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Do violent video games lead to real violence?

by Julia Layton

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Do violent video games lead to real violence?

After students Dylan Klebold and Eric Harris opened fire in their Colorado high school in 1999 -- shooting 20 people and killing 13 -- Linda Sanders filed a [lawsuit](#). Her husband was a teacher at Columbine and among the dead. The media revealed that Harris and Klebold played a lot of violent [video games](#), including "Wolfenstein 3D," "Doom," and "Mortal Kombat." Sanders named multiple video game publishers, including Sony and Nintendo, in the suit as well as Time Warner and Palm Pictures since the shooters had apparently watched "The Basketball Diaries," in which a character uses a [shotgun](#) to kill students at his high school. In today's ultra-violent media world, it appears there's plenty of blame to go around. But is it legitimate?

As of 2001, roughly 79 percent of America's youth play video games, many of them for at least eight hours a week [source: [National Institute on Media and the Family](#)]. Beyond the obvious issues of concern, like "what happened to riding [bikes](#) around the neighborhood," there are bigger questions. Many people wonder how this type of exposure to violence as an [adolescent](#) effects social behavior. The rise in dramatically violent shootings by teenagers, many of whom apparently play violent video games, is helping the argument that video game violence translates into real-world situations. But other people aren't convinced and insist that video games are a scapegoat for a shocking social trend that has people scared and looking to place blame. Entertainment media has always made a great scapegoat: In the 1950s, lots of people blamed comic books for kids' bad behavior [source: [CBS News](#)].

[Video Game System Image Gallery](#)



Jefferson County Sheriff's Department via [Getty Images](#)
Columbine shooters Eric Harris (L) and Dylan Klebold apparently played violent video games before attacking their high school. See more [video game system pictures](#).

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Video games as we now know them are only about 20 years old, so there's nowhere near the amount of empirical evidence for or against their violent effects than there is surrounding, say, [television](#) violence. And even that's not a done deal.

So what exactly does science have to say about violent video games? Is there any evidence that shows a cause-effect relationship between shooting people in a game and shooting people in real life? On the next page, we'll see what the studies say.



Video Games Can Reduce Stress

A simple video game has been shown to reduce stress. As this ScienCentral News video explains, researchers at McGill University also found that playing the game resulted in increased productivity. (January, 2008)



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Studies on Video Game Violence

In 2006, an 18-year-old named Devin Moore was arrested in Alabama on suspicion of [car](#) theft. The police officers brought him into the station and started booking him without any trouble. Minutes later, Moore attacked one police officer, stole his [gun](#), shot him and another officer and then fled down the hall and shot a 9-1-1 dispatcher in the head. He then grabbed a set of car [keys](#) on his way out the back door, got in a police car and drove away.

Moore had no criminal history. According to the lawsuit filed against [video game](#) companies after the incident, Moore had been playing a lot of Grand Theft Auto before the killings [source: [CBS News](#)]. At least on the surface, the connection between Moore's game play and his real actions is logical: In "Grand Theft Auto," players steal cars and kill cops.

But the argument is an old one. We've heard it for decades about violent [TV](#). Science has come to a general consensus that violent TV does have an effect on kids' behavior, although doesn't say it causes children to act out the violence they see on the screen.

The basic claim in the video-game controversy is that video games are even more likely to affect people's behavior than TV because they're immersive. People don't just watch video games; they interact with them. The games are also repetitive and based on a rewards system. Repetition and rewards are primary components of **classical conditioning**, a proven psychological concept in which behavioral learning takes place as a result of rewarding (or punishing) particular behaviors. Also, since the [brains](#) of [children](#) and teens are still developing, they would, in theory, be even more susceptible to this type of "training."

There's some evidence to this effect, including a study reported in the journal "Psychological Science" in 2001. The report is an overall analysis of 35 individual studies on video game violence. It found several common conclusions, including:

- **Children who play violent video games experience an increase in physiological signs of aggression.** According to the authors behind the meta-analysis, when young people are playing a violent video game, their blood pressure and heart rate increases, and "fight or flight" hormones like [adrenaline](#) flood the brain. The same thing happens when people are in an actual, physical fight. One study even showed a difference in physical arousal between a bloody version of "Mortal Kombat" (a fight-to-the-death game) and a version with the blood turned off.
- **Children who play violent video games experience an increase in aggressive actions.** A 2000 study involving college students yielded interesting results. The study had two components: a session of video-game play, in which half the students played a violent video game and half played a non-violent video game, and then a simple reaction-time test that put two of the students in head-to-head competition. Whoever won the reaction-time test got to punish the loser with an audio blast. Of the students who won the reaction-time test, the ones who'd been playing a violent video game delivered longer, louder audio bursts to their opponents.

One of the most recent studies, conducted in 2006 at the Indiana University School of Medicine, went right to the source. Researchers scanned the brains of 44 kids immediately after they played video games. Half of the kids played "Need for Speed: Underground," an action racing game that doesn't have a violent component. The other half played "Medal of Honor: Frontline," an action game that includes violent **first-person shooter activity** (the game revolves around the player's point of view). The [brain scans](#) of the kids who played the violent game showed increased activity in the **amygdala**, which stimulates emotions, and decreased activity in the **prefrontal lobe**, which regulates inhibition, self-control and concentration. These activity changes didn't show up on the brain scans of the kids playing "Need for Speed."



Joe Raedle/Newsmakers/Getty Images

Two teen boys play Time Crisis II at an arcade. The Federal Trade Commission released a report stating the movie, video game and music industries aggressively market products that carry adult ratings to underage youths.

If so much evidence points to a relationship between virtual aggression and real-world aggression, why are impressionable kids still playing "Mortal Kombat?" On the next page, we'll see why the issue isn't quite so cut and dry.

Controversy on Video Game Violence

In [science](#), correlation doesn't imply causation. A relationship between virtual aggression and real-life aggression isn't necessarily one of cause and effect. Maybe bullies in real life also enjoy being [bullies in virtual life](#), so they play violent [video games](#).

To date, all [lawsuits](#) against video game companies for distributing violent content have been thrown out. In the Sanders lawsuit over the Columbine tragedy, the judge found that neither Nintendo nor Sony could've anticipated the shocking actions of Harris and Klebold. The First Amendment fully protects the companies' right to distribute games -- regardless of content.

David Walsh of the National Institute on Media and Family disagrees, and noted that in some analytical studies, [children](#) who were determined to be inherently non-hostile actually showed a greater increase in real-world aggression than their hostile counterparts [source: [National Institute on Media and the Family](#)]. But the analysis of a collection of small studies isn't considered scientific proof. It's merely a suggestion of a trend. And for many people, that's just not enough.

The small test groups and lack of long-term studies casts a shadow on the body of evidence against violent video games. Many people believe video games offer no more exposure to violence than [television shows](#) featuring murder, not to mention movies that graphically depict [serial killers](#) and [war](#).

Other primary arguments against a cause-effect relationship between game violence and real-life violence focus on much wider trends than the occasional horrific school shooting. Some experts point to the fact that while violent video game sales are on the rise, violent [crime](#) rates in the United States are going down [source: [LiveScience](#)]

However, the Missouri State Correctional System isn't taking any chances. As of 2004, convicted violent offenders in Missouri no longer have access to games like "Grand Theft Auto" and "Hitman: Contracts" (in which players get paid to kill people with weapons like meat hooks). And Missouri's not alone in its decision. Some retailers now refuse to sell violent "[rated M](#)" (mature) games to kids under 18. The video game industry itself is attempting to self-regulate against publishers marketing "rated M" games to children.

The controversy is far from over. But concern over the potential anti-social effects of violent games isn't affecting sales -- or at least not in the direction activists might hope for. The Associated Press reported in March 2008 that video game sales -- hardware and software combined -- reached \$1.33 billion in February [source: [NYT](#)]. That's for the month, not the quarter, and it's 34 percent higher than January 2008 sales. With Grand Theft Auto IV due out in April, sales are expected to spike again. As AP reports, the game's publisher says that pre-orders have surpassed projections.

For more information on video games, violence and related topics, look over the links on the next page.

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More Great Links

- [LiveScience: Reality Check on Video Game Violence](#)
- [PBS.org: Bytes: Eight Myths About Video Games Debunked](#)

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There's debate over the correlation between video game violence and real-life violence. Maybe bullies just like to play violent games.

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