CME

How Many More Columbines? What Can Pediatricians Do About School and Media Violence?

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EDUCATIONAL OBJECTIVES

1. Discuss the recent increase in juvenile violence in America and what common traits can be found in several of the most recent school shooting catastrophes.
2. Discuss the role guns and the media play in the development of adolescent violent crime.
3. Review the current solutions available for juvenile violence in our schools.

> Congress finds that juveniles between the ages of 10 years and 14 years are committing increasing numbers of murders and other serious crimes . . . the tragedy in Jonesboro, Arkansas, is, unfortunately, an all too common occurrence in the United States. (Violent and Repeat Juvenile Offender Accountability and Rehabilitation Act of 1999, S.254, passed in the U.S. Senate in May 1999.)[1]

> While it is important to carefully review the circumstances surrounding these horrifying incidents so that we may learn from them, we must also be cautious about inappropriately creating a cloud of fear over every student in every classroom across the country. In the case of youth violence, it is important to note that, statistically speaking, schools are among the safest places for children to be. (Final Report, Bipartisan Working Group on Youth Violence, 106th Congress, February 2000.)[1]

On April 20, 1999, Eric Harris and Dylan Klebold changed modern American society in a single tragic act of gun violence at Columbine High School in Littleton, Colorado. Twelve adolescents and 1 adult were killed, 23 adolescents were wounded, and Harris and Klebold committed suicide. A year earlier, an 11-year-old boy and a 13-year-old boy killed 5 and wounded 8 of their schoolmates and 2 teachers in Jonesboro, Arkansas. Many of today's practicing pediatricians can remember the atomic bomb drills ("Get underneath your desk and put your head between your legs.") of the 1950s and 1960s. In the year 2001, these have been replaced by duck and cover drills.[2] How did American society change so much in so little time? Have adolescents become more violent, or are they simply responding to the media (Fig. 1)? Are guns the primary problem, or are these the desperate acts of a few sick individuals? The answers to these questions may be slightly more complicated than the news media and the government have reported.

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IS ADOLESCENT VIOLENCE INCREASING OR DECREASING?

The answer to this important question is that it depends. According to recent data, there were 31 serious and violent juvenile crimes committed

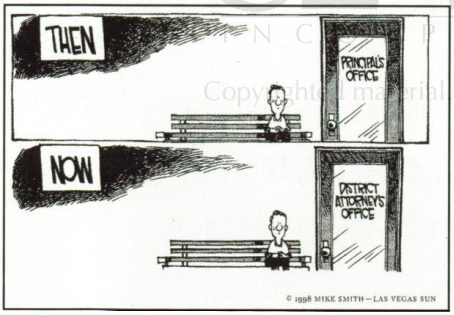

Figure 1. Adolescents then and now. (MIKE SMITH reprinted by permission of United Feature Syndicate, Inc.)

per 1,000 children between 12 and 17 years old in 1997. This is a decrease from 52 per 1,000 in 1993, and is the lowest rate since 1986.[3] There were also fewer victims of crime: 27 per 1,000 children between 12 and 17 years old in 1997, compared with 44 per 1,000 in 1993.[4] However, according to the latest data from the Federal Bureau of Investigations, rates of rape and aggravated assault increased slightly in 2000, for the first time in several years.[5]

On the other hand, there were still more than 700,000 violent crimes committed by adolescents in 1997.[3] Every 5 minutes, a child or an adolescent in the United States is arrested for a violent crime, and gun-related violence costs the life of 1 child or adolescent every 3 hours.[4] Homicide remains the second leading cause of death among adolescents.[6] According to the 1999 Youth Risk Behavior survey, nearly 29% of adolescent boys report having carried a weapon to school (one-third of these weapons being guns).[7]

