtual violence

Drawing on Baron and Richardson's (1994) definition of aggression, virtual violence can be defined as any user behavior that follows the intention to do harm to other social characters in a video game, while the game characters are motivated to avoid

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1 the harm-doing. One could argue that the concept of doing harm does not apply to
2 video games at all, because game characters are not living beings and thus do not
3 fall into the "scope of justice" (Opotow, 1990, p. 3). In fact, users of violent games
4 argue that shooting opponents in a video game does not constitute the elimination
5 of social entities but rather the removal of objects or obstacles (Ladas, 2002). If so,
6 the term "virtual violence" would be inappropriate, because such acts lack another
7 living being against whom the violence is committed.

8   The present approach, however, presumes that users perceive video game charac-
9 ters not as objects, but as social entities. Three arguments support this assumption.
10 First, mediated cues easily trigger our automatic social perceptions, creating the sense
11 that another social entity is present. As Heberlein and Adolphs (2004) summarize:
12 "Anthropomorphizing [. . .] occurs when we attribute social meanings to stimuli that
13 are not social, such as computers or clouds, presumably based on cues that signal
14 the presence of agency or emotion. That we do so universally and automatically is a
15 hallmark of human cognition" (p. 7490). Also, according to Mar and Macrae (2006),
16 "[Humans] routinely view quite abstract nonliving representations as if they were
17 intentional agents" (p. 110, see also "Ethopoeia" in Nass & Moon, 2000). Related
18 research from various scientific domains indicates that people automatically identify
19 social entities once they detect biological motion (Ahlstrom, Blake, & Ahlstrom, 1997;
20 Morewedge, Preston, & Wegner, 2007), readily perceive simple action-sequences with
21 artificial objects as social (Heider & Simmel, 1944; Oatley & Yuill, 1985), easily anthro-
22 pomorphize nonhuman characters (Epley, Waytz, & Cacioppo, 2007; Mar & Macrae,
23 2006), automatically behave toward computers and computer-animated agents as if
24 they were human (Bente, Kraemer, Petersen, & deRuiter, 2001; Scholl & Tremoulet,
25 2000; Yee, Bailenson, Urbanek, Chang, & Merget, 2007) or social actors (Nass &
26 Noon, 2000; Reeves & Nass, 1996), are inclined to feel empathy toward animated
27 characters (Morrison & Ziemke, 2005), and consequently tend to feel as though
28 they are in a social situation if a computer-animated character is displayed (Garau,
29 Slater, Pertaub, & Razzaque, 2005; Hartmann, 2008). Thus, multiple strands of
30 research provide compelling evidence that users readily perceive mediated objects as
31 social beings, primarily due to automatic social perception processes. Recent research
32 also started to reveal the neuropsychological functions behind humans' tendency
33 to anthropomorphize things (Heberlein & Adolphs, 2004; Mar & Macrae, 2006).
34 Computer game engineers and visual artists use this knowledge to create believable,
35 human-like, anthropomorphic game characters. Contemporary design of computer
36 characters applies the cues that researchers have suggested provoke automatic social
37 responses. Such indicators include eye-gazing, biological motion, display of natural
38 facial activity, display of emotions, as well as breathing, natural vocal tones, and
39 display of intelligence (Gratch & Marsella, 2004; Holtgraves, Ross, Weywadt, & Han,
40 in press; Morrison & Ziemke, 2005; Shapiro, Peña, & Hancock, 2006).

41   Second, growing consensus among Communication Researchers and Media
42 Psychologists suggests that users tend to approach media, including video games,
43 as "believers." Also likely to be the result of automatic processes, users' default

mode of reception seems to perceive things as real, whereas it takes irritating media cues or motivational efforts to suspend the belief in an "apparent reality" (Green, Garst, & Brock, 2004; Wirth et al., 2007; Zillmann, 2006). If the media stimulus is well designed and displays social cues appropriately, it takes effort to recall that a character "is not real," because automatic social perceptions suggest otherwise. For similar reasons, media users may respond to displayed characters affectively, even if it does not seem rational to do so (Morrison & Ziemke, 2005). As Zillmann (2006, p. 218) suggests, "the sequence of events, therefore, is not that cognizance of the pseudo reality of presentations has to be suppressed before emotions can occur, but that emotions are first induced by apparent reality, which then may be discounted as artificial." Therefore, it seems likely that users tend to believe in displayed video game characters as well.

Third, even if users of a video game occasionally discount the perception of an "apparent reality," it seems unlikely that they are continuously motivated to do so. Constant consideration that "this is not real" would distance the media user from the narrative and could eventually lead to emotional detachment (Cupchik, 2002; Vorderer, 1993). Video gamers, however, strive for entertainment, and heightened involvement or transportation into the mediated world increases their enjoyment (e.g., Sherry, 2004; Skalski, Lange, & Tamborini, 2006). If users continuously reminded themselves that "this is just a game," the game would hardly be enjoyable (cf., Sheppes & Meiran, 2007, p. 1522). Therefore, because video gamers may be motivated to maintain belief in an apparent reality for self-serving reasons (unless strong aversive experiences urge them to do distance themselves; see below; see also Cantor, 2002; Schramm & Wirth, 2008), they may also be motivated to perceive video game characters as real social entities rather than artificial objects.

In the light of the above arguments, it seems reasonable to assume that users do confront "some sort of " social entities, not simply objects, when they shoot video game characters. The knowledge that virtual characters are mediated and do not really exist is not completely forgotten. Rather, automatic processes and users' motivational disposition ignore that information for the moment, so that users temporarily forget that their experience is mediated (International Society for Presence Research [ISPR], 2000). Lacking an existing term, we suggest that players perceive video game characters as quasi-social (Hartmann, 2008). Virtual violence thus involves harm to quasi-social characters that potentially fall into "the scope of justice" and have a "moral status" (Olthof et al., in press; Pizarro, Detweiler-Bedell, & Bloom, 2006; see Elton, 2000, for a philosophical discussion of the topic).

The question is why virtual violence obviously is enjoyable for many players. Our suggestion contains two parts. First, virtual violence may be enjoyable because it offers pleasurable gratifications. For example, players could perceive their effective harm-doing as a proof of their own superiority. Researchers have argued that virtual violence makes users feel effective and powerful (Klimmt & Hartmann, 2006), and allows them to enact a male gender role (Jansz, 2005; Kirsh, 2003). Second, gratification may be mood-regulation. Violent games offer pleasurable aesthetics of destruction

(Sparks & Sparks, 2000) and stimulate excitement (Raney, Smith, & Baker, 2006) that can become pride or euphoria if the user experiences success (Grodal, 2000).

