

## Research Report

## Comfortably Numb

## Desensitizing Effects of Violent Media on Helping Others

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**ABSTRACT**—Two studies tested the hypothesis that exposure to violent media reduces aid offered to people in pain. In Study 1, participants played a violent or nonviolent video game for 20 min. After game play, while completing a lengthy questionnaire, they heard a loud fight, in which one person was injured, outside the lab. Participants who played violent games took longer to help the injured victim, rated the fight as less serious, and were less likely to “hear” the fight in comparison to participants who played nonviolent games. In Study 2, violent- and nonviolent-movie attendees witnessed a young woman with an injured ankle struggle to pick up her crutches outside the theater either before or after the movie. Participants who had just watched a violent movie took longer to help than participants in the other three conditions. The findings from both studies suggest that violent media make people numb to the pain and suffering of others.

Film is a powerful medium, film is a drug, film is a potential hallucinogen—it goes into your eye, it goes into your brain, it stimulates and it’s a dangerous thing—it can be a very subversive thing.

— Oliver Stone (quoted in Dworkin, 1996)

If film is a drug, then violent film content might make people “comfortably numb” (borrowing the words of Pink Floyd). Specifically, exposure to blood and gore in the media might make people numb to the pain and suffering of others—a process called *desensitization*. One negative consequence of such physiological desensitization is that it may cause people to be less helpful to those in need.

The link between desensitization and helping behavior is provided by a recent model that integrates the pioneering work on helping by Latané and Darley (1968) with our work on physiological desensitization to aggression, illustrated in

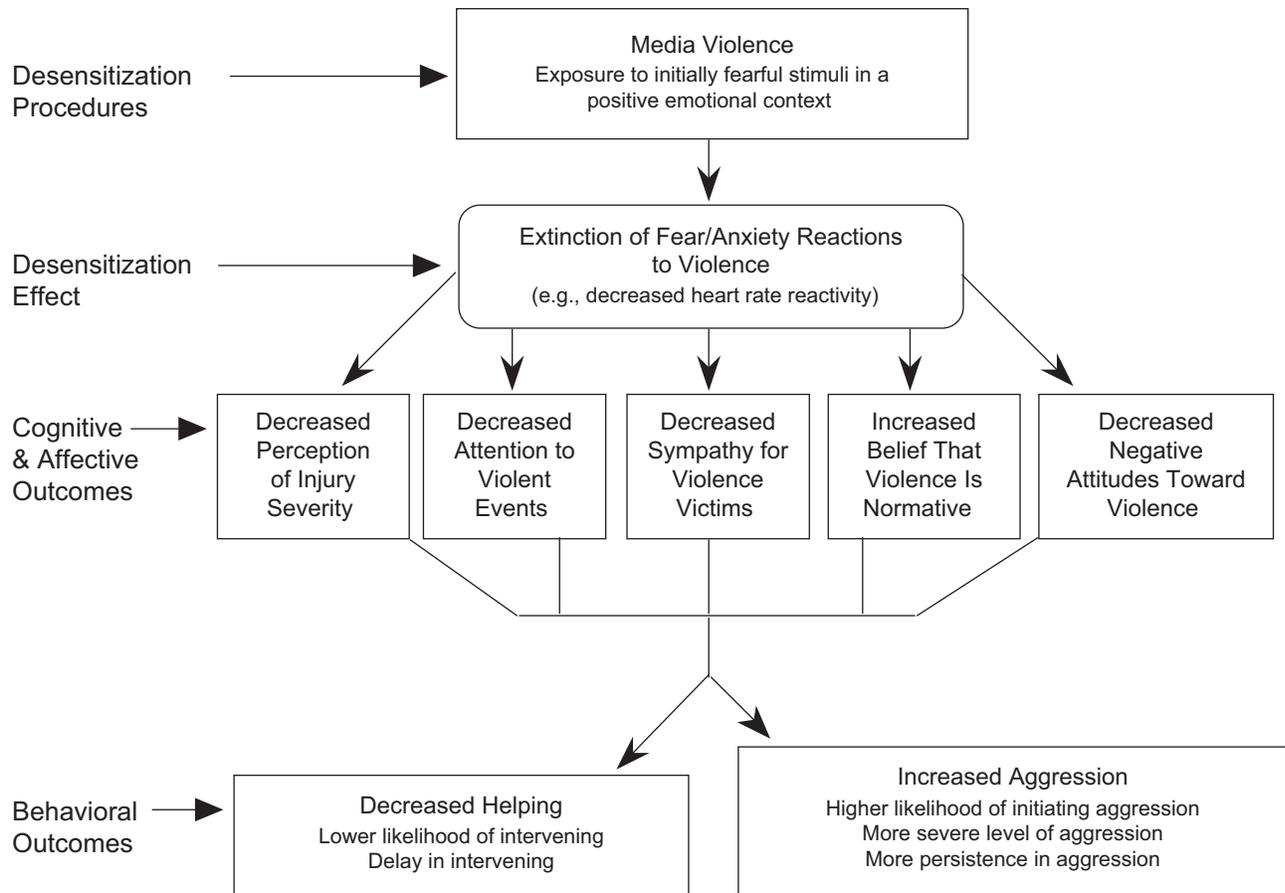
Figure 1. Several factors must be in place before someone decides to help a victim (Latané & Darley, 1970; see Fig. 2). Three of these factors are particularly relevant here. First, the individual must notice or attend to the violent incident. However, decreased attention to violent events is likely to be one consequence of desensitization. Second, the individual must recognize the event as an emergency. However, desensitization can reduce the perceived seriousness of injury and the perception that an emergency exists. Third, the individual must feel a personal responsibility to help. However, decreased sympathy for the victim, increased belief that violence is normative, and decreased negative attitudes toward violence all decrease feelings of personal responsibility.