Moreover, a look at crime in American society among both adolescents and adults indicates that although the population increased by 40% from 1960 through 1991, the violent crime rate increased by 500%.[4] However, homicide rates may not be the best indication of whether violence is increasing. For one thing, murder is the least committed violent crime; for another, people are able to survive being shot because of extraordinary advances in medical care.[4] If, for example, the quality of care were the same now as it was in 1957, the murder rate would be 3 times higher, according to one expert.[8] If levels of

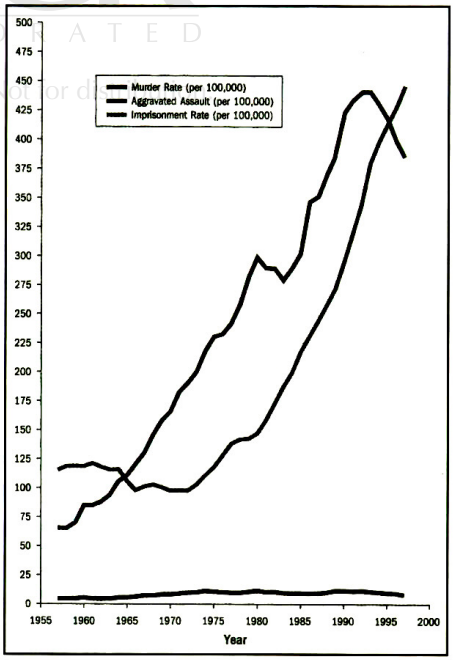

Figure 2. U.S. violent crime rates per 100,000 for all ages. Murder rates may not be as sensitive an indicator of societal values as are assault rates. (Reprinted with permission from Grossman D, Degaetano G. *Stop Teaching Our Kids to Kill.* New York: Crown; 1999:13.)

aggravated assault are considered instead (Fig. 2), then society has grown significantly more violent.[4]

What about the apparently recent phenomenon of school shootings? Although fewer than 1% of homicides occur in or around schools, the number of school shootings has increased recently, from 2 to 5 per year.[9,10] However, the phenomenon dates back at least 25 years. In 1974, an honor student killed 3 and wounded 9 at his high school in Olean, New York. In 1979, a 16-year-old girl killed 2 and wounded 9 at an elementary school near her house in San Diego.[11] What is new is that perpetrators are now younger and the number of fatalities has increased with the advent of semiautomatic weaponry.

Many experts now agree that the Jonesboro and Littleton shootings are complex phenomena without a single, simple causation. However, they do

have several traits in common: (1) the presence of firearms, with adolescents having easy access to them; (2) adolescents who have a fascination with violent media; (3) media that desensitize children and adolescents to violence and, in some instances, virtually teach them how to kill; and (4) disturbed adolescents whom school officials are unable to identify before a catastrophe occurs.

WHAT ROLE DO GUNS PLAY?

[Authors' note: VCS is strongly in favor of stricter gun control laws, DG is strictly neutral.]

The United States is unique in its apparent love affair with guns. No other nation in the world allows access to such firepower. As a result, no other nation suffers as many deaths from firearms (Table 1). A child growing up in the United States is 12 times more likely to die of gun violence than is a child in any of 25 other industrialized nations. Three-fourths of all murders of children younger than 14 years around the world occur in the United States.[12]

When today's parents were growing up, the media were less violent, guns were not as prevalent in society, and guns were less lethal. (It should be noted, however, that only 2 of the recent school shootings involved high-tech weaponry: a Tec-9 in Columbine, and a 50-round magazine in Springfield.) Therefore, if a violent or disturbed adolescent did want to "start trouble," most often the worst that happened was a fistfight or a stink bomb in the lavatory. We believe that it takes the confluence of three factors (guns, violent media, and disturbed adolescents) to create school disasters.