However, we assume that virtual violence is only enjoyable if it comes with no or minimal *costs*, that is, if it does not violate inner moral standards and cause aversion or dissonance (Bandura, 1990, 2002; Tangney, Stuewig, & Mashek, 2007). In general, violence that conflicts with one's inner moral standards triggers distressful concern (cf., Bandura, 2002; Opotow, 1990). Guilt, for example, is 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). If a user violates his or her internal moral standards by doing harm to video game characters, dissonant feelings like guilt and disgust are likely to emerge (cf., Klimmt, Schmid, Nosper, Hartmann & Vorderer, in press; Tangney et al., 2007). Feelings of guilt or remorse, in turn, should hinder enjoyment.

Interviewing heavy users of first-person shooters, Klimmt, Schmid, Nosper, Hartmann, and Vorderer (2006) found that respondents are able to recall situations of moral concern from video games, even though it was "just a game" (p. 322). Players also reported that disturbing situations interfered with their enjoyment. For example, one respondent mentioned that "if people [enemies] are not dead at once, but somehow lie on the ground and are still moving and so on. That reaches a limit." Another respondent reasoned that "If I think that I turn around a corner, and a child is standing in front of me and as soon as he moves, because I have this tunnel vision 'if it moves, shoot it', would shoot him, [. . .] that would counteract my fun very much."

Accordingly, the overall enjoyment of virtual violence in games may depend on maximizing pleasurable gratifications and minimizing aversive costs. The current studies focus on how violent games may minimize aversive costs by shaping their users' moral processing. Such games may reduce negative affect, particularly guilt, and promote overall enjoyment of virtual violence.

Moral disengagement in violent video games

A recent approach in communication research aims to explain the conditions of enjoyable versus aversive aspects of virtual violence through the study of moral disengagement in violent video games (Klimmt et al., in press; see also Raney, 2004). This perspective argues that players try to avoid moral concern and related aversive feelings to maintain their entertainment experience. Moral disengagement supports this motivation. Moral disengagement can follow if the violent action is justifiable or if "considerations of fairness do not [seem to] apply to the other" (Opotow & Weiss, 2000, p. 479; i.e., the action is not considered harm-doing due to judgements about the target of harm). Moral disengagement requires that the aggressor cognitively remove the potential victim from his or her "scope of justice" (Opotow, 1990, p. 3; see also "moral status," Olthof et al., in press; "human essence," Castano & Giner-Sorolla, 2006, p. 805; "dehumanization," Haslam, 2006; "moral circle"; Pizarro et al., 2006, p. 82). Moral disengagement results in dehumanization of a character and

neglect of a character's moral status and human essence (Haslam, 2006). Thus moral disengagement eases harm-doing: "Those who are morally excluded are perceived as undeserving, expendable, and therefore eligible for harm" (Opotow, 1990, p. 13).

This notion of moral disengagement in video games shares many similarities with the moral-sanction theory of delight and repugnance (Zillmann, 2000) and the disparagement/disposition theory of drama (see also Raney, 2004; Zillmann & Cantor, 1976, 1983). Both disposition theories argue that users are counterempathetic toward characters they dislike. According to both theories, characters are disliked if they display immoral behavior (Raney & Bryant, 2002). Depending on the severity of a character's misconduct, users deem a certain punishment of the character appropriate (and even enjoyable) if it restores justice (Raney, 2002, 2004; Zillmann & Bryant, 1975; Zillmann, Bryant, & Cantor, 1974). Rephrased in the light of the present approach, a character's misconduct defines the extent to which it falls within or beyond the "scope of justice." The more severe a character's misconduct, the harsher the punishment that is still considered just.

The moral-disengagement approach proposes that most people who play violent video games do not enjoy behaving aggressively in *normal* real-world situations, because actual social entities fall into their "scope of justice." Therefore, it is not due to dysfunctional personality traits that players enjoy virtual violence. Rather, the game creates a situation that *automatically* leads to cognitive disengagement from inner moral standards (cf., Bandura, 2002; Haidt, 2001; Opotow, 1990). Like real people, quasi-social video game characters may trigger social perception, display humane emotions, and even evoke empathetic feelings. Thus, they have the potential to be considered part of the moral community. As a result, harming quasi-social characters could be perceived as wrongdoing. But, according to the moral disengagement perspective, features of the game ensure that it is not. Instead, as in other contexts that spur violence in real life, because of cues within video games, "behavior that is ordinarily viewed as unacceptable (killing social beings) is redefined as justified and desirable" (Klass, 1990, p.403). Due to its automaticity, moral disengagement is not necessarily a conscious process. Indeed, the significant phenomenology for users may be that virtual violence just does not feel wrong—instantaneously and without elaborate moral reasoning (Haidt, 2001). We propose two underlying mechanisms of moral disengagement that, we believe, are not mutually exclusive, but may function simultaneously in a given situation.

The first mechanism argues that specific *moral disengagement cues* the game provides may automatically separate users' harm-doing from their inner moral standards (Bandura, 1990, 2002; Opotow, 1990). For example, moral disengagement cues, such as a good reason to fight (e.g., to save the world), particularly against nonanthropomorphic creatures (e.g., aliens), may frame violence against game characters as acceptable even though those characters are perceived as quasi-social entities (Haslam, 2006). Contemporary violent video games may incorporate moral disengagement cues (cf., Dill, Gentile, Richter, & Dill, in press) so that players can enjoy virtual violence without moral concerns. Content analyses by Smith (2006)

and Smith, Lachlan, and Tamborini (2003) revealed that the typical narrative in violent games is "a human perpetrator engaging in repeated acts of *justified* violence involving weapons that result in some bloodshed to the victim" (p. 60; emphasis by the authors). Although violent video games entertain users with increasingly realistic graphics (Krahé & Moeller, 2004), game designers seem to design violent game play to be enjoyably guilt-free.

The second mechanism that facilitates users' moral disengagement during violent video game play involves processes that are more elaborate and reflective. If users' automatic protections against violations of internal moral standards occasionally fail and guilty or remorseful feelings arise (cf., Haidt, 2001), they can still reframe their wrongdoing and regulate their dissonant state. To fuel this conscious moral rationalization (Tsang, 2002), users can actively recall that they are merely playing a game or that they are fighting for justice. Research by Ladas (2002) and Klimmt et al. (2006) suggests that players do engage in such processes to minimize unpleasant feelings that may emerge during play.

The current research

The nascent study of moral disengagement in violent video games largely consists of literature reviews and plausible assumptions, and thus requires empirical research. Exploratory interviews conducted by Klimmt et al. (2006) have shed some light on the second mechanism of conscious moral rationalization proposed. But the first mechanism proposed, that is, automatically induced moral disengagement, needs testing. The present studies investigate this mechanism of moral disengagement in violent video games by examining how specific game-based cues may frame aggression against quasi-social characters as justifiable.

