

REVIEW ARTICLE

Children, Adolescents, and the Media: Issues and Solutions

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I believe television is going to be the test of the modern world, and that in this new opportunity to see beyond the range of our vision we shall discover either a new and unbearable disturbance of the general peace or a saving radiance in the sky. We shall stand or fall by television.
—Author E. B. White¹

Television and other media represent one of the most important and underrecognized influences on children and adolescents' health and behavior in the 1990s. Their impact should be eliciting serious concern, not just from parents and educators but from physicians, public health advocates, and politicians as well (Fig 1). Although objections to various programming and advertising practices can exist on common sense, philosophical, aesthetic, humanistic, or public health grounds without strict scientific data,² increasing numbers of studies document that a serious problem exists.

EXPOSURE

By time criteria alone, television represents the predominant medium. Young people average 16 to 17 hours of viewing weekly, beginning as early as age 2.³ When video game and videocassette usage are added, some teenagers may spend as many as 35 to 55 hours in front of the television set.⁴ More families own a television set than a telephone.⁵

However, other media are important as well. Adolescents can spend nearly equal amounts of time listening to the radio, although music is used frequently as an accompaniment to other activities.^{4,6} More than half of all 15- to 16-year-olds had seen the majority of the most popular, recent R-rated movies in one study.⁷ In a separate study, 92% of males and 84% of females had seen or read *Playboy* or *Playgirl* by age 15.⁸ Finally, playing video games has become a favorite pastime of children and adolescents and now represents a \$7 billion per year industry.⁹ One survey of nearly 400 seventh- and eighth-grade students found that teens average 2 to 4 hours per week playing such games.¹⁰ Although not much data are available about young people's use of new technology such as the Internet, there is every reason to believe that "surfing the Net" will prove popular as well. Indeed, in one recent national survey 89% of teenagers reported using a computer, 61% "surfing

the Net," and 14% reported seeing something that they did not want their parents to know about.¹¹ By 1996, nearly five million youths had used the Internet or an on-line service from school or home.¹²

Impact

Media exert a significant displacement effect—2 to 3 hours per day spent watching television or playing video games means less physical activity, reading, and interaction with friends—but such data do not speak to cause-and-effect concerns. Likewise, content analyses can only demonstrate what the average child or adolescent will view. Even so, such analyses are disturbing when they reveal what the average American child or teenager is exposed to annually.

Violence

Young people view an estimated 10 000 acts of violence each year.¹³ Most recently, the National Television Violence Study examined nearly 10 000 hours of television programming throughout 3 years and found that 61% contains violence, with children's programming being the most violent (Fig 2).¹⁴⁻¹⁶ In addition, 26% of violent interactions involved the use of guns.¹⁶ During the 3 years of the study, none of the key indicators of violence in the media changed, despite widespread public concern.¹⁴⁻¹⁶ A recent comprehensive analysis of rock music videos of all genres demonstrated that 22.4% of all Music Television videos portrayed overt violence, 20% of all rap videos contained violence, and weapon carrying was depicted in 25% of all Music Television videos.¹⁷ Attractive role models are the aggressors in more than 80% of violent music videos.¹⁸

Sex

Each year, teenagers view nearly 15 000 sexual references, innuendoes, and jokes, of which <170 will deal with abstinence, birth control, sexually transmitted diseases, or pregnancy.¹⁹ The so-called family hour of prime time television (8 to 9 PM) contains more than 8 sexual incidents per hour, more than four times as much as in 1976.²⁰ Nearly one-third of family hour shows contain sexual references, and the incidence of vulgar language is increasing dramatically as well.²¹ The Internet offers unparalleled access to hard-core pornography with just a few keystrokes.²²

Drugs

A recent content analysis found that alcohol, tobacco, or illicit drugs are present in 70% of prime

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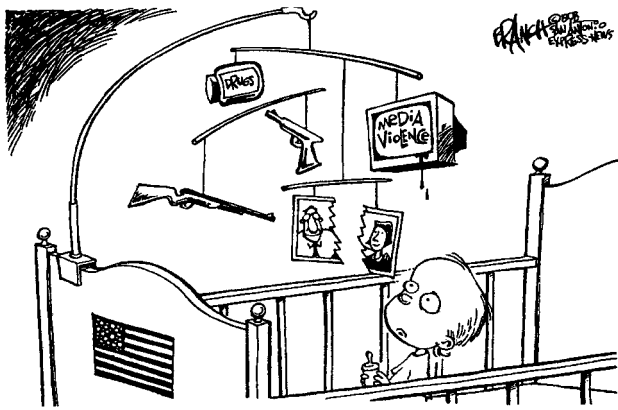