Although previous research has shown that violence in the media can produce desensitization-related outcomes (e.g., Linz, Donnerstein, & Adams, 1989; Molitor & Hirsch, 1994; Mullin & Linz, 1995; Thomas, Horton, Lippincott, & Drabman, 1977), this model illuminates two gaps in the desensitization literature. First, there are no published studies testing the hypothesis that violent media stimuli known to produce physiological desensitization also reduce helping behavior. Second, there are no field experiments testing the effect of violent-entertainment media on helping an injured person. We recently found that playing a violent video game for just 20 min decreased skin conductance and heart rate while watching real scenes of violence (Carnagey, Anderson, & Bushman, 2007). We conducted two studies to help fill these gaps: a lab experiment using violent video games (Study 1) and a field study using violent movies (Study 2).

## STUDY 1

Participants played a violent or a nonviolent video game. Later, they overheard a staged fight leading to injury. We predicted that playing a violent video game, in comparison to playing a nonviolent game, would decrease the likelihood of help, delay helping, decrease the likelihood of noticing an emergency (the first step in the helping process), and decrease the judged severity of the emergency (the second step in the helping process).

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**Fig. 1.** Model of the effects of exposure to media violence. Such exposure serves as a desensitization procedure leading to increases in aggression and decreases in helping. Adapted from Carnagey, Anderson, and Bushman (2007).

**Method**

*Participants*

Participants were 320 college students (160 men, 160 women) who received extra course credit in exchange for voluntary participation.

*Procedure*

Participants were tested individually. They were told that the researchers were studying what types of people liked various types of video games. After giving consent, participants played a randomly assigned violent (*Carmageddon, Duke Nukem, Mortal Kombat, Future Cop*) or nonviolent (*Glider Pro, 3D Pinball, Austin Powers, Tetra Madness*) video game. We used the same violent and nonviolent video games and the same participant pool that Carnagey et al. (2007) used to demonstrate physiological desensitization to violence.