Research suggests a variety of cues a situation may provide to frame violent acts as unproblematic (Bandura, 1990, 2002; Haslam, 2006; Opotow, 1990). These include (a) the severity of opponents' misconduct (violence may be appropriate if it follows condemnable misconduct by opponents), (b) dehumanization of victims (targets of violent actions are declared to lack human qualities), (c) moral justification (violence is considered as a necessary means to achieve a higher calling), and (d) disregard for or distortion of the consequences of violence (e.g., harsh and potentially disturbing consequences of violence are not portrayed or are visually masked). Two 2×2-experiments examined the effect of these moral-disengagement cues in contemporary violent video games on users' feelings of guilt, general negative affect, and game enjoyment. Experiments took place in a lab at a university in the Western United States.

Experiment 1

Hypotheses

The first 2×2-experiment examined the effects of dehumanization (human opponents vs. creatures) and condemnable misconduct (condemnable vs. less

condemnable actions of opponents) on emotional outcomes from playing a violent video game. Dehumanized entities do not fall into the perpetrator's scope of justice (Haslam, 2006; Opotow, 1990; Raney, 2002; Zillmann, 2000), which is why harming them is not perceived as a problematic violation of norms (Bandura, 1990, 2002). For example, if an opponent appears to be nonhuman, moral concern should be diminished. Condemnable misconduct allows the user to justify aggression against a deserving target (self-righteous, advantageous comparison; Opotow, 1990). Accordingly, we hypothesized the following effects:

> **H1:** Video game players whose opponents are nonhuman will (a) feel less guilty, (b) have less negative affect, and (c) enjoy the game more than players with human opponents.

> **H2:** Video game players whose opponents display condemnable misconduct will (a) feel less guilty, (b) have less negative affect, (c) enjoy the game play more than players whose opponents display only a minor misconduct.

Method

Participants

Undergraduate students enrolled in a class on media entertainment were recruited as participants. Students received course credit for their participation. Overall, 84 students participated in the experiment (51 females, 33 males; ages ranged between 17 and 25, $M = 19.82$). On average, students in the sample reported playing video games for .82 hours during the week ($SD = 1.22$) and 1.83 hours on the weekend ($SD = 2.2$). Among the participants' favorite genres were role-playing games (29.8%), followed by action-adventure (21.4%), and puzzle games (19%). Shooting-, war-, and combat-games were favorites of only a minority (3.6%).

Materials

In the experiment, subjects played an edited level of a first-person-shooter. Shooters are a typical genre of violent video games (Smith, 2006). The current study used a level from the popular shooter *Half-Life II* (Valve Software). However, the game was modified substantially for the experimental manipulation (cf., "modding," cf. Postigo, 2007).

First, a new cover story was applied. Before the game play started, subjects saw an animated picture of their opponents (either a human soldier or a nonhuman creature). A cover story informed them that the opponents had invaded the streets of a midsize city. The story explained that opponents had either shot civilians and behaved aggressively (condemnable misconduct) or conducted a passive, defensive protest (minor misconduct). Finally, players learned that their job was to patrol the streets to restore order.

Processes of (de)humanization are affected by both an entity's inner and outer human nature (cf. Loughnan & Haslam, 2007). To manipulate dehumanization

1 in the present study, only the outer appearance of opponents was changed.
2 While playing the video game, users either fought against soldiers with weapons
3 (human opponents) or zombie-like creatures (nonhuman opponents). Opponents
4 either behaved aggressively, killing civilians in the streets and attacking the user
5 unprovoked (condemnable misconduct), or behaved more passively, by peacefully
6 coexisting alongside civilians and only attacking if the player opened fire first (minor
7 misconduct).
8   Video games are not enjoyable if they are too difficult or too easy (Klimmt,
9 Hartmann, & Frey, 2007). The complicated game play originally present in *Half Life*
10 *II* was modified to produce a game stimulus that was easy enough for inexperienced
11 users, but also challenging enough for experienced ones. Users (a) could only
12 shoot with one weapon (a gun), (b) had unlimited ammunition but needed to reload
13 occasionally, and (c) could not die. Only the number of opponents shot (kill-counter)
14 appeared on the screen.
15
16 **Procedure**
17 After entering the lab, participants read and signed an informed consent form and
18 were randomly assigned to one of the four experimental conditions. After sitting in
19 front of a computer, they watched the introductory sequence and played the game
20 for 10 minutes before the game automatically stopped. Subjects wore headphones
21 while playing. After the game ended, a lab assistant noted the number on the kill-
22 counter and switched the screen to an online questionnaire that assessed dependent
23 constructs, treatment variables, control factors, and sociodemographic data (in this
24 order). After completing the questionnaire, participants continued with the second
25 experiment. Then, they received a debriefing and left. Overall, the lab session took
26 about 45 minutes.
27
28 **Measures**
29 Dependent variables included sense of guilt, general negative affect, and game
30 enjoyment.
31   *State guilt* was measured by applying three items of the Differential Emotions
32 Scale (DES-IV; Izard, 1977; Kotsch, Gerbing, & Schwartz, 1982). Similar to most
33 assessments of guilt, the scale was originally developed to measure enduring emotion-
34 tendencies (cf., Kugler & Jones, 1992). The original scale asks people about how often
35 in their daily life they "feel regret, sorry about something you did," "feel like you
36 did something wrong," and "feel like you ought to be blamed for something" (1,
37 rarely or never; 2, hardly ever; 3, sometimes; 4, often; 5, very often). By rephrasing
38 the questionnaire to ask, "While playing the game, how often did you. . .," the same
39 items could be retained to assess state guilt. Kugler and Jones (1992) found that the
40 three items correlate well with other measures of state guilt. Still, to select the best
41 measure, existing scales that measure state guilt were reviewed and compared to the
42 three DES-IV items. Kugler and Jones (1992) review two alternative scales that assess
43 state guilt, the Guilt Inventory (Jones, Schratter, & Kugler, 2000) and the Perceived

Guilt Index (Otterbacher & Munz, 1973). The Perceived Guilt Index has rarely been used in the past, and psychometric data to assess the quality of the measure is scarce. In contrast, the psychometric quality of the Guilt Inventory has been proven. However, most of the 10 items of the state-subscale were not easily modifiable for the current setting (e.g., "Recently, my life would have been much better if only I hadn't done what I did"). Thus the DES-IV items seemed most appropriate for assessing state guilt in the present studies. Items were compiled into a mean index, $\alpha = 0.93$; $M = 1.71$; $SD = 1.09$.

