Twenty Questions About Media Violence and Its Effect on Adolescents

Victor C. Strasburger, MD*

Distinguished Professor of Pediatrics, Founding Chief, Division of Adolescent Medicine, Department of Pediatrics, University of New Mexico School of Medicine, Albuquerque, New Mexico

True, media violence is not likely to turn an otherwise fine child into a violent criminal. But, just as every cigarette one smokes increases a little bit the likelihood of a lung tumor someday, every violent show one watches increases just a little bit the likelihood of behaving more aggressively in some situation.

Psychologists Brad Bushman and Rowell Huesmann

Media violence isn’t going to disappear and most current efforts to stop it are unlikely to succeed. Like displays of material excess and gratuitous sex, violence exists within a commercial structure predicated on a powerful system of fantasies.

David Trend, The Myth of Media Violence

Media violence has been around for a long time. Greek tragedy was steeped in it. Roman gladiators would have been right at home on reality TV, and some people feel that hockey and football players fulfill that role in modern society. Centuries later, penny novels and violent comic books alarmed the American public. Movies came next, followed by TV and now video games, the Internet, cell phones, and iPads—media 24/7.

Excuses have always been made to dismiss any possible harmful effects of media violence: Every new medium draws immediate criticism…it’s harmless fantasy and entertainment…it’s cathartic…the murder rate has gone down despite more graphic violence in the media…millions of kids play violent video games and don’t turn into mass murderers…Hollywood is just imitating real life (Figure 1)—the list is nearly endless.

*Corresponding author:
E-mail address: VStrasburger@salud.unm.edu

Copyright © 2014 American Academy of Pediatrics. All rights reserved. ISSN 1934-4287
The fact is, the media represent 1 of the most important—and underappreciated—known influences on child and adolescent development,³ and the media do play a role in contributing to real-life violence. Is it the leading cause of violence in society? No. Other factors such as poverty, racism, and mental illness probably are far more important. Violence undoubtedly is multifactorial, and it is extremely doubtful that any single factor can explain horrific acts of violence. And yet the current amount of graphic violence available to children and adolescents is both concerning and potentially harmful, and warrants careful examination.

1. WHAT DOES THE RESEARCH SAY?

According to Harvard’s Center on Media and Child Health, there are now more than 1000 studies in the research literature concerning media violence (www.cmch.tv). These range from early experiments such as Bandura’s Bobo the Clown studies⁴ to field studies, correlational studies, longitudinal studies, and meta-analyses (Table 1).⁵ Although studies have sometimes been criticized for being too artificial (experiments) or having methodologic problems (correlational studies and meta-analyses), it is important to remember that researching media effects is like trying to study the air that people breathe.⁶ Media are so ubiquitous that any significant findings are likely to be highly significant.⁷ In addition, these
studies contain epidemiologic data, meaning that the media's effect on any given child or teen is impossible to predict.

To summarize this vast amount of research: Media violence can encourage aggressive thoughts, beliefs, and even actions in children and adolescents and may be responsible for perhaps 10% or more of real-life violence in society.\textsuperscript{5-10} A correlation coefficient of 0.31 (found in several meta-analyses\textsuperscript{11,12}) yields an effect size of
0.10 (0.31). However, some authors feel that a 0.31 correlation coefficient in social science research, which is difficult to achieve given the vagaries of human behavior, is equivalent to a 0.8 in medical research. As it turns out, the relationship between media violence and real-life aggression is nearly as strong as the relationship between smoking and lung cancer and is stronger than many of the public health risks doctors and the general public take for granted (Figure 2).

2. WHY IS THIS STILL CONTROVERSIAL?

Why this remains controversial is a perplexing and complicated question, and the answer probably involves several factors. Hollywood continues to deny any negative effects of any of its products yet will point to its finest TV shows and films as "ennobling" society. A 30-second Super Bowl ad now costs close to $4 million, and advertisers anticipate that it will boost sales; yet 7 hours of media a day for the average child is said to have no effects.

There are individual factors as well. (1) The third-person effect: No one thinks that the media affect themselves (or their children). The media only affect other people. (2) Faulty reasoning: Many people think that violent media have no effect on aggression and violence because they have never killed anyone after watching a violent TV show or film or playing a first-person shooter video game. (3) Refusal to believe or ignorance of the evidence: Many of the research studies are done in communications and psychology journals and are not immediately

![Comparison of media violence-aggression link with other public health relationships](https://example.com/comparison-diagram.png)

**SOURCE:** Adapted from Bushman and Huesmann (2001).

available to the general public or even to physicians. And many researchers have a difficult time effectively communicating their findings to the public, even when the media choose to publicize the results. (4) Cognitive dissonance: How could something so much fun and so entertaining, such like Oliver Stone’s “Natural Born Killers,” have led to a killing spree in France? (5) Finally, the Fairness Doctrine plays a crucial role in the public’s misunderstanding of media effects. Originally developed by the Federal Communications Commission (FCC) in 1949, it required broadcasters to present both sides of controversial issues and to do so in a manner that was honest, equitable, and balanced. However, the FCC eliminated the doctrine in 1987 and formally removed the language that implemented it in 2011. Despite this, broadcasters and journalists still believe that there are “2 sides to every story,” including the issue of media violence. They give the nay-sayers (who can point to just a few nonsignificant studies) equal time with public health advocates and researchers who have thousands of studies to back up their assertions. Some issues simply do not have 2 equal sides. Broadcasters would never invite a Holocaust denier on a show about atrocities committed by Nazi Germany, yet they may choose to give airtime to Hollywood apologists asserting that media have no negative effects.

3. HOW “GOOD” IS THE RESEARCH?

No research is perfect, and social science research is particularly fraught with difficulty. Teasing out specific influences on human behavior is virtually a mission impossible. But the research is actually clear on this subject and has been for a long time. Beginning with experimental studies in the 1960s, continuing with both field studies and longitudinal studies in the 1970s, and then with several meta-analyses later on, nearly every study has found a significant relationship between viewing media violence and the development of aggressive thoughts, beliefs, and even behavior. In fact, it is so clear that very little research is currently being done on the effect of media violence on TV or in films. Most of the research now is confined to video game effects and cyberbullying.

4. IS MEDIA VIOLENCE RESPONSIBLE FOR MURDERS AND MASS SHOOTINGS?

Here is where the general public, politicians, and even social scientists have difficulty: how to define aggression and measure it properly. Because murders and especially mass shootings are relatively rare, trying to pin them on the effects of media violence is a research mission doomed to failure. As a result, there are absolutely no studies on this subject.

But both murders and mass shootings are the wrong variables to be considering if one wants to determine the effect of media violence. First, medical advances in the past few years have saved thousands of lives of shooting victims—fewer people die from what would have been fatal wounds years ago. Second, very few people are
murdered every year—fewer than 5 per 100,000 according to Federal Bureau of Investigation (FBI) crime statistics. By contrast, interpersonal violence has increased dramatically in the latter half of the 20th century and far exceeds murder (Figure 3), just as media violence has increased and become more graphic. This is the type of violence that people are far more likely to experience or be exposed to and therefore should be used as the outcome variable whenever possible. Third, mass shootings are even rarer; and many factors contribute. It would require a longitudinal study of 10 to 20 years involving millions of subjects to even attempt to answer the question of whether media violence causes mass murders.

One of the newest and previously unconsidered aspects of media violence is relational aggression: acts that are intended to harm others emotionally rather than physically (eg, gossiping, rumor mongering, socially isolating others, insults). It is more common among girls than boys, and several studies suggest that media violence may be contributing to real-life social aggression.

5. ARE THERE GAPS IN THE RESEARCH?

As mentioned, media research is largely epidemiologic, so predicting the effect of any given media genre on any given individual is difficult. Not enough is
known about individual differences in processing media and being affected by it. Many variables can affect how a child or teen will or will not be affected by media: age, socioeconomic status, race, ethnicity, length and type of exposure to media, individual personality factors, parents’ use of media, mother’s educational level, etc. For example, black teens are relatively more resistant to tobacco advertising and to depictions of unhealthy body self-imagery, but exactly why is unknown. Unfortunately, there is currently not much funding for media research, either from the federal government or from private foundations, so many important questions like this go unanswered.

6. ISN’T WITNESSING REAL-LIFE VIOLENCE MORE HARMFUL?

Absolutely. Numerous studies document this. But seeing murders, rapes, and assaults vicariously via the media has an effect as well. Children and adolescents can learn behavioral “scripts” about how to react in new situations. Most damaging is the notion of “justifiable violence,” which is the single most powerful reinforcement known in the research literature and is very prevalent in American media.

A number of theories explain media effects. Social learning theory asserts that children learn new behaviors either by direct experience or by observing and imitating others in their social environment. Cognitive priming theory asserts that violent stimuli activate aggressive thoughts in a viewer, which can then “prime” other thoughts, feelings, and actions when stored in a person’s memory. Super-peer theory hypothesizes that the media exert a form of peer pressure on children and teens by showing how other teens behave in “real-life” situations. Equally important is how media violence is portrayed. Aggression is positively reinforced when “good guys” are the aggressors, when the violence is rewarded or goes unpunished, when there is no serious harm to the victim, and when the violence is made to look funny.

7. HAS THE AMOUNT OF MEDIA VIOLENCE INCREASED?

Apparently so. Not only has the amount of violence increased, but it has become more graphic as well. For example, in a study of the 22 James Bond films between 1962 and 2008, portrayals of violence doubled over time, particularly portrayals of lethal violence, which tripled (Figure 4). In a similar study of the top 30 films since 1950, the amount of violence has more than doubled, and gun violence in PG-13 films has more than tripled since 1985. Another recent study of more than 800 top-grossing films from 1950 to 2006 found that 89% contained violence, and it has steadily increased over time.

One other phenomenon has also occurred and is relevant: ratings creep. What used to be R-rated is now PG-13, and PG-13 has become PG. A quantitative study of 45 PG-13 films from 1988 to 2006 found significant increases in violent
Unfortunately, the Motion Picture Association of America (MPAA) has always rated films more harshly for sexual content than for violent content, which is the opposite of what other western countries do. The communications research is clear that media violence is potentially far more harmful than sexual content is.5

8. ARE CARTOONS HARMFUL?

Potentially. The more realistic the violence being portrayed, the potentially more unhealthy it is. So, on the bright side, cartoons are obviously not very realistic. At the same time, the National Television Violence Study (NTVS) did find that children's programming actually is more violent than adult programming, with 70% of children's shows containing violence, and 1 incident occurring every 4 minutes (compared with 1 every 12 minutes for nonchildren's programming).38 The study also found that children's programs were much more likely to depict unrealistically low levels of harm to victims compared with what would actually happen in real life. Given that children younger than 7 years have a difficult time distinguishing reality from fantasy, this may be especially problematic.5

9. WHEN DOES MEDIA VIOLENCE BEGIN AFFECTING KIDS?

One of the most powerful studies of media violence actually began as a study of parenting styles and aggressive behavior. In the 1960s, researchers Leonard Eron and Rowell Huesmann studied nearly 1000 3rd-graders in upstate New York. Initially, they thought they would collect data on TV use as a way of distracting parents from the real purpose of the study. But when they analyzed their data, TV violence proved to be a much stronger predictor of later aggressive behavior than parenting style. The researchers studied TV viewing habits and aggressive behavior at ages 8, 19, and 30 years. Among the boys, exposure to TV violence in early childhood was predictive of higher levels of aggression at ages 19 and 30, after controlling for IQ, socioeconomic status, and overall exposure to TV (Figure 5).39-42 Exposure to violent TV also was predictive of serious criminal acts at
Subsequent studies found that this relationship holds for children in other countries as well as for girls. Researchers now think that there is a reciprocal relationship between viewing TV violence at a young age, aggressive behavior, and developing a taste for seeing even more media violence. However, of most concern is the fact that the research indicates that people learn their attitudes about violence at a very early age—age 8 years or younger—and apparently, once learned, those attitudes are difficult to change.

10. ARE VIDEO GAMES HARMFUL?

Just like the media in general, video games can be powerfully prosocial or seriously problematic. First-person shooter video games fall into the latter category. The research on video games is not nearly as voluminous as the research on media violence on TV or in movies, but it is equally clear: Violent video games can increase violent feelings, attitudes, and behavior, and reduce prosocial behavior.

At the moment, no studies have linked violent video games with homicides or mass shootings. As discussed earlier, both are rare enough that to try to establish a link would be difficult if not impossible. However, a recent study has noted an association between violent video games and violent delinquency, even after controlling for the effects of screen time, years playing video games, age, sex, race, delinquency history, and personality traits. In addition, there are several highly suggestive, media-related features of several of the mass shootings:

- After his arrest, 16-year-old Luke Woodham of Pearl, Mississippi (who killed 3 and wounded 7 classmates), was quoted as saying, “I am not
insane. I am angry. I killed because people like me are mistreated every day. I did this to show society: Push us, and we will push back. Murder is not weak and slow-witted; murder is gutsy and daring.”

Where else but in the media would he have learned such distorted ideas? This is the problem with the notion of justifiable violence that is so prevalent in American media.

- The Paducah, Kentucky, school killer, 14-year-old Michael Carneal, opened fire on a prayer group with 8 shots and had 8 hits—all upper torso and head—resulting in 3 deaths and 1 case of paralysis. He had never fired an actual gun in his life before that but had played point-and-shoot video games.
- The Beltway Sniper, John Lee Malvo, prepared for his sniping spree by training on the Xbox game “Halo” in “sniper mode.”
- In 2011, Anders Breivik killed 69 people in Norway and admitted that he had specifically trained using first-person shooter video games.
- More recently, both the shooters involved in mass killings in Aurora, Colorado, and Newtown, Connecticut, were enamored of violent video games.

11. ARE VIOLENT VIDEO GAMES DIFFERENT FROM VIOLENT MOVIES OR TV SHOWS?

Most experts agree that violent video games differ significantly from movies and TV for a number of important reasons: (1) the player identifies with the aggressor; (2) the games involve active participation and interaction; (3) the games involve repetitive sequences; (4) a hostile virtual reality is created; and (5) the games provide reinforcement for aggressive actions.

12. WHY DON’T ALL PARENTS AND THE GENERAL PUBLIC “GET” THIS?

Increasingly, people get their information from the media, especially TV. More people now get their news from TV and the Internet than from newspapers. For obvious reasons, the broadcast media are loathe to report comprehensively about any negative effects their programming may have.

Desensitization also plays a role. People have become so accustomed to media violence that it doesn’t register with them as being objectionable. It also takes more graphic violence to get people’s attention, which may partially explain why media violence has become more explicit in the past several decades.

13. IS CENSORSHIP THE ANSWER?

In a word, no (although European countries routinely edit out violent scenes in Hollywood movies and add in sexual content). The American Academy of Pediatrics strongly opposes censorship. But self-censorship and good taste on the
part of writers, directors, and producers are appropriate and could provide some benefit.

14. WHY DOESN’T HOLLYWOOD CLEAN UP ITS ACT?

The amount of money involved in creating entertainment programming is staggering. Films can cost $200 million or more to make (eg, “The Lone Ranger”) and generate close to a $1 billion in revenues (eg, “Avatar”). TV series cost an average of $1.5 to 2 million per episode to make (“ER” cost $15 million per episode) but can generate huge revenues as well. For example, “Seinfeld” has generated $3.1 billion in rebroadcast fees since its final episode. When this amount of money is at stake, the entertainment industry tends to lose sight of any public health responsibility it may or may not have. Although Hollywood writers, directors, and producers tend to be more politically liberal than the American public, they also immediately rally behind their First Amendment rights when criticized and dismiss any notion that their products may be harmful to children or teens.

15. DO PEOPLE REALLY WANT TO SEE MORE VIOLENCE?

Absolutely not. Hollywood has had this misconception for decades, and there is no evidence to support it. What children, teenagers, and even adults like the most is action, but action doesn't have to be incredibly violent. For example, the car chases in Steve McQueen's classic movie “Bullit” or the Oscar-winning movie “The French Connection” were thrilling, but no one was injured, no gunfire erupted, and no bones were snapped.

Two recent sets of experiments demonstrate this. Researchers edited episodes from 5 different prime-time TV dramas (eg, The Sopranos, Oz, 24) to create 1 version with graphic violence, 1 with sanitized violence, and 1 with no violence. Undergraduates enjoyed the nonviolent version significantly more than the violent ones.\(^5\) In a related experiment, researchers created 4 different versions of an original slapstick cartoon: 1 low in both action and violence, 1 low in action but high in violence, 1 high in action but low in violence, and 1 high in both action and violence. A total of 128 grade-school students were randomly assigned to watch 1 of the 4 versions. The presence of violence had no effect on children's liking of the cartoons, and boys liked the high-action/low-violence version the best.\(^4\)

16. CAN MEDIA VIOLENCE EVER BE CATHARTIC?

No, not in the traditional sense of the term. Aristotle originated the concept of catharsis, hypothesizing that people would be “purged” of their angry emotions by witnessing Greek tragedies. Media have obviously come a long way since then, but there is absolutely no evidence in the research literature that violent
media makes people less aggressive; rather, the opposite is true. Despite this, Hollywood directors still seem to approve of the theory. For example, Alfred Hitchcock, director of the movie “Psycho,” said, “One of television's greatest contributions is that it brought murder back into the home where it belongs. Seeing a murder on television can be good therapy. It can help work off one's antagonism.” More recently, in 1992, Paul Verhoeven, director of the movie “Total Recall,” said, “I think it's a kind of purifying experience to see violence.”

17. WHAT CAN PARENTS DO?

In a 2013 survey of 2300 parents of newborns to 8-year-old children nationwide, parents seemed almost lackadaisical about the effect of media on their children: 78% reported that their children's media use is not a source of family conflict, 55% say they are either not too concerned or not at all concerned about their children's media use (compared with 30% who are concerned), and their most consistent concern is about the effect on physical activity, not on aggressive attitudes or behavior. Only 38% were concerned about the effect of media on their children's behavior. Again, this may reflect the third-person effect: “only those 'dumb kids' down the block are affected by media, not my beautiful, intelligent children.”

Parents need to realize that their young children's attitudes and beliefs about social norms and aggressive behavior are being shaped in their childhood and preteen years and that the resulting behavior may not manifest itself until adolescence or young adulthood. In addition, the research clearly shows that media violence is potentially more harmful than sexual content, which is the exact opposite of what most parents think.

Consequently, parents need to think hard about observing the American Academy of Pediatrics' basic recommendations about media: (1) Avoid media use for infants younger than 2 years; (2) limit total entertainment screen time to less than 1 to 2 hours per day; (3) coview and discuss content with children; (4) keep screens and new technology out of children's bedrooms; and (5) avoid exposing children and teenagers to excessively graphic violence.

18. WHAT CAN PHYSICIANS DO?

The American Academy of Pediatrics has strongly endorsed the need to ask 2 media-related questions at all well-child and well-adolescent health visits. (1) How many hours a day is spent with media? (2) Is there a TV or Internet-connected device in the child's bedroom? These 2 questions take less than a minute to ask but could pay rich dividends. The research is clear that excessive screen viewing can contribute to obesity, aggressive behavior, and substance use. In addition, the presence of a bedroom TV potentially increases the negative effect of media.
19. WHAT CAN SCHOOLS DO?

Many schools are lagging in the technologic revolution. Media can be used proactively and powerfully in ways that will engage young people and will mesh with the way they function outside of the classroom. For example, Ken Burns’ “Civil War” series provides a far better way of teaching American history than any textbook. Thousands of middle-school students are forced to read *Romeo and Juliet* every year (despite it being about 2 teenagers who have sex and then kill themselves). Yet Shakespeare wrote his plays to be performed and seen, not to be read, and there now exist 10 video versions of *Romeo and Juliet* that would be far more appealing to 13-year-olds than wading through Elizabethan English on the printed page. Educators need to seriously consider a paradigm shift in their thinking about how new technology should be used and what it means to be an educated person in the 21st century.

Several studies have shown media literacy to be protective against harmful media effects. Most western countries have incorporated media education into their normal curricula, yet it is rare in the United States. In 1914, to be literate meant that a person could read and write. In 2014, to be literate means that a person can read, write, text, download, and successfully navigate through the vast amount of information available on the Internet. One could easily argue that teaching media education is now at least as important as teaching the “3 R’s.”

20. WHAT CAN THE FEDERAL GOVERNMENT DO?

The federal government has neglected media influence for a long time. The last comprehensive report on media effects on children was issued in 1982, long before the Internet, cell phones, first-person shooter video games, and iPads. A new comprehensive report is definitely needed and would stimulate new research ideas and new funding for research. In addition, very little research funding has been provided by either the federal government or even private foundations, despite the crucial role that media play in child and adolescent development and health-related behaviors. In 2005 when Hilary Clinton was in the Senate, she and Senator Joe Lieberman introduced the CAMRA (Children and Media Research Advancement) Act. It would have authorized funding for the establishment of a program on children and media with the National Institute of Child Health and Human Development (NICHD). Remarkably, no such program exists within the NICHD, elsewhere in the National Institutes of Health, or within the Centers for Disease Control and Prevention. Ongoing federal funding (and a home within the government’s research agencies) is desperately needed for research on children, adolescents, and the media.

The bottom line is that the media represent 1 of the most important and under-recognized influences on children and adolescents today, insufficient research is
being conducted and being funded, and the American public is being misled by inaccurate statements about how media affect young people.

References

9. Murray JP. Media violence: the effects are both real and strong. *Am Behav Sci.* 2008;51:1212-1230
43. Krahe B, Moller I. Longitudinal effects of media violence on aggression and empathy among German adolescents. J Appl Dev Psychol. 2010;31:401-409