The history of the Tec-9 semiautomatic pistol (the type used by the two Columbine killers) is a textbook illustration of the difficulty gun control activists currently face.[4,10] The Tec-9 was originally built by Intratec in 1980 and sold for less than $200. It contained a 32-bullet clip that allowed it to be fired faster than a conventional 6-shot pistol. In 1989, California banned it. In 1991, the District of Columbia did likewise. The manufacturer renamed the weapon (Tec-DC9) and added a nylon shoulder sling to get around the ban. In 1994, Congress banned both the Tec-9 and the Tec-DC9 by name, but existing weapons were allowed to stay in circulation and be resold. Soon afterward, Intratec introduced a similar model, the AB-10 (AB standing for after ban).[13]

TABLE 1

Handguns and American Youth

The United States leads all industrialized nations in homicides, with 4 times the next highest rate (9.8 per 100,000).* Firearms, mostly handguns, are involved in 68% to 75% of all homicides.†

Although Americans say that they are purchasing handguns for protection, guns in the home are 43 times more likely to be involved in the death of a family member than an intruder.‡

Half of adolescent males and nearly one-fourth of adolescent females report that they could easily obtain a handgun if they so desired.§ Nearly 5% of students carried a gun to school during the 30 days prior to the 1999 Youth Risk Behavior survey.‖

One-fourth of the violent scenes on television involve the use of a handgun.¶

Data from:
**Hennes H. A review of violence statistics among children and adolescents in the United States.* Pediatr Clin North Am. *1998;45:269-280.*
†Cohall AT, Cohall RM. "Number one with a bullet": epidemiology and prevention of homicide among adolescents and young adults. Adolesc Med. *1995;6:183-198.*
‡Kellermann AL, Reay DT. Protection or peril? An analysis of firearm-related deaths in the home. N Engl J Med. *1986;314:1557-1560.*
§Callahan CM, Rivara FP. Urban high school youth and handguns: a school-based survey. JAMA. *1992;267:3038-3042.*
‖Centers for Disease Control and Prevention.[7]
¶Federman J, ed. National Television Violence Study, *vol. 3. Thousand Oaks, CA: Sage; 1998.*

Pediatricians should be aware that there is widespread support for gun control, even among gun owners,[14] and that no federal gun control law has ever been overturned on the grounds of the Second Amendment.[15,16] One author has noted that simply reclassifying guns as a *consumer product* would have a profound effect on public health because, currently, the sale and manufacture of guns is subject to less stringent regulations than is the sale of teddy bears.[17] Similarly, a recent Federal Trade Commission report suggests that when violent visual imagery is marketed to children, it might need to be regulated as well.[18]

WHAT PARENTS NEED TO KNOW ABOUT THE ROLE OF THE MEDIA

I remember my generation being baby-sat by Western stars such as Tom Mix, Ken Maynard, Buck Jones, and Hopalong Cassidy, who mowed 'em down weekend after weekend. And James

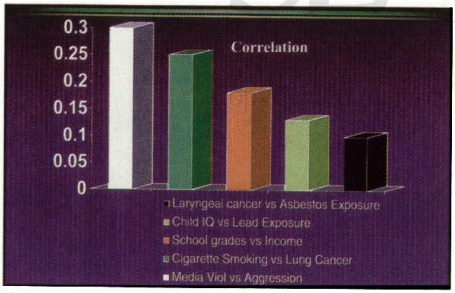

Figure 3. Estimate of the strength of the link between media violence and real-life violence. (Bushman BJ, Huesmann LR. Effects of televised violence on aggression. In: Singer DG, Singer JL, eds. *Handbook of Children and the Media.* pp. 223-254. Copyright © 2001 by Sage Publications, Inc. Reprinted by permission of Sage Publications, Inc.)

> Cagney and Edward G. Robinson didn't play Sunday School teachers. There was plenty of violence in the movies when I was a teen, but not so much in real life around us.—Carl Rowan, syndicated columnist[19]

Although the entertainment industry would have the American public believe that it is simply "mirroring" society when it portrays graphic violence, the research says otherwise. There are more than 3,500 research studies that speak to the impact of media violence on young people; only a handful show no effect.[20] No other area of the media has been so thoroughly investigated, with such convincing results.[21,22] In fact, one of the expert researchers in the field is convinced that the evidence linking media violence to aggressive behavior is stronger than the evidence linking smoking to lung cancer (Fig. 3).[23] One classic study of nearly 1,000 children from upstate New York who were 8 years old found that, 11 and 22 years later, those who had been exposed to more violent media when they were younger than 8 years were significantly more likely to have become aggressive or violent as adults.[24] Research has included laboratory experiments, naturalistic studies, correlational studies, and longitudinal studies. Highlights of the research include the following[22,25-28]:

1. The average American child, by the age of 18 years, will have viewed 200,000 acts of violence, including 40,000 murders.[25]

2. Children form their attitudes about violence at a young age. In a study by Huesmann and Eron, the key age was 8 years or younger.[24]

3. Once formed, attitudes about violence are difficult to alter.[22]

4. A preschooler who watches 2 hours of cartoons per day will be exposed to nearly 10,000 episodes of violence annually, and at least 500 of these will contain contextual features that make modeling the behaviors more likely.[4,29]

5. Children exposed to media violence are more likely to behave aggressively.[24-26,30] The author of a special bulletin on media violence concluded that if television had never been developed, there would be 10,000 fewer murders, 70,000 fewer rapes, and 700,000 fewer assaults in the United States each year.[31]

6. Viewing American television can create anxiety and fear among young children[28] and can cause adolescents and adults to overestimate the amount of danger in society (the so-called "mean and scary world" syndrome).[32]

7. Watching media violence causes desensitization, especially among young viewers. The classic experiment illustrating this was conducted in 1974, with 5th graders randomly selected to view 15 minutes of either a crime drama or a baseball game. Afterward, each was left in charge of supervising 2 younger children and was watched via a television monitor. In each case, the children began quarreling and then fighting. The students who had viewed the crime drama were 5 times less likely to summon help than were the students who had watched the baseball game.[33]

Recently, the American Academy of Pediatrics, the American Medical Association, the American Psychological Association, and the American Academy of Child and Adolescent Psychiatry issued a joint statement to Congress, concluding that:

> Viewing entertainment violence can lead to increases in aggressive attitudes, values and behavior, particularly in children. Its effects are measurable and long-lasting. Moreover, prolonged viewing of media violence can lead to emotional desensitization toward violence in real life. . . . Although less research has been done on

> the impact of violent interactive entertainment [such as video games] on young people, preliminary studies indicate that the negative impact may be significantly more severe than that wrought by television, movies or music.[34]

How violent is American television? Since 1982, television violence has increased nearly 800%.[35] A recent content analysis of more than 10,000 hours of American television between 1996 and 1998 found that 61% of all programs contain violence, with children's programming being the most violent.[29] Consequences of violence are rarely shown. An analysis of music videos found that nearly one-fourth contained violence, with attractive role models being the aggressors in more than 80%.[36] Guns are also featured prominently on prime time television, with approximately 25% of violent scenes or videos containing weaponry.[29] In the context of the recent school shootings, several features of violent portrayals seem to be important:

1. Nearly all of the shooters were exposed to and enamored with various forms of media violence. Although a *New York Times* study of the 102 adolescent and adult rampage killers from 1949 found that only 13% had an interest in violent media,[11] this statistic may be misleading. People are frequently affected by the media without even being aware of it (the "third-person effect").[37] In fact, adolescents are the most prone to the belief that everyone is influenced by the media but they themselves.[38] In addition, what sort of media could have influenced a killer prior to 1949? Violent video games are a new and recent factor. The media have been recognized only recently as an important factor, so it is unlikely that subjects were asked about them decades ago.

2. "Justifiable" violence is the type of violence most commonly portrayed on television and in movies, and it is also the most powerfully reinforcing.[27,39] Interestingly, after his arrest, 16-year-old Luke Woodham from Pearl, Mississippi, 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."[40]

3. The American media are unique in portraying "funny violence," which may represent another facet of fantasy violence. Students at the Jonesboro school reportedly laughed when their teachers informed them that several of their classmates had been shot.[4] One of the Littleton killers supposedly laughed at a student hiding under a library table and yelled "peekaboo" before shooting her in the face.[41]

4. Guns and weaponry are glorified on television, in movies, and particularly in violent video games. Although the research on video games is less compelling and less extensive than that on television, it suggests that such games do have an impact or, similar to heavy metal music, may serve as "markers" for alienated youth.[42,43]

ARE WE TEACHING OUR CHILDREN TO KILL?

The Paducah, Kentucky, killer, 14-year-old Michael Carneal, provides an interesting and illustrative case to consider. He walked into his school and opened fire on a prayer group, but never moved his feet, never fired very far to the left, to the right, up, or down. He simply fired once at everything that popped up on his "video screen."[4] In law enforcement or the military, the normal response is to fire at one target until it drops, then move on. However, in many video games, one fires at each target only once, which is what Carneal did. In addition, although he had never fired an actual gun in his life prior to stealing the murder weapon, Carneal's eight shots had eight hits, all head and upper torso, resulting in three adolescents being killed and one being paralyzed.

Similarly, in Jonesboro, Arkansas, only one of the two boys had any experience with real guns, but both were avid players of video games. With a combined total of 27 shots from more than 100 yards, they hit 15 people. The Columbine killers were likewise obsessed with video games. In fact, one had reprogrammed one of his games so that it looked like his neighborhood, complete with the houses of people he hated.[4] They methodically moved from room to room, stalking and killing their prey and laughing. One of the hallmarks of video game, television, and movie violence is the notion of "funny violence."[2,21]

In the United States, video game revenues now exceed $10 billion, and children who have home systems average 90 minutes of play per day.[44]

TABLE 2
Are Parents "Clueless" About Their Adolescent's Risky Behavior?

Behavior	Adolescent Admits to Being Involved (n = 89)	Parents Think Their Adolescent Is NOT Involved (n = 96)
Carrying a weapon to school	25%	98%
Suicide attempt	22%	98%
Sexual intercourse	58%	98%
Alcohol use	55%	95%
Marijuana use	38%	97%

Adapted with permission from Young TL, Zimmerman K. Clueless: parental knowledge of risk behaviors of middle school students. Arch Pediatr Adolesc Med. *1998;152:1137-1139. Copyrighted (1998), American Medical Association.*

Many experts feel that the mechanical, interactive quality of "first-person shooter" games makes them potentially more dangerous than movie or television violence. The most violent of these games use operant conditioning to teach young people to kill. The military uses adaptations of similar games to teach new recruits to kill.[4] After all, killing is not a natural human endeavor. In World War II, soldiers fired at their targets only 15% of the time. During the Vietnam War, that rate was up to 95% because the military had learned that it could condition recruits to fire at human targets using MACS (multipurpose arcade combat simulators), essentially glorified video games. The FATS (fire arm training simulator) trainer used by most law enforcement agencies in the United States is nearly identical to a video game found in an arcade. Both teach the user to hit a target, both rehearse the act of killing, and both come with guns that have recoil.[4,8]

WHAT SOLUTIONS ARE AVAILABLE TO PARENTS AND THE PUBLIC?

Although greater parental supervision, media education programs, and ratings systems are all important, there is no substitute for limiting the access of adolescents to guns and for voluntary restraint in programming on the part of the entertainment industry.

When faced with even a single school massacre (eg, Dunblane, Scotland), other countries have imposed severe limitations on the public's ability to own handguns or semiautomatic weaponry. One columnist has suggested that because the Second Amendment is so controversial, it should simply be repealed and rewritten.[45] Just as the invention of weapons of incredible firepower has caused a reinterpretation of the Second Amendment,[46] violent media marketed to children and adolescents might result in a reinterpretation of the First Amendment, at least in terms of regulating commercial speech. Recently, the U.S. Federal Trade Commission issued a report accusing the entertainment industry of marketing violence to young people.[18] The crucial question is, how many children and adolescents are American adults willing to sacrifice for the so-called right to bear arms?

Depictions of violence on television, in movies, in music videos, and in video games need to be sharply curtailed, be less graphic, and involve less gunplay.[20,25] The media have apparently spiraled out of control on this issue, yet the entertainment industry refuses to take responsibility for the products it produces. Interestingly, Hollywood points to its finest products with pride: such movies educate and uplift and make a positive contribution to society. However, it maintains that lesser movies have no negative impact whatsoever.

The United States is one of the few nations without a national plan to educate children about the media. One hundred years ago, to be literate meant to be able to read. Now, to be literate means not only reading, but also interpreting a wide variety of electronic media images (Michael Rich, MD, personal communication, October 2000). One study has found that *a media education program may actually decrease students' intention to commit violence.*[47] More research, and funding for such research, is desperately needed.

Parents do need to supervise their children adequately. Table 2 summarizes one study that compared parents' perceptions with adolescents' reports about behaviors. Parents were not in tune. Adequate parental supervision includes limiting the amount of media adolescents consume and wisely selecting which programs or video games they are allowed to see (Tables 3

TABLE 3

Six Important Questions About the Media for Pediatricians to Ask Parents at a Well-Child Examination

1. Is there a television set in your child's bedroom?
2. How many hours a day does your child watch television?
3. What shows does your child watch, and how is that decided?
4. Are there any "house rules" regarding viewing (eg, no viewing until all homework is completed)?
5. Who watches television with your child?
6. What other media does your child use?

TABLE 4

Advice Pediatricians Can Give Parents About the Media

1. Know what media your children are being exposed to.
2. Limit total media time to no more than 1 to 2 hours of quality programming a day.
3. Watch television and movies with your child. Discuss the content.
4. Remove television sets from children's bedrooms.
5. Carefully scrutinize television, movie, and video game ratings (eg, in general, children should not be allowed to watch R-rated movies or play M-rated video games).
6. Try to limit access to violent visual media until at least the adolescent years.
7. Vigorously confront any behavior in which a child seems to derive pleasure from depictions of human suffering or death.

and 4).[25] Two studies have found that more than half of all adolescents currently have a television set in their own bedrooms.[48,49]

Parents are unwise to rely on ratings systems alone. The movie ratings system, developed more than 30 years ago, is in desperate need of revision. For example, a surprising number of G-rated movies contain violence.[50] The television ratings system is completely inadequate to describe what children are exposed to, and the ratings are voluntarily applied by the producers of the programs.[51] Likewise, the video game ratings system is unevenly applied.[4] There is an urgent need for a ratings system that can be used for all media uniformly.

HOW FAR HAVE WE COME IN THE PAST 50 YEARS?

Although the technology for television was developed in the 1930s, widespread distribution of television sets did not occur until the early 1950s. Forty years ago, Newton Minow, the incoming chairman of the Federal Communications Commission (empowered to oversee television and other media), issued his famous pronouncement on the state of this relatively new medium:

> I invite you to sit down in front of your television set when your station goes on the air and stay there . . . until the station signs off. I can assure you that you will observe a vast wasteland. You will see a procession of game shows, violence, audience participation shows, formula comedies about totally unbelievable families, blood and thunder, mayhem, violence, sadism, murder, western bad men, western good men, private eyes, gangsters, more violence and cartoons.[52]

The American media have expanded almost exponentially in the past 50 years, from radio to television to rock music to music videos to videocassette recorders to video games to the Internet. At the same time, they have become more graphic, both in violence and in sex. Will pediatricians in the year 2051 look back on us and see how foolish we were not to have seen the repercussions, or will the American media continue to escalate out of control?

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