The popular, short version of the Positive and Negative Affect Scale (PANAS, Watson, Clark, & Tellegen, 1988) was applied to assess users' *negative affect*. The short version of the PANAS consists of 20 attributes. The 10 items that assess negative affect were further analyzed in this study (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid; all from 1 very slighty or not at all −5 extremely). Items were summed to an index, $\alpha = 0.93$; $M = 19.46$; $SD = 9.31$.[1] Negative affect was positively correlated with guilt ($r = 0.64$; $p < .01$).

Enjoyment was measured with a five-item scale developed by Tauer and Harackiewicz (1999) to assess intrinsic game enjoyment. Subjects reported how much they thought playing the video game was "very interesting," "a boring activity" (rev), "enjoyable," "a waste of time" (rev), and "fun" (1, totally disagree; 5, totally agree). Items were compiled into a mean index, $\alpha = .91$; $M = 2.99$; $SD = 1.09$. Enjoyment did not significantly correlate with guilt ($r = -1.9$; $p = .09$), nor with general negative affect ($r = -1.8$; $p = .11$).

One question assessed the effectiveness of each *manipulated factor*. However, according to the theoretical approach, moral disengagement cues may trigger unconscious effects. Therefore, the treatment questions were considered not to be sufficient proof but additional information about the treatment's effectiveness. To check the condemnable misconduct manipulation, subjects were asked to rate the behavior of opponents, ranging from (1) very defensive to (5) very aggressive ($M = 3.35$; $SD = 1.44$). To assess the dehumanization manipulation, subjects were asked to indicate how much they agreed that they fought against nonhuman creatures rather than against human beings (1, do not agree; 5, totally agree; $M = 2.98$; $SD = 1.45$).

Subjects' familiarity with *Half Life II* (1 not at all−5 very much; $M = 2.07$; $SD = 1.4$) and the number of opponents shot (kill-counter; $M = 40$; $SD = 12.48$) were assessed as *control factors*. Two additional control factors were derived on the basis of the second mechanism suggested in the theoretical approach (i.e., conscious rationalization). Participants were asked how much they thought that "this is just a game" (1, not at all; 5, very much; $M = 3.29$; $SD = 1.44$) and their belief that "this is just an experiment in which they need to follow instructions" (1 not at all−5 very much; $M = 2.7$; $SD = 1.23$).[2]

Results

Treatment check

Players who fought against nonhuman creatures did perceive the opponents to be less human ($M = 3.38$; $SD = 1.61$) than players who fought against human soldiers ($M = 2.7$; $SD = 1.34$; $t(82) = 2.1$; $p < .05$). Also, players in the "condemnable misconduct" condition perceived the opponents to be significantly more aggressive ($M = 3.54$; $SD = 1.38$) than users in the "minor misconduct" condition ($M = 3.16$; $SD = 1.5$). However, this difference did not reach significance; $t(82) = 1.19$; ns.

Control factors

Control factors were analyzed if they (a) correlate with at least one of three dependent measures and (b) significantly differ among at least two experimental groups (which would tell about confounding factors that violated the random assignment principle). The more familiar subjects were with Half Life II, the less they felt guilty ($r = -0.28$, $p < .05$), the weaker their negative affect ($r = -0.33$; $p < .01$), and the more they enjoyed the game ($r = 0.39$; $p < .01$). Also, the more players thought that "this is just a game" ($r = -0.24$; $p < .01$), and the more they thought "this is just an experiment" ($r = -0.34$; $p < .01$), the lower their enjoyment. Despite the random assignment, experimental groups unfortunately significantly differed in how much they thought that "this is just an experiment." Apparently, awareness was confounded with the experimental manipulation: Participants assigned to the condemnable misconduct conditions reported significantly higher levels of awareness that "this is just an experiment" than participants in the "minor misconduct" conditions ($F(1, 84) = 5.35$; $p < .01$).

Data analyses

The treatment check did not support an effective manipulation of opponents' misconduct. Therefore, hypotheses testing was conducted as follows: First, a 2 (condemnable misconduct vs. minor misconduct) × 2 (nonhuman opponents vs. human opponents) multivariate analysis of variance (MANOVA) was conducted with the original experimental groups as the independent factor, and guilt, negative emotions, and enjoyment as dependent variables. Second, the same MANOVA was calculated, but this time with a quasi-experimental misconduct factor (i.e., median split of "perceived aggressiveness of opponents" at 4) instead of the original factor.[3]

A 2 (condemnable misconduct vs. minor misconduct) × 2 (nonhuman opponents vs. human opponents) MANOVA revealed no significant effects on guilt and enjoyment, and a small but significant effect of opponents' misconduct on negative affect ($F(1, 83) = 4.18$; $p < .05$; $\eta^2_{part} = 0.05$). Subjects shooting defensive opponents that only committed minor misconduct reported more negative affect ($M = 21.51$; $SD = 10.23$) than subjects shooting aggressive opponents in the condemnable misconduct condition ($M = 17.32$; $SD = 7.8$). An exploratory MANOVA analysis of the 10 negative affect items revealed that users fighting against opponents in the minor

1 misconduct condition reported to be more guilty, ashamed, nervous, and irritable
2 than players fighting against opponents in the "condemnable misconduct" condition
3 (all $p < .05$).
4   A second MANOVA with the original misconduct factor replaced by the quasi-
5 experimental perceived aggressiveness factor yielded similar results.

Discussion

Overall, Study 1 suffered from some flaws. One of the two experimental factors, that is,
opponents' misconduct, was not successfully manipulated. In addition, participant's
awareness "that this is just an experiment where I have to follow instructions" did
not only affect game enjoyment, but also differed significantly between conditions,
suggesting a confounding factor that was affected by the manipulation. Therefore,
the results obtained in Study 1 have rather exploratory value.

Dehumanization

The data did not support H1: In the study, players who fought against nonhuman
creatures did not feel less guilty, did not have less negative affect, and did not enjoy the
game more than players who fought against human opponents. Thus, fighting against
either virtual human soldiers or virtual creatures caused no difference in users' moral
perception. One explanation is that users may have always found opponents aggressive
enough to deserve a violent response, and such a perception may have overruled
any effect of the opponents' human or nonhuman appearance (see "manipulation
of misconduct," below). An alternative and more general explanation could be that
players lacked automatic social perception and did not consider any of the virtual
opponents to fall within their scope of justice. Both mechanisms could explain why
low sample means in guilt and negative affect were found, both in the group that
fought against human soldiers and the one that fought against creatures. Overall,
subjects barely felt guilty or experienced any negative affect. Due to this floor effect,
the manipulation of opponents' outer appearance had little variance to explain.
A third possibility is that the manipulation of dehumanization may have failed.
Only the outer appearance of opponents differed, but all opponents may have been
sufficiently human-like. Although the applied treatment check suggests a successful
manipulation, a more rigid test of "human essence" (Loughnan & Haslam, 2007)
may have indicated that the social perception of creatures did not differ much from
that of human opponents.