The experimenter set a timer for 20 min, handed the participant a lengthy questionnaire, and said,

After the timer goes off, please complete this questionnaire. I need to code some data for another study, but I promise to be back in about 40 min. Please don't leave the building until I get back. I have to ask you some questions about the video game before you leave. Okay?

The experimenter then departed.

After playing the video game for 20 min, participants rated on a 10-point scale (1 = *not at all*, 10 = *extremely*) how action-packed, enjoyable, fun, absorbing, arousing, boring, entertaining, exciting, involving, stimulating, addicting, and violent the video game was. The violence rating was used as a manipulation check. The other ratings were used as possible covariates in the analyses to control for differences in video games other than violent content. After reverse-scoring boring ratings, principal components factor analysis showed that the covariates loaded on a single factor (eigenvalue = 7.21), and were therefore combined (Cronbach  $\alpha = .94$ ). Because the results were virtually identical with and without the covariates, we only report the simpler analyses that excluded the covariates.

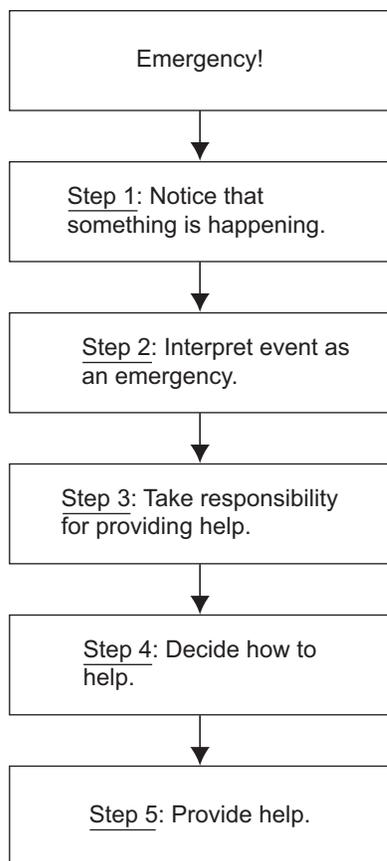


Fig. 2. Five steps to helping. Adapted from Latané and Darley (1970).

Next, participants indicated their favorite type of video game (i.e., education, fantasy, fighting with hands or weapons, skill, or sports). They also completed a lengthy bogus questionnaire (over 200 items), ostensibly to determine what types of people prefer various types of video games. The real purpose of the questionnaire was to keep participants busy while a recording of a staged fight was played outside the lab.

Three minutes after the participant finished playing the video game, the experimenter, who was outside of the lab, played an audio recording of a staged fight between two actors. The 6-min fight was professionally recorded using experienced actors. Two parallel versions of the fight involved male actors (used for male participants) or female actors (used for female participants). In the recording, the two actors were presumably waiting to do an experiment. They began by talking about how one stole the other's girlfriend (male version) or boyfriend (female version). The discussion quickly deteriorated into a shouting match (as indicated in the following script from the male version):

First actor: You stole her from me. I'm right, and you know it, you loser.

Second actor: Loser? If I'm a loser, why am I dating your ex-girlfriend?

First actor: Okay, that's it, I don't have to put up with this shit any longer.

When the recording reached this point, the experimenter threw a chair onto the floor, making a loud crash, and kicked the door to the participant's room twice.

Second actor: [groans in pain]

First actor: Ohhhh, did I hurt you?

Second actor: It's my ankle, you bastard. It's twisted or something.

First actor: Isn't that just too bad?

Second actor: I can't even stand up!

First actor: Don't look to me for pity.

Second actor: You could at least help me get off the floor.

First actor: You've gotta be kidding me. Help you? I'm outta here. [slams the door and leaves]

At this point, the experimenter pressed the start button on the stopwatch to time how long it would take for participants to help the second actor—the violence victim. On the recording, the victim groaned in pain for about 1.5 min. Because the first actor had “left,” there was no perceived danger to the participant in helping the second actor.

The experimenter waited 3 min after the groans of pain stopped to give participants ample time to help. If the participant left the room to help the victim, the experimenter pressed the stop button on the stopwatch and then debriefed the participant.

