

# Video Game Violence and Public Policy

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Video games will turn 30 years old in 2002. The industry that started with *Pong* has become a multi-billion dollar worldwide industry. The growth of the industry is both matched and driven by the technological advances. In a little more than two years, video game consoles have gone from processing 350,000 polygons per second (pg/s) -- a measure of graphic and action quality -- to processing 125 million pg/s.

The increasingly realistic and exciting nature of electronic games has helped to make them enormously popular with children and youth. 79% of American children now play computer or video games on a regular basis. Children between the ages of seven and 17 play for an average of eight hours a week. Most of the games on the market are appropriate for these young players, and the best of them can bring a lot of benefits. Besides being fun, some of the games provide practice in problem solving and logic as well as strategizing.

The growth of electronic games has not been without controversy, however. The subset of games that feature violence, gore, and antisocial behavior has raised concern among parents, educators, child advocates, medical professionals, and policy makers. The implication of games in high profile school shootings has led to congressional hearings, government investigations, and legislative proposals. The intense concern about video and computer games is based on the belief that the ultra violent games are inappropriate for all children and harmful to some.

This paper will address three issues related to the questions surrounding violent electronic games and children.

- Is the concern about violent video games justified?
- The Federal Trade Commission report on the marketing of "M" rated games to children.
- Legislative responses and First Amendment issues.

## Is the Concern Justified?

Concern about violent video and computer games is based on the assumption that they contribute to aggression and violence among young players. That conclusion was originally based on the extensive body of research about the effects of television violence on children's behavior. Prominent organizations like the American Psychological Association, the American Academy of Pediatrics, and the American Medical Association have all concluded that the scientific evidence

shows a cause-effect relationship between television violence and aggression among the children and youth who watch it. Based on this research, many social scientists have hypothesized that we should expect video games to have an even greater impact for the following four reasons.

1. Children are more likely to imitate the actions of a character with whom they identify. In violent video games the player is often required to take the point of view of the shooter or perpetrator.
2. Video games by their very nature require active participation rather than passive observation.
3. Repetition increases learning. Video games involve a great deal of repetition. If the games are violent, then the effect is a behavioral rehearsal for violent activity.
4. Rewards increase learning, and video games are based on a reward system.

While the research base conducted on video games is small compared to that conducted on television, early results are showing that the concern is indeed warranted. Anderson & Bushman have conducted a meta-analysis of 35 different studies of violent video games (2001). A meta-analysis is a type of study in which researchers analyze the results of other studies to see if there are similar patterns of results; Anderson and Bushman showed that there is a consistent pattern of results in five areas.

1. Exposure to violent games increases physiological arousal.

Studies measuring the physiological responses to playing violent video games (compared with physiological responses to non-violent games) have shown that violent games increase physiological arousal. Heart rate, systolic blood pressure, and diastolic blood pressure all increase when playing violent games. Ballard & Weist (1996) showed that playing a violent game (Mortal Kombat, with the depictions of blood "turned on") resulted in higher systolic blood pressure increases than playing a non-violent game or Mortal Kombat with the blood "turned off." Studies by Lynch (1994, 1999) have shown that the effect may be even greater for children who are naturally more aggressive. Students who scored in the top 20% on a trait hostility scale showed much greater increases in physiological response than students scoring in the bottom 20% of the hostility scale. Children who were more hostile also showed much greater response in adrenaline, nor-adrenaline, and testosterone than children who were less hostile after playing a violent video game. These physiological effects are important because these are the same types of physiological reactions bodies have when engaged in a fight. The interaction with trait hostility is important because it suggests that the effects of playing violent games may be even greater for children who are already at risk for aggressive behavior.

2. Exposure to violent games increases aggressive thoughts.

Studies measuring cognitive responses to playing violent video games (compared with cognitive responses to non-violent games) have shown that violent games increase aggressive thoughts. These findings have been found for males and females, children and adults, and in experimental and correlational studies. Kirsh (1998) found that exposure to a

violent video game increases hostile attribution bias (defined below) in the short term, relative to exposure to a non-violent video game. The term hostile attribution bias has been used to describe the manner in which aggressive children perceive the actions of peers. Children who tend to interpret ambiguous social cues as being of hostile intent (i.e., have a hostile attribution bias) are more aggressive (e.g., Crick & Dodge, 1994). Furthermore, there is a robust relationship between hostile attribution bias and children's social maladjustment, such as depression, negative self-perceptions, and peer rejection (Crick, 1995). Gentile et al. (under review) also found that children who play more violent games are more likely to have a hostile attribution bias.

### 3. Exposure to violent games increases aggressive emotions.

Studies measuring emotional responses to playing violent video games (compared with emotional responses to non-violent games) have shown that violent games increase aggressive emotions. Adolescents themselves often seem to recognize this. When asked to name the "bad things" about computer games, many students reported that they make people more moody and aggressive (Griffiths & Hunt, 1998). In this study, students who were more "addicted" to video games were significantly more likely to be in a bad mood before, during, and after play than were non-addicted students.

### 4. Exposure to violent games increases aggressive actions.

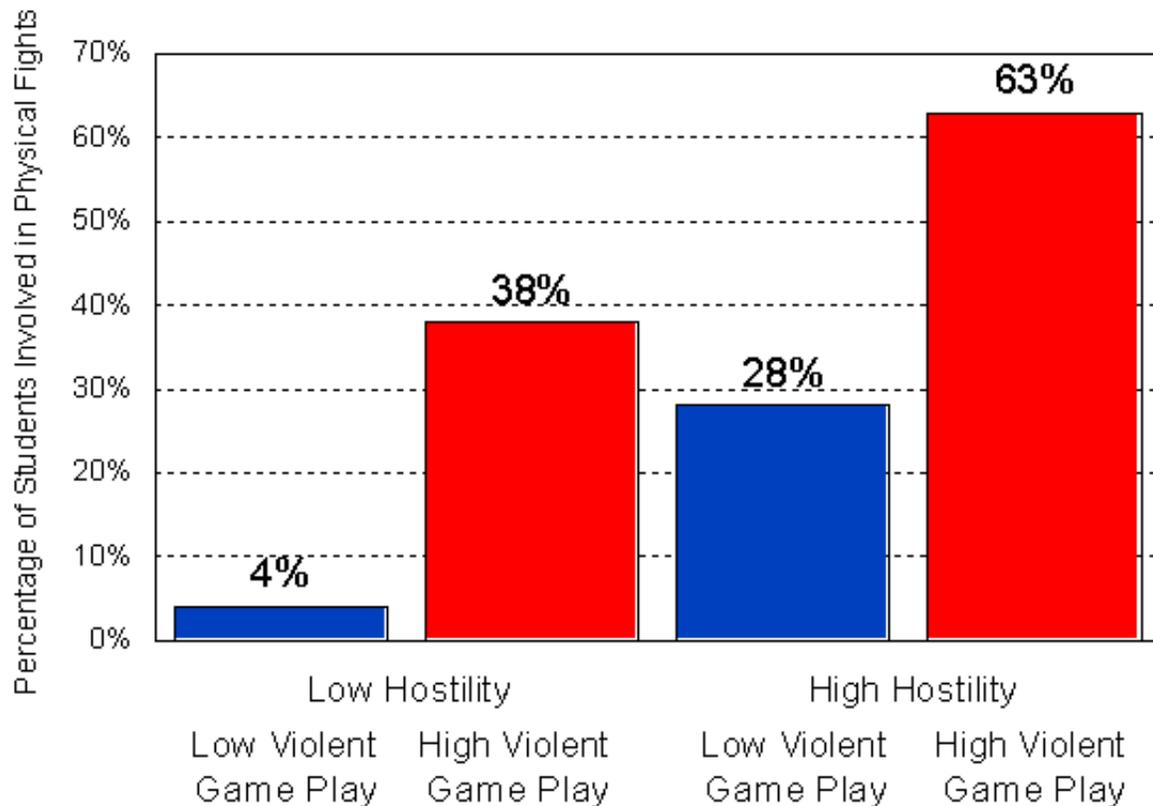
Studies measuring aggressive behaviors after playing violent video games (compared with behaviors displayed after playing non-violent games) have shown that violent games increase aggression. In one study of college students, students played either a violent or non-violent game. After playing this game, they were given a competitive reaction time task in which they played against another student. If they beat the other student, they got to deliver a loud "noise blast," and were able to control how loud and how long the noise blast would be. Students who had previously played the violent video game delivered longer noise blasts to their opponents (Anderson & Dill, 2000).

In a study of 8<sup>th</sup> and 9<sup>th</sup> graders, students who played more violent video games were also more likely to see the world as a hostile place, to get into frequent arguments with teachers, and to be involved in physical fights (Gentile et al., under review). It has often been suggested that violent video games are not the culprit for these types of behaviors; instead, the cause is underlying hostility. The argument goes, "Hostile kids get into more arguments and more fights. They also like to play more violent games." While this is true, it is not the whole story. This study measured children's trait hostility, and found that exposure to video game violence is a significant predictor of physical fights, even when students' sex, hostility level, and amount of video game playing are controlled statistically. If hostility were the whole story, then in general, only hostile children would tend to get into fights, and children with the lowest hostility scores would not get into physical fights regardless of their video game habits. Figure 1 shows the percentages of students who report being involved in physical fights within the previous year. Children with the lowest hostility scores are almost 10 times more likely to have been involved in physical fights if they play a lot of violent video games than if they do not play violent games (38% compared to 4%). In fact, the *least* hostile

children who play a lot of violent video games are more likely to be involved in fights than are the *most* hostile children who do not play violent video games.

**FIGURE 1**

## Playing Violent Video Games Makes a Difference



5. Exposure to violent games decreases positive prosocial (i.e., helping) actions.

Studies measuring prosocial attitudes and behaviors after playing violent video games (compared to non-violent games) have shown that violent games decrease players' tendencies toward positive behaviors. For example, 7<sup>th</sup> and 8<sup>th</sup> grade children who spent more time playing video games were rated as less positively by their classmates than were children who spent less time playing video games (Van Schie & Wiegman, 1997). In a study we are currently conducting with 3<sup>rd</sup> grade children, we are finding similar results. Children who expose themselves to more media violence (including violent video games, TV, and movies) are rated as more aggressive and less prosocial by their peers and by their teachers.

In sum, while there is less research on violent video games than there is on violent television, the effects appear to be similar. Children (and adults) who play more violent video games are more likely to experience aggressive feelings, thoughts, and actions, and are also less likely to behave in positive, prosocial ways. This appears to be true for both boys and girls, and surprisingly, also for children who are not naturally aggressive. One group of researchers concluded:

...even if children with more problematic behavior are simply more likely to prefer violent games, playing such games is not likely to improve behavioral problems. These children may, in fact, be more vulnerable to adverse influence because of preexisting behavioral problems....recent reports linking school violence with electronic game-playing merit careful study. (Funk, Buchman, & Germann, 2000, p. 238)

### The Federal Trade Commission Report

The National Institute on Media and the Family issues an annual report card on the video and computer game industry. Evidence was provided in several report cards that certain game producers and distributors were deliberately marketing games to children and youth in spite of the fact that the games carried an "M" rating from the Entertainment Software Rating Board (ESRB rating). In the aftermath of the Columbine High School shootings, President Clinton asked the Federal Trade Commission to investigate the validity of the accusations. The report was released in September, 2000. It reported that, "Of the 118 electronic games with a Mature rating for violence the Commission selected for its study, 83, or 70 percent, targeted children under 17 in their target audience." This confirmed what we had asserted, that is, that some in the industry were promoting products they themselves acknowledged warrant parental caution.

The value of the Federal Trade Commission report was to apply public pressure on the industry to act in a more responsible manner. If the industry-assigned rating calls for parental caution, it is irresponsible of a producer or distributor to undermine the value of the rating by deliberately marketing the game to children and youth. Since the Federal Trade Commission has no authority to enforce the ratings, there is no legal issue at stake. The Congressional hearings and the presidential admonition resulting from the report were part of the "bully pulpit" influence that our elected officials are expected to exert.

It should be noted that the Interactive Digital Software Association took action even before the Federal Trade Commission report was complete. The industry set up the Advertising Review Council (ARC), which began operations on January 31, 2000. ARC has developed a code of marketing and advertising principles with mechanisms for enforcement. While I have been critical of the industry on a number of issues, I have also publicly praised it for its response to the issue of marketing Mature-rated games to youth. In fact, I have stated repeatedly and publicly that I think the video and computer game industry has been the most responsive of the media industries to concerns about violent content.

Hopefully the Federal Trade Commission will continue to monitor the marketing of violent and other inappropriate media to children and youth because its findings can serve as an important feedback loop to industry members. It also serves as a voice for the public to exert pressure on members of the industry if they behave in irresponsible ways.

### Legislative Responses and First Amendment Issues.

[ Note: The issue of media violence and children raises interesting and important first amendment issues. My understanding of these issues is based on my training and interest as a psychologist and concerned citizen, as I have no professional legal training.]

There have been a number of local, state, and federal legislative proposals regarding violence in the media. Most have never made it beyond the discussion or hearing stage. One local ordinance, however, did. The city of Indianapolis, Indiana, passed an ordinance restricting access to M rated games for minors. The American Amusement Machine Association appealed the ordinance to the Seventh Circuit Court of Appeals, where the ordinance was struck down on the grounds that it violated the First Amendment rights of children. The city of Indianapolis appealed the ruling to the U.S. Supreme Court on September 24, 2001. The Supreme Court is expected to decide whether or not to hear the case sometime during October or November, 2001.

There are two sets of First Amendment rights involved: the rights of the speaker and the rights of the receiver. In view of the fact that none of the proposed laws call for the banning of violent games, the rights of the speakers (i.e. producers/distributors) are not infringed upon. The proposed laws restrict access to violent games by children. Hence the First Amendment issues revolve around their rights. Industry representatives argue that restricting their access to violent video, computer, or arcade games violates those rights. The Seventh Circuit indicated that there would need to be scientific certainty that such games would actually harm a child before the child's First Amendment rights could be restricted.

The counter argument runs as follows:

- The authority and duty of parents to supervise the activities of children is well grounded in law. Parents are expected to guide their children toward constructive and beneficial activities and away from harmful ones.
- The legal authority of parents to control their children's activity has been affirmed by the Supreme Court.
- There are many local and state laws in place that support and extend a parent's authority to supervise. These laws limit children's access to certain information and activities. Examples include curfews, and laws limiting access to tobacco, guns, alcohol, gambling, and pornography. Minors are not even allowed to purchase lottery tickets. All of these restrictions are based solely on age since the same restrictions do not apply to adults.
- Those restrictions have been deemed constitutional because of the assumption that the activities in question pose a *risk* of harm to the minor child.
- There is no scientific proof that some of the restricted activities do indeed cause harm to the minor. "Scientific certainty" has never been a standard in limiting minors' access to material that may be harmful. Instead the Court has ruled that it is "rational for the legislature to find that the minors exposure to (obscene material) *might be harmful*". See *Ginsberg v. New York*, 1943.
- As discussed in the first section of this paper, the scientific evidence showing the potential harm of violent video games to children is much stronger than it is for many other restricted activities. It far exceeds the *Ginsberg* "might be harmful" test.
- Therefore laws supporting the supervision role of parents are constitutional and do not violate the first amendment. The existing evidence demonstrates the legitimacy of parental supervision by showing a strong correlation between exposure to violent video

games and various forms of antisocial behavior. This is sufficient to give parents and governments cause for concern and legally solid ground on which to act.

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## Conclusion

Video and computer games will continue to be an exciting and growing part of children's media diets. With so many good games available for children and youth, it is unfortunate that so much attention has to be paid to games which are inappropriate for all youth and harmful to some. As long as children have easy access to these games, then policy debates will continue. Perhaps those debates will be moot in the near future as both the industry and parents make sure that the children and youth of America are sold games that entertain and benefit them.

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