Condemnable misconduct

H2 received only marginal support: Players who shot opponents that committed
condemnable misconduct did not feel less guilty (measured by the DES-IV subscale),
and did not enjoy the game more than players that shot less blameworthy oppo-
nents. However, players experienced more negative affect if they shoot opponents

that can only be blamed for a minor misconduct. Players who shot less blamewor-
thy characters felt more guilty, ashamed, nervous, and irritable (measured by the
PANAS). One explanation is that this negative affect indeed resulted from a viola-
tion of moral standards, which was too insignificant, however, to induce stronger
feelings of guilt that would have been detected by the applied multi-item DES-IV
measure.

Manipulation of misconduct
The failed treatment check of the manipulated opponents' misconduct may point to
a limitation of the experiment. The applied manipulation may have been ineffective.
In the game, even the opponents envisioned to be defensive and subject to less
blame were equipped with weapons, which they used after subjects opened fire.
These counterattacks probably provided enough misconduct for players to perceive
the opponents as aggressive and worthy of blame (cf., Bandura, 1990; Castano &
Giner-Sorolla, 2006). Quasi-social entities that display some misconduct and even
attack the user with weapons may also be easily categorized as a threatening outgroup
(i.e., the enemy). Research shows that people perceive outgroups as less humane,
and more animal-like and automata-like than their ingroups (Leyens et al., 2001;
Loughnan & Haslam, 2007). However, because every opponent deserved blame,
users across all groups may have felt justified in shooting characters (cf., Raney,
2002). This may have reduced potential differences in guilt, negative affect, and
enjoyment.
    Indeed, qualitative interviews have found that users of violent games feel displea-
sure after accidentally killing game characters who are actually innocent, for example,
bystanders who tried to avoid harm and did nothing wrong in the first place (like
children or fleeing civilians; Klimmt et al., 2006). Future studies should, therefore,
distinguish more carefully between opponents that are or are not deserving of blame
(cf., Pizarro et al., 2006).

Familiarity of game
Zero-order correlations showed that familiarity with the game determines guilt,
negative affect, and enjoyment when shooting quasi-social characters. The more
familiar players were with the violent game *Half Life II*, the weaker their experience
of guilt and negative affect, and the greater their enjoyment. Two explanations may
account for this effect. Players who are familiar with *Half Life II* have probably
played it before. Through repeated use of the game, players could have learned how
to regulate their emotions and deal with potential violations of moral standards. It
seems reasonable that experienced users of violent games develop and apply cognitive
strategies that help to reduce negative affect and make violent conduct more gratifying
(cf. "desensitization," Carnagey, Anderson, & Bushman, 2006; Raney, 2004). Moral
disengagement may be one such strategy. Cues the game provides, such as nonhuman
characters, could promote users' learning processes, but lose their former impact
once players incorporate moral disengagement. A second and related explanation is

that users' personality factors, for example, low trait empathy (Davis, 1983) or low susceptibility to guilt (Tangney, Wagner, & Gramzow, 1992) jointly led to familiarity with Half Life II, diminished guilt and negative affect, and increased enjoyment of virtual violence. From this perspective, any correlation found would be completely mediated by personality factors. Moral disengagement cues from the game, such as nonhuman opponents, would have had little or no importance for the formation of guilt and negative affect. Instead, enduring personality factors may have determined whether a player perceived quasi-social characters to fall into the scope of justice (Opotow, 1990). The explanation of the link found between familiarity and guilt, negative affect, and enjoyment is challenging. Future studies are needed to illuminate the link between users' familiarity with a violent game and positive and negative affect.[4]

Experiment 2

Hypotheses

A second 2×2-experiment focused on the effects of moral justification (justified vs. unjustified) and disregard or distortion of consequences (no consequences vs. consequences) on emotional outcomes of playing a violent video game. Justification is a key determinant of moral disengagement (Bandura, 2002; Zillmann, 2000). Fighting for a just purpose or for a moral authority frames harm-doing as appropriate and thus suppresses dissonance (Opotow, 1990; Raney, 2002). Also, if the consequences of doing harm to social entities are neglected (i.e., not named, not visible, not discussed) or distorted (i.e., labeled in a euphemistic way or portrayed in a funny or aesthetic way), perpetrators perceive less or no mayhem, and aversive feelings of wrongdoing are reduced (Bandura, 2002; Zillmann, 1983). Accordingly, the second experiment tested the following hypotheses:

> **H1:** If a video game frames virtual violence as justified, players (a) feel less guilty, (b) have less negative emotions, (c) enjoy the game play more than if the same game frames the action as unjustified.

> **H2:** If a violent video game does not portray (or distorts) the consequences of virtual violence, players (a) feel less guilty, (b) have less negative emotions, (c) enjoy the game play more than if the game portrays the consequences of violent actions.

Method

Participants and procedure

Subjects participated in both experiments in consecutive order. The sample and procedure was similar to those of the first experiment.

Material

For the second experiment, a new level of the popular ego-shooter *Operation Flashpoint* (Bohemia Interactive) was developed by modifying the original software.

A modified cinematic introduction established a new narrative. The audiovisual movie-sequence showed a torture camp in the (fictional) Oka region where innocent people were murdered by paramilitary forces. In the remainder of the introduction and depending on the experimental condition, subjects either learned that they would play a soldier of the United Nations (UN), about to attack the torture camp to restore humanity (justified action), or to play a soldier of the paramilitary forces that would continue their cruelty and defend the camp (unjustified action).

Actual game play followed. As a UN soldier players started the game in a quiet forest just before the torture camp, as a paramilitary soldier in a quiet section of the camp. In this sequence, players received instructions about how to navigate through the environment and how to shoot and reload their weapon. The torture camp itself consisted of an insolated area surrounded by walls so that subjects could not get lost during the game. Either UN soldiers or paramilitary forces were positioned as opponents, and they only made use of a single weapon, a gun. Shooting opponents either resulted in bloodshed and a dying character screaming and tumbling to the ground (consequences) or in a mundane "ping" sound and a character who simply vanished (no consequences). Every 2 minutes, a walkie-talkie voice (introduced as the commander) commented on the action, either in a harsh, realistic way (consequences) or in a euphemistic way (no consequences).

As in the first experiment, game play was modified so that users (a) could only shoot with one weapon (a gun), (b) had unlimited ammunition but occasionally needed to reload, (c) could not die. Also, only the number of opponents shot (kill-counter) appeared on the screen.

Measures

Measures were the same as in the first experiment. Again, dependent measures included the feeling of guilt ($\alpha = 0.93$; $M = 1.89$; $SD = 1.18$), general negative affect ($\alpha = 0.92$; $M = 17.54$; $SD = 7.93$), and game enjoyment ($\alpha = .88$; $M = 2.65$; $SD = 1.02$). Guilt and negative affect were strongly correlated ($r = 0.76$; $p < .01$). Enjoyment had a significant negative correlation to guilt ($r = -0.27$; $p < .05$), but not to general negative affect ($r = -0.17$; $p = .13$).

One question checked for the effectiveness of each *manipulated factor*. To assess the justification manipulation, subjects were asked how much they supported/opposed the motives of the authority for whom they fought (1, strongly oppose; 5, strongly support; $M = 2.87$; $SD = 1.08$). To assess the portrayed consequences manipulation, subjects were asked to indicate the degree of mayhem that was shown in the game (1, hardly any; 5, extensive; $M = 2.49$; $SD = 1.01$).

As in the first experiment, *control factors* included subjects' previous familiarity with the game *Operation Flashpoint* (1, not at all; 5, very much; $M = 1.86$; $SD = 1.02$), the number of shot opponents (kill-counter; $M = 42.21$; $SD = 19.68$), the degree participants thought that "this is just a game" (1, not at all; 5, very much; $M = 3.93$; $SD = 1.16$) and that "this is just an experiment where I have to follow instructions" (1, not at all; 5, very much; $M = 3$; $SD = 1.32$).

Results

Treatment check

Players of the justified violence condition supported the motives of their author-ity (UN soldiers) more ($M = 3.39$; $SD = 0.86$) than players that fought for the paramilitary forces in the unjustified violence condition ($M = 2.43$; $SD = 1.07$; $t(81, 94) = 4.57$; $p < .01$). However, players confronted with no (or distorted) con-sequences did not report significantly less mayhem ($M = 2.37$; $SD = 1$) than players whose shot opponents screamed and died ($M = 2.57$; $SD = 1.02$; $t(82) = 0.89$; *ns*).

Control factors

Again, it was tested whether control factors correlated with at least one of three dependent measures and whether they differed significantly among at least two experimental groups. Simple zero-order correlations showed that the more subjects believed that "this is just a game," the less they experienced guilt ($r = -0.27$; $p < .01$) and negative affect ($r = -0.36$; $p < .01$). None of the other correlations were significant. Users' awareness that "this is just a game" did not differ among experimental groups.

Data analyses

Although the treatment check did not find an effective manipulation of the conse-quences portrayed in the game, the effect could have been too unconscious to be reflected later in the response to a question (O'Keefe, 2003). For this reason, the test of hypotheses was conducted as follows: A 2 (justified vs. unjustified violence) $\times$ 2 (consequences vs. no consequences) MANOVA was calculated with the orig-inal experimental groups as independent factor, and guilt, negative emotions, and enjoyment as dependent variables. Second, the same MANOVA was calculated, but this time with a quasi-experimental consequences factor (median-split of perceived mayhem at score 2) instead of the original factor.[3]

A 2 (justified vs. unjustified violence) $\times$ 2 (consequences vs. no consequences) MANOVA showed a significant main effect of justified virtual violence (Pillai's $F(3, 78) = 3.65$; $p < .05$) on the feeling of guilt ($F(1, 84) = 4.36$; $p < .05$; $\eta^2_{part} = .05$) and general negative affect ($F(1, 84) = 10.61$; $p < .01$; $\eta^2_{part} = .12$), but not on game enjoyment ($F(1, 84) = 0.006$; *ns*; $\eta^2_{part} = 0.06$). Players that fought for a just cause reported significantly less guilt ($M = 1.56$; $SD = 0.89$) and less negative affect ($M = 14.53$; $SD = 3.94$), but not significantly more enjoyment ($M = 2.68$; $SD = 1.04$) than players that fought for an unjust cause (guilt: $M = 2.16$; $SD = 1.32$; negative affect: $M = 20.02$; $SD = 9.45$; enjoyment: $M = 2.63$; $SD = 1.01$). The manipulation of consequences resulted in no significant effect (Pillai's $F(3, 78) = .26$; *ns*). The interaction justification $\times$ consequences approached significance (Pillai's $F(3, 78) = .25$; $p = .06$) due to a significant effect on enjoyment ($F(1, 84) = 4.24$; $p < .05$; $\eta^2_{part} = 0.1$). The effect is portrayed in Figure 1. As shown, enjoyment was greatest if players fought for a just authority and the consequences of shooting
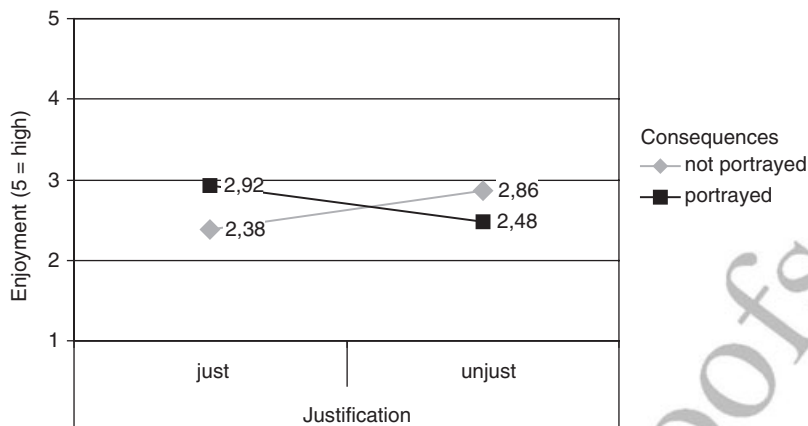
Figure 1 Interaction of justification × portrayed consequences on game enjoyment ($N = 84$).

characters was portrayed ($M = 2.9$; $SD = 0.97$) or fought for a bad purpose but no (or distorted) consequences of shooting characters were portrayed ($M = 2.86$; $SD = 1.05$). That is, enjoyment was highest when only one of the two moral disengagement cues was present.

In a second MANOVA, this time with the quasi-experimental consequences factor (perceived mayhem), justification again significantly affected the dependent variables (Pillai's $F(3, 78) = 4.03$; $p < .05$). Players who fought for a just cause experienced less guilt ($F(1, 84) = 5.11$; $p < .05$; $\eta^2_{part} = 0.06$) and less negative affect ($F(1, 84) = 12.28$; $p < .01$; $\eta^2_{part} = 0.13$), but did not differ in terms of game enjoyment ($F(1, 84) = 1$; ns; $\eta^2_{part} = 0.001$). Unlike the original factor, the quasi-experimental factor portrayed consequences, that is the degree of perceived mayhem, significantly affected (Pillai's $F(3, 78) = 3.22$; $p < .05$) users' feeling of guilt ($F(1, 84) = 7.4$; $p < .01$; $\eta^2_{part} = 0.09$) and negative affect ($F(1, 84) = 9.07$; $p < .01$; $\eta^2_{part} = 0.1$), but—similar to the original factor—there was no difference in game enjoyment ($F(1, 84) = 0.78$, ns; $\eta^2_{part} = 0.01$). Players who perceived less mayhem felt significantly less guilty ($M = 1.55$; $SD = 0.84$) and experienced less negative affect ($M = 15.02$; $SD = 5.79$), but did not experience significantly more enjoyment ($M = 2.76$; $SD = 1.06$) than players that perceived much mayhem (guilt: $M = 2.3$; $SD = 1.4$; negative affect: $M = 20.08$; $SD = 9.12$; enjoyment: $M = 2.52$; $SD = 0.96$). The MANOVA also revealed a significant interaction of justification × perceived mayhem; Pillai's $F(3, 78) = 3$; $p < .05$. Negative affect was by far most pronounced among players that fought for an unjust reason and perceived much mayhem ($M = 24.09$; $SD = 9.72$; $F(1, 84) = 5.23$; $p < .05$; $\eta^2_{part} = 0.06$). Exploratory in-depth MANOVA analyses of the 10 negative affect items reveal that participants were more scared, irritated, and jittery when fighting for an unjust purpose and perceived the mayhem caused by their violent actions (all $p < .05$). The interaction effect on enjoyment that was found in the previous MANOVA only occurred as

1 a trend this time ($F(1, 84) = 2.81$; $p < .1$). As in the analyses that included the
2 experimentally manipulated factors, enjoyment was highest if players either fought
3 for a bad authority and perceived less mayhem ($M = 2.91$; $SD = 1.12$), or if they
4 fought for a good authority and perceived more mayhem ($M = 2.79$; $SD = 1.14$).

Discussion

Justification

Results partly confirm H1. If a video game frames virtual violence as justified, players do feel *less guilty* and have *less negative emotions* than if the game frames the action as unjustified (though justification seems to have no effect on enjoyment). Contemporary violent video games often provide narratives that frame users' actions as justified (Smith, 2006). Based on video game narratives, players often support a just cause and thus act morally, by saving the world, restoring humanity, and fighting the forces of evil. The results of the experiment support the view that these types of narrative cues trigger moral disengagement when players enact virtual aggression against quasi-social characters. Consequently, players may avoid or reduce unpleasant outcomes associated with norm-violating aggression such as negative affect.

However, in this experiment, justification did not affect enjoyment. Justification of virtual violence, as represented in the first-person shooter, may not influence enjoyment directly (see Zillmann, 2000, for a different opinion). According to our theoretical approach, justification directly suppresses the aversive feelings that violating moral standards causes, but it is not considered to immediately increase enjoyment. Rather, justification may influence enjoyment in an indirect way: Negative affect and guilt that result from unjustified actions probably undermine game enjoyment. Justification seems to diminish such aversive states. The present experiment supported this view, finding guilt to be negatively correlated with enjoyment. Future research may discover that a stronger effect of justification on guilt and negative feelings may in turn produce significant differences in game enjoyment.

Portrayal of consequences

H2 argued that if a violent video game does not portray the consequences of virtual violence (or if it distorts them), players would feel less guilty, have less negative emotions, and enjoy game play more than if the game portrays the consequences of violent actions. Results concerning H2 are mixed. Contrary to H2, whether or not the game portrayed consequences of virtual violence had no effect on players' reports of guilt, negative affect, and enjoyment. That is, the bloodshed, screams, and dying sequence of shot opponents seemed to have no impact on the playing experience whatsoever. The null effects should be interpreted carefully, as the treatment-check indicates a failed manipulation, though. However, if the manipulation only led to unconscious perceptual processes (see "perceived mayhem," below), subjects may not have been able to report the effects of the manipulation even if it had succeeded.

Nevertheless, a failed manipulation of the consequences portrayed is a plausible explanation of the null effects. For example, because users had the ability to shoot

1 opponents from a substantial distance, the visibility of displayed bloodshed and
2 victim suffering may have been low. The morally disengaging effect of long-distance
3 weapons, previously discussed in literature (e.g., Todd, 2001), may have resulted in
4 an ineffective manipulation.
5
6 **Perceived mayhem**
7 The quasi-experimental examination of portrayed consequences indicated that users
8 who perceived greater mayhem in the game felt more guilty and had more negative
9 affect than users who perceived less mayhem. The effect could be a methodological
10 artifact of the joint ex-post questionnaire assessment of perceived mayhem, guilt,
11 and negative affect (e.g., an effect of social desirability). However, it also seems
12 plausible that a description of the game play as "much mayhem" reflects one's
13 moral judgment. In contrast to players that perceived "no or less mayhem," users
14 that reported great mayhem could have perceived the violent game play as having
15 greater moral importance which would explain why they experienced more guilt and
16 negative affect. Consequently, negative affect was strongest for players that perceived
17 much mayhem and fought for an unjust reason.
18
19 **Enjoyment**
20 Interestingly, differences in perceived mayhem did not result in different levels of
21 enjoyment, just as the manipulation of portrayed consequences and the justification
22 of users' actions revealed no effect on enjoyment. One explanation is that more
23 mayhem, harsher consequences, and unjust norm-violating actions may promote
24 both gratifications and costs (Raney, 2004). In violent video games, users are causal
25 agents. Although causing more mayhem to quasi-social characters or breaking norms
26 by unjust behavior seems to trigger higher costs (i.e., feeling of guilt, negative affect), it
27 may enhance users' pleasurable experiences of being effective (Klimmt & Hartmann,
28 2006) and powerful as well. Producing mayhem may also foster excitement. Thus,
29 in this study, the costs that resulted from a greater perception of troublesome
30 consequences could have been balanced by enhanced gratifications.
31   Pleasurable gratifications and aversive costs of virtual violence may also explain
32 the justification × consequences interaction effect obtained in the analyses (Figure 1).
33 Subjects who had some reason to feel they had done something wrong (because the
34 action was either unjustified or resulted in harsh consequences) and that could still
35 morally disengage at the same time (because the action was either justified or did
36 not result in harsh consequences) reported the greatest enjoyment. Obviously, under
37 these conditions, pleasurable gratifications (e.g., excitement that may partly result
38 from norm-violation, as well as feelings to be effective and powerful) and aversive
39 costs (negative affect resulting from violation of moral standards) reached a ratio that
40 best suited overall enjoyment. Targeting quasi-social characters may be particularly
41 thrilling for users, especially if *some* opportunity to morally disengage exists. In
42 contrast, a video game that supports too much moral disengagement (e.g., no
43 consequences, justified actions) may not be thrilling enough to be enjoyable, whereas

a game that makes it too hard to disengage (e.g., harsh consequences, no justification) may trigger too much negative affect. Certainly, this interpretation is hypothetical and needs further examination. Future research may connect the ideas presented here to related approaches, for example, disposition-based theories of humor (e.g., Zillmann, 2000), which shows that malicious Schadenfreude (while watching comedy) is "exceedingly high when all ingredients of good comedy [are] present: despised protagonists, their victimization, and humor cues that set the audience free to enjoy these characters' demise." (Zillmann & Bryant, 1980, p. 49). In sum, the formation of enjoyment in violent games and its interrelation with negative affect seems complex. Future studies should apply finer distinctions of pleasurable gratifications versus costly norm-violations to explain the overall enjoyment of violent games.

General discussion

The present studies provide a first step in the empirical study of moral disengagement in violent video games and related feelings of guilt, negative affect, and game enjoyment. The studies build on literature on moral disengagement (Bandura, 1990, 2002) and moral exclusion (Opotow, 1990) that we have incorporated in the present approach to moral disengagement in violent video games. Our perspective argues that contemporary video game characters are automatically perceived as quasi-social entities, and thus hold the potential to "fall into the scope of justice" (cf., Opotow, 1990, p. 3). Consequently, aggression against video game characters may be considered unjust harm, which triggers guilt and negative affect that may undermine enjoyment. We argue, however, that cues implemented in contemporary violent video games effectively help players to disengage from moral concern (cf., Raney, 2002; Zillmann, 2000).

Of the four cues that were tested experimentally (justification of violence, neglect/distortion of consequences, dehumanization of opponents, condemnable action of opponents), only *condemnable action of opponents* lead to less negative affect in Study 1 and *justification* of violence diminished both users' feeling of guilt and negative affect in Study 2. According to the latter finding, fighting for a just rather than an unjust cause reduces guilt and negative affect. Independent from the manipulated moral disengagement cues, users' *familiarity* with violent games reduced guilt and negative affect in Study 1—perhaps due to learned cognitive strategies—and users' *awareness of the situation* as "just a game" or "just an experiment" reduced guilt and negative affect in Study 2—in accordance with the proposed second mechanism of moral disengagement in violent games.

Users' *familiarity* with violent video games deserves further examination. Participants in the present studies expressed a remarkably low interest in violent video games. Accordingly, many participants had only little experience with playing violent games. The lack of familiarity with violent games may have implied that the sample overrepresented participants that could not readily access strategies to cope with game play that evokes negative feelings, including guilt. In addition, experienced

players may be more desensitized than novice players (Carnagey et al., 2006) and may therefore be less responsive to information that is morally disturbing.[3] Accordingly, the present sample may have produced stronger levels of guilt and negative affect in response to the applied manipulations than a sample of experienced players would have produced. Future studies need to examine the influence of familiarity on guilt, negative affect (and eventually game enjoyment) further. One approach would be to simply compare experienced versus novice users of violent games. Another approach would be to apply a longitudinal design.

Both experiments found mixed results regarding *enjoyment* and suggest that the presence of moral disengagement cues may not only decrease aversive costs, but also diminish the pleasurable gratifications of virtual violence at the same time. While players' game enjoyment seems to decrease slightly if guilt and negative affect increase, results of Study 2 suggest that enjoyment is greatest if the virtual violence is deviant enough to induce excitement, but defensible enough to be considered just. Related research supports the hypothesis that media users sometimes simply enjoy being bad ("norm-violation theory," Raney, 2004; Tamborini, Stiff, & Zillmann, 1987), identify with bad guys (Konijn & Hoorn, 2005), and enjoy observing wrongdoing (Raney et al., 2006). Players of violent games may enjoy the thrill of socially unacceptable behavior as long as they have some reason (e.g., remembering that this is "just a game" or believing one's intents are good) to free themselves from guilt.

However, the present studies provide only the beginnings of the study of moral disengagement in violent video games. Future studies should avoid a couple of limitations and flaws of the current experiments. The two studies this paper presents were always applied in the same order to the student sample. Thus, we cannot rule out order effects (such as fatigue). Also, two of the four experimental manipulations failed. Future studies should pretest experimental manipulations with care, particularly because this area of research is still undeveloped. As the theoretical model proposed is still being formed, we are faced with the challenge of controlling all of the factors that may affect moral disengagement in a video game. Controlled factors may be confounded with the manipulation, as it happened in Study 1. Uncontrolled factors may overshadow the effect of experimentally manipulated factors. That may have occurred in the present studies as well, because we did not control all of the factors suggested in the theoretical model; for example, users' perception of opponents as a hostile outgroup (Leyens et al., 2001). Controlling this and other factors may have helped to unwrap the complex processes of moral disengagement a better way. Finally, the suggested relationship between guilt, negative affect, and game enjoyment needs further elaboration. On one hand, a closer look into emotion regulation and experience of conflicting emotions (Scollon, Diener, Oishi, & Biswas-Diener, 2005) may help substantiate the argument that negative emotions, including an aversive feeling of guilt, undermine game enjoyment. On the other hand, manipulations of moral disengagement that suppress aversive costs of virtual violence but leave the pleasurable gratifications of virtual violence need to be considered.

In any way, pursuing the question of why virtual violence is enjoyable further promises to lead to both relevant and inspiring research.

Acknowledgements

Notes

1 We followed traditional approaches to aggregate the data of both the DES-IV and the PANAS. Scores obtained by the DES-IV are usually aggregated in a mean index. The PANAS scores are traditionally summed.

2 Both measures are based on the idea that user's awareness that "this is just a game" or that "this is just an experiment" switches on or off during the exposure situation (Wirth et al., 2007). However, this binary state is aggregated to a continuum between "never... often" or "not at all... very much" if recalled in a retrospective questionnaire.

3 As median split may not be considered the best practice, we run additional regression analyses that employed a centered continuous quasi-experimental factor, an effect-coded experimental factor, and the interaction term of both factors. The analyses yielded similar results.

4 Another argument is that familiarity correlates positively with an increased awareness of the ongoing action as "just a game." Therefore, more familiar users may routinely be more aware that "this is just a game," and therefore may experience less moral concern. However, the data did not support this argument. Simple zero-order correlation between familiarity ("How familiar have you been with the game you just played"?) and users' "this is just a game" belief ("While playing how much have you thought that this is just a game"?) revealed no correlation in both studies ($r = 0.091$, *ns*, in Study 1; $r = 0.079$, *ns*, in Study 2). The finding speaks against the argument that familiarity leads to an increased awareness of the artificial character of the gameplay.

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