If the participant did not help after 3 min, the experimenter entered the room and said, “Hi, I'm back. Is everything going all right in here? I just saw someone limping down the hallway. Did something happen here?” The experimenter recorded whether the participant mentioned hearing the fight outside the room. Those who reported hearing the fight rated how serious it was on a 10-point scale (1 = *not at all serious*, 10 = *extremely serious*). As justification for rating the severity of the fight, the experimenter explained the rating was required for a formal report that needed to be filed with the campus police. Finally, the participant was fully debriefed.

We conducted a pilot study involving 50 college students (25 men, 25 women) to test whether they thought the fight was real. Only 5 of the first 10 participants in the pilot study thought the fight was real. We therefore increased the realism of the fight (e.g., knocked over a chair and pounded on the door). After making these changes, all of the remaining 40 participants thought the fight was real.

## Results

### *Preliminary Analyses*

As expected, violence ratings were higher for the violent games ( $M = 7.89$ ) than for the nonviolent games ( $M = 1.51$ ),  $F(1, 316) = 823.13, p < .0001, p_{rep} > .99, d = 3.22$ . We used four violent

games and four nonviolent games to improve generalizability (Wells & Windschitl, 1999). Within each type of video game, we tested whether the four games produced different effects on any of the dependent variables. No significant differences were found among the four violent or the four nonviolent games. Thus, data were collapsed across exemplars of video game types for subsequent analyses.

### Main Analyses

*Helping.* Although in the predicted direction, there was no significant difference in helping rates between violent and nonviolent video game players, 21% and 25%, respectively,  $z = 0.88, p = .38, p_{\text{rep}} > .59, \phi = -.05$ . Participants who said their favorite type of video game involved “fighting with hands or weapons” were less likely to help than those who said their favorite video game was nonviolent, 11% and 26%, respectively,  $z = 2.46, p < .02, p_{\text{rep}} > .92, \phi = -.14$ .

*Time to Help.* When people who played a violent game did decide to help, they took significantly longer ( $M = 73.3$  s) to help the victim than those who played a nonviolent game ( $M = 16.2$  s),  $F(1, 70) = 6.70, p < .02, p_{\text{rep}} > .92, d = 0.61$ .

*Heard Fight.* The first step to helping is to notice the emergency. As expected, people who played a violent game were less likely to report that they heard the fight than those who played a nonviolent game, 94% and 99%, respectively,  $z = 2.00, p < .05, p_{\text{rep}} > .87, \phi = -.11$ .

*Severity of Fight.* The second step to helping is to judge the event as an emergency. As expected, people who played a violent game thought the fight was less serious ( $M = 5.91$ ) than did those who played a nonviolent game ( $M = 6.44$ ),  $F(1, 239) = 4.44, p < .04, p_{\text{rep}} > .89, d = 0.27$ . Men also thought the fight was less serious ( $M = 5.92$ ) than did women ( $M = 6.49$ ),  $F(1, 239) = 5.43, p < .03, p_{\text{rep}} > .90, d = 0.29$ .

### Discussion

Violent video games known to produce physiological desensitization in a previous study (Carnagey et al., 2006) influenced helping behavior and related perceptual and cognitive variables in theoretically expected ways in Study 1. Participants who played a violent game took significantly longer to help, over 450% longer, than participants who played a nonviolent game. Furthermore, compared to participants who played a nonviolent game, those who played a violent game were less likely to notice the fight and rated it as less serious, which are two obstacles to helping.

## STUDY 2

Participants in Study 2 were adult moviegoers. Our confederate, a young woman with a wrapped ankle and crutches, “accidentally” dropped her crutches outside a movie theater and strug-

gled to retrieve them. A researcher hidden from view timed how long it took moviegoers to retrieve the crutches for the confederate. We expected that participants who had just watched a violent movie would take longer to help the confederate than would participants who had just watched a nonviolent movie or participants who had not yet seen a movie.

### Method

#### Participants

Participants were 162 adult moviegoers.

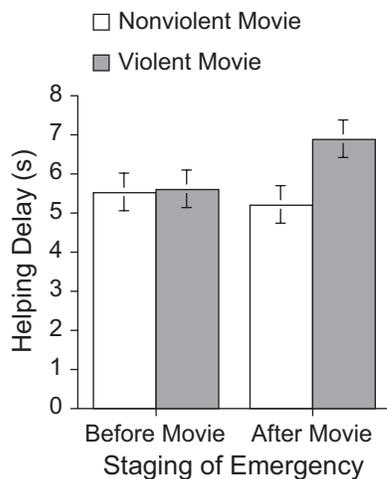
#### Procedure

A minor emergency was staged just outside theaters that were showing either a violent movie (e.g., *The Ruins*, 2008) or a nonviolent movie (e.g., *Nim’s Island*, 2008). The violent movies were rated “R”; the nonviolent movies were rated “PG.” Participants had the opportunity to help a young woman with a wrapped ankle who dropped her crutches just outside the theater and was struggling to retrieve them. The confederate was told to pick up her crutches after 2 min if nobody offered help, but she always received help in less than 11 s. After receiving help, she thanked the helper and then hobbled away from the theater. A researcher hidden from view timed with a stopwatch how long it took participants to help the confederate. The researcher also recorded the gender of the person offering help and the number of potential helpers in the vicinity.

The researcher flipped a coin in advance to determine whether the emergency was staged before or after the showing of a violent or nonviolent movie. Staging the emergency before the movie allowed us to test (and control) the helpfulness of people attending violent versus nonviolent movies. Staging the emergency after the movie allowed us to test the hypothesis that viewing violence inhibits helping. The confederate dropped her crutch 36 times, 9 times in each of the four experimental conditions.

### Results and Discussion

Although the helping delay increased as the number of bystanders increased, and women helped less often than men, these effects were not statistically significant and were not analyzed further. The data were analyzed using a model testing approach, in which a specific contrast representing our theoretical model and the residual between-groups variance are both tested for significance. If the theoretical model adequately accounts for differences among observed means, then the specific contrast should be significant and the residual between-groups variance should be nonsignificant. As predicted, participants who had just viewed a violent movie took over 26% longer to help ( $M = 6.89$  s) than participants in the other three conditions ( $M = 5.46$  s),  $F(1, 32) = 6.20, p < .01, p_{\text{rep}} > .95, d = 0.88$  (see Fig. 3). Furthermore, the residual between-groups variance was



**Fig. 3.** Mean time elapsed before adults helped a confederate pick up her crutches as a function of whether they watched a violent or nonviolent movie before or after the staged emergency.

not significant,  $F < 1.0$ , indicating that the theoretical model adequately accounted for the pattern of means. Indeed, the model accounted for 98% of the between-groups variance. The lack of a difference in helping before watching the movie rules out the possibility that less-helpful people were more likely to attend the violent movies.

### GENERAL DISCUSSION

These two studies support the desensitization hypothesis linking media violence to decreased helping behavior. In Study 1, violent video games known to desensitize people caused decreases in helping-related behavior, perceptions, and cognitions. In Study 2, violent movies delayed helping in a wholly naturalistic setting. The person in need of help had an injured ankle in both studies. In Study 1, the injury resulted from interpersonal violence, whereas in Study 2, the cause of injury was unknown. The similar results across very different studies suggest that desensitization caused by media violence generalizes beyond failure to help victims of violence. Theoretically, we expect such generalization; one factor influencing helping behavior is judged severity of injury, and that judgment is influenced by one's own emotional and physiological reaction to the injury.

In sum, the present studies clearly demonstrate that violent media exposure can reduce helping behavior in precisely the way predicted by major models of helping and desensitization theory. People exposed to media violence become "comfortably numb" to the pain and suffering of others and are consequently less helpful.

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