Fig 1. One political cartoonist's view of children's television. (Reprinted with permission from the *San Antonio Express News*.)

time network dramatic programs, 38 out of 40 top-grossing movies, and half of all music videos.²³ In another recent study, one-fourth of all Music Television videos contained alcohol or tobacco use.²⁴ Several studies document that smoking is making a comeback in Hollywood movies: a 1994 study of the 62 top-grossing films from 1960 to 1990 found that levels of smoking remained constant despite decreases in real-life and that lead characters were far more likely to smoke on screen (65%) than their real-life counterparts with similar demographic characteristics.^{25,26} Similarly, an American Lung Association study of 133 movies released in 1994 to 1995 found that 77% depicted tobacco use.²⁷

In addition to programming, young people view ~20 000 commercials each year, of which nearly 2000 are for beer and wine.²⁸ For every "just say no" or "know when to say when" public service announcement, teens will view 25 to 50 beer and wine advertisements.²⁹ Alcohol and tobacco advertisers are becoming an increasing commercial presence on the Internet as well, with more than 35 alcoholic beverages represented, homepages devoted to smoking, a Budweiser on-line radio network, interactive games, free giveaways, brand spokescharacters, and specially designed chat rooms.¹² Altogether, tobacco manufacturers spend \$6 billion per year, and alcohol manufacturers \$2 billion per year in all media, trying to entice young people into "just saying yes."^{30,31}

Data like these are alarming, but are the media actually responsible for episodes of child aggression, teen homicides, and increased rates of teenage drug use and sexual activity?³² Or, as the entertainment industry maintains, do the media merely mirror an increasingly violent, drug-oriented, and sexualized society? A close examination of the available data are essential.

WHAT THE RESEARCH SAYS

Violence

The research is voluminous and very clear on the relationship between media violence and real-life aggression: a cause-and-effect relationship exists.³³⁻³⁸ Such research involves detailed cross-sectional studies,³⁹⁻⁴³ naturalistic studies,^{44,45} longitudinal studies,⁴⁶⁻⁵⁰ and several meta-analyses.⁵¹⁻⁵⁴ Two government reports, the 1972 Surgeon General's Report⁵⁵

and the 1982 National Institute of Mental Health⁵⁶ report affirmed this conclusion after examining all available data. The latter stated unequivocally:⁵⁶

After 10 more years of research, the consensus among most of the research community is that violence on television does lead to aggressive behavior by children and teenagers who watch the programs. This conclusion is based on laboratory experiments and on field studies. Not all children become aggressive, of course, but the correlations between violence and aggression are positive. In magnitude, television violence is as strongly correlated with aggressive behavior as any other behavioral variable that has been measured (authors' italics). The research question has moved from asking whether or not there is an effect to seeking explanations for the effect.

Taken together, the research data are persuasive that high levels of television viewing are causally related to aggressive behavior and the acceptance of aggressive attitudes.⁵⁷ The correlations found are stable throughout time, place, and demographics.^{13,34} Added to this is the now-sizable body of research demonstrating that the more adolescents are exposed to violence or are victims of violence in their homes or communities, the more likely they are to use violence or carry weapons themselves.⁵⁸⁻⁶¹ Clearly, the witnessing of violence is an important determinant of violent behavior; and media violence represents the witnessing of violence vicariously, on the television or movie screen.

As long ago as the 1960s, laboratory experiments by Bandura et al⁶² established that young children are liable to imitate what they see on the television screen, particularly if the behavior is performed by an attractive role model and is either rewarded or goes unpunished (Bandura's social learning theory). Several longitudinal correlational studies have tracked children or adults for a period of up to 30 years and found that viewing media violence at young ages (8 years and younger) is a significant risk factor for adolescent or adult aggressive behavior or even criminal violence.^{43,45,48-50,63} Researchers have concluded that children learn their attitudes about violence at a very young age and, once learned, the attitudes tend to be life-long.⁶⁴

American media are also rife with portrayals of justified violence (eg, the "good guy" beating up the "bad guy"), which research shows is the single strongest positive reinforcer for young people.^{30,65} Not only can media violence facilitate aggressive or antisocial behavior, it may also desensitize viewers to future violence and can also increase viewers' perception that they are living in a mean and dangerous world.^{36,66} The problem is that the entertainment industry does not want to admit the connection any more than the tobacco industry will acknowledge the cause-and-effect relationship between cigarette smoking and lung cancer.⁶³

Media violence is not the sole cause of violence in society. Poverty, racism, inadequate parenting, the dissolution of the American family, individual psychological differences all may have far more impact. Studies have found that child abuse, sexual abuse, witnessing domestic violence, or witnessing community violence may all play a key role in determining who will become violent.^{58-61,67-70} But the use of violence to achieve goals or to settle conflicts is, in fact, learned behavior. Such learning occurs in social groups such as the family, peer groups, and gangs. Television and other media may function as a super peer in this respect.³²

Overall Industry Averages: Three-Year Comparisons

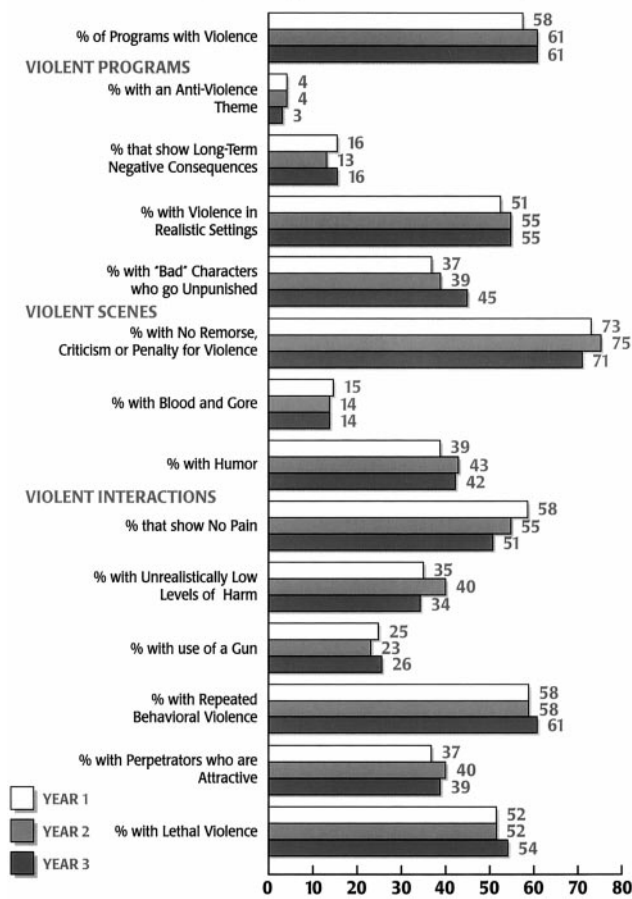


Fig 2. Overall industry averages: media violence year 1 (1995) versus years 2 and 3 (1996–1997). (Source: Federman J, ed. *National Television Violence Study*. Volume 3. Thousand Oaks, CA: Sage; 1998.)

How much do media contribute to real-life violence? When 22 separate estimates of effect size were collated from various surveys, the size of the effect for media violence was estimated to be 5% to 15%.^{30,35} Given all the factors contributing to violence, to be able to isolate media violence as one factor is significant.

Guns

Homicide and suicide are the second and third leading causes of death among adolescents, and guns contribute significantly to both.⁷¹ What links adolescent homicides to American media is the glamorization of guns, which represent 26% of all violent interactions on television (Table 1).^{16,36} Although there are no specific data linking viewing gunplay in the media with actual gun-related offenses in real life, the connection seems logical, at least to one television critic:⁷²

On average, a violent crime is committed (in the US) every 17 seconds. The entertainment industry alone cannot be blamed for this, any more than guns alone, and not the people who pull their triggers, can be blamed for gun-related deaths; however the connections are inescapable. If there were fewer guns, fewer people would be shot to death; if there were fewer violent images, fewer people might be moved to seek violent solutions.

Sex

Unfortunately, the data are not nearly as clear for determining what relationship exists between early

TABLE 1. Handguns and American Youth

- The United States leads all industrialized nations in homicides, with four times the next highest rate (9.8/100 000).*
- Firearms are involved in 68% to 75% of all homicides, mostly handguns.† In California, among 15- to 19-year-olds, guns now account for 90% of all homicides.‡
- Although Americans say that they are purchasing handguns for protection, guns in the home are 43 times more likely to kill a family member than an intruder.§
- Firearm injuries are the third or fourth leading cause of accidental death among children (depending on age and region).||
- The United States is also the most heavily armed nation on earth, with as many guns as households (200 million).¶
- Half of adolescent males and nearly one-fourth of adolescent females report that they could easily obtain a handgun if they so desired.#
- Nearly 8% of students had carried a gun to school during the 30 days before the 1995 Youth Risk Behavior Survey.**
- The sale of toy guns represents a nearly \$100 million industry.††
- One-fourth of the violent scenes on television involve use of a handgun.‡‡

* Fingerhut LA, Kleinman JC. International and interstate comparisons of homicide among young males. *JAMA*. 1990;263:3292–3295. 1993 *Demographic Yearbook*. New York: United Nations, 1995. 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 and Cohall RM. "Number one with a bullet": Epidemiology and prevention of homicide among adolescents and young adults. *Adolesc Med State of the Art Rev*. 1995;6:183–197.

‡ Chu LD, Sorenson SB. Trends in California homicide, 1970 to 1993. *West J Med*. 1996;165:119–125.

§ Kellerman AL and Reay DT. Protection or peril? An analysis of firearm-related deaths in the home. *N Engl J Med*. 1986;314:1557–1560. || Senturia YD, Christoffel KK, Donovan M. Children's household exposure to guns: a pediatric practice-based survey. *Pediatrics*. 1994;93:469–475.

¶ Davidson OG. *Under Fire: The NRA and the Battle for Gun Control*. New York: Holt; 1993.

Callahan CM, Rivara FP. Urban high school youth and handguns: a school-based survey. *JAMA*. 1992;267:3038–3041.

** Centers for Disease Control. *Youth risk behavior surveillance—United States, 1995*. *MMWR*. 1996;44:1–56.

†† Strasburger VC. Television and adolescents: sex, drugs, rock 'n' roll. *Adolesc Med State of the Art Rev*. 1990;1:161–194.

‡‡ National Television Violence Study. *National Television Violence Study*. Thousand Oaks, CA: Sage; 1998.

sexual activity and a heavy diet of sexualized content.^{73,74} Although there are more than 1000 studies linking media violence to real-life violence, there are only 5 studies demonstrating any connection between media with high sexual content and changes in teenagers' sexual behavior or attitudes:

- In a study of 75 adolescent girls, half pregnant and half nonpregnant, the pregnant girls watched more soap operas before becoming pregnant and were less likely to think that their favorite soap characters would use birth control.⁷⁵
- A study of 391 junior high-school students in North Carolina found that those who selectively viewed more sexual content on television were more likely to have begun having sexual intercourse in the preceding year.⁷⁶
- A study of 326 Cleveland teenagers showed that those with a preference for Music Television had increased amounts of sexual experience in their mid-teen years.⁷⁷
- Data from the National Surveys of Children re-

TABLE 2. Sources of Sexual Information for Teenagers*

Teachers, school nurses, or classes at school	40%
Media: TV, movies, or magazines	39%
Parents	36%
Peers	27%
Brothers, sisters, or cousins	12%
MD or nurse	9%

* Adapted from: Princeton Survey Research Associates: *The 1996 Kaiser Family Foundation Survey on Teens and Sex: What They Say Teens Today Need to Know, and Who They Listen to*. Menlo Park, CA: Kaiser Family Foundation; 1996.

vealed that males who watch more television had the highest prevalence of sexual intercourse and that teens who watched television apart from their family had a rate of intercourse 3 to 6 times higher than those who viewed with their family.⁷⁸

- A 1997 pilot study found that young teenagers exposed to more soap operas and talk shows tended to have beliefs consistent with what they were viewing (eg, "married people often cheat on their husband or wife," "most of my friends have had sex with someone") (unpublished manuscript, Furno-Lamude, 1997).

Thus, for sexual activity, inferences must be drawn from the violence literature (ie, if children and teenagers can learn aggressive behavior, why shouldn't they be able to learn sexual behavior as well?).⁷⁹ In addition, the United States continues to have the highest teenage pregnancy rate in the Western world, despite the fact that American teenagers are not having sexual intercourse in greater numbers than their Western peers.^{80,81} This is an important finding that points to the absence of a societal expectation that even with early sexual initiation, birth control is a necessity. If, as data suggest, the media represent an important and effective source of sexual information for teenagers (Table 2),^{32,74} the high United States pregnancy rate could be resulting from several interrelated factors: a lack of easy access to birth control, a lack of information about birth control in sex education classes, a glut of inappropriate sexual messages in the media, and an absence of appropriate messages in the media about abstinence and the use of birth control.⁸²

Drugs

Studies indicate that the \$8 billion of advertising that tobacco and alcohol manufacturers pitch every year to the American public has a significant impact on adolescents' beliefs and attitudes about smoking and drinking and may influence their actual consumption as well. Correlational studies indicate a small but pos-

itive (+0.15 to +0.20) relationship between ad exposure and consumption.⁸³ In addition, advertising exposure seems to influence initial drinking episodes which, in turn, contribute to excessive drinking and abuse.⁸³ As long as 20 years ago, the National Science Foundation commissioned a report on the effects of advertising on children, which concluded:⁸⁴

It is clear from the available evidence that television does influence children. Research has demonstrated that children attend to and learn from commercials, and that advertising is at least moderately successful in creating positive attitudes toward and the desire for products advertised Younger viewers . . . appear to be the most vulnerable

Numerous recent studies document that children and adolescents who are exposed to greater amounts of tobacco or alcohol advertising are more likely either to use or intend to use such products.^{29,85-90} This makes intuitive sense as well, because \$8 billion a year is a lot of money to commit to advertising if it does not influence people to consume your product. Such advertising is extremely effective, especially in reaching younger audiences (Table 3).⁹¹

The evidence is strongest regarding cigarette advertising and promotions.^{85,92} In one well-publicized study, children as young as 6 years old were as likely to recognize Old Joe as the Mouseketeer logo for the Disney Channel and to associate him directly with cigarette smoking.⁹³ In addition, there is a positive correlation between advertising expenditures and brand consumption (Table 4).^{85,94} Revenues for cigarette advertising have also been shown to influence the editorial content of print media,⁹⁵ and cigarette brands popular with teens are more likely to advertise in magazines with high youth readerships.⁹⁶ A 1997 study found that one-third of teens owned cigarette promotional items, and these teens were four times more likely to be smokers.⁹⁷ Most importantly, a recent longitudinal study found that an estimated one-third of all adolescent smoking could be causally related to tobacco promotional activities.⁹⁸

For alcohol, the correlations so far have been only moderate.⁸³

The preponderance of the evidence indicates that alcohol advertising stimulates favorable predispositions, higher consumption, and greater problem drinking by young people. Nevertheless, the evidence clearly does not support the interpretation that advertising exerts a powerful, uniform, direct influence; it seems that advertising is a contributing factor that increases drinking and related problems to a modest degree rather than a major determinant.

WHAT THE RESEARCH DOES NOT SAY

As one leading researcher recently noted concerning media violence, "The scientific debate is over."⁹⁹ What remains is what, if anything, the entertainment industry will do in response to these public health concerns

TABLE 3. Are the Budweiser Frogs Effective Advertising? Commercial and Character Recall by Children 9 to 11 Years Old*

Character	Slogan or Motto	% Recall (n = 221)
Bugs Bunny	"Eh, what's up Doc?"	80%
Budweiser Frogs	"Bud-weis-er"	73%
Tony the Tiger	"They're grrreat!"	57%
Smokey the Bear	"Only you can prevent forest fires."	43%
Mighty Morphin' Power Rangers	"It's morphin' time!" or "Power up!"	39%

* Adapted from Leiber L. *Commercial and Character Slogan Recall by Children Aged 9 to 11 Years: Budweiser Frogs Versus Bugs Bunny*. Berkeley, CA: Center on Alcohol Advertising; 1996.

TABLE 4. Is Cigarette Advertising Effective?*

Advertising in \$ Millions	Adolescent Brand Preference	Adult Brand Preference
1. Marlboro (\$75)	1. Marlboro (60.0%)	1. Marlboro (23.5%)
2. Camel (\$43)	2. Camel (13.3%)	2. Winston (6.7%)
3. Newport (\$35)	3. Newport (12.7%)	3. Newport (4.8%)

* Data from: Centers for Disease Control. Changes in the cigarette brand preferences of adolescent smokers—United States, 1989–1993. *MMWR*. 1994;43:577; and RW Pollay, S Siddarth, M Siegel, et al, The last straw? Cigarette advertising and realized market shares among youth and adults, 1979–1993. *J Marketing*. 1996;50:1.

and determining if such negative effects can be successfully mitigated with media education approaches.

It is entirely possible that all other potential effects will follow the same pattern and strength of these known correlations but, considerable new data are needed regarding the media’s impact on teenagers’ sexual behavior in particular. Does sexual content influence sexual activity, use of contraception, sexual orientation? The answers will remain unknown until longitudinal correlational studies can be performed. Furthermore, some recent research indicates that there may be considerable variation in how different teenagers view the same program, depending on their ethnicity, family background, and other characteristics.¹⁰⁰ Such findings may have special relevance for sexual portrayals and their impact on teenagers.

Other much-needed research includes: ongoing content analyses of violence, sex, and drug use in television programming, movies, and rock music videos; a longitudinal study of the effect of violent video and computer games on children’s attitudes and behavior; a longitudinal study of the impact of rock music on adolescents’ affective states and suicidal behavior; and studies of how children and teenagers use the Internet.

In addition, although the relationship between advertising and consumption is now well established, what is unknown is how to counteract the unhealthy aspects of advertising portrayals. At present, counter-advertising does not seem able to reach the density that mainstream advertising has, thus making it less useful as a solution.³⁰ Might teenagers be susceptible to anti-drug messages embedded creatively in mainstream programming?¹⁰¹ Will the proposed settlement with the tobacco industry, which includes a ban on cartoon characters in advertisements, have an impact on young children? Further studies are needed.

SOLUTIONS

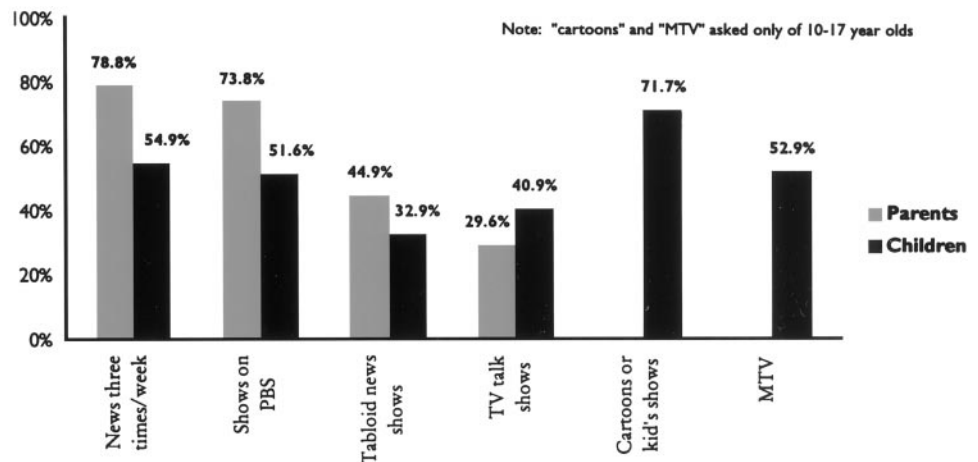
A vast body of literature now exists that attests to the power of the media to influence children’s and adolescents’ beliefs and, potentially, their behavior as well. Currently, American media contribute more to adverse health outcomes than to positive or prosocial ones, but it does not have to remain this way. Many solutions are available, ranging from controlling the way children view media (parent’s role) to more effective office counseling and public health activism (physician’s role) to regulating the media (governmental role) to improving the product itself (entertainment industry’s role).

Industry spokespeople frequently claim that if parents do not like what their children see, there is an off button on the television set or the computer. Parents counter that if the programs the media produced were healthier, they would not have to worry about their impact. In fact, both groups are right: parents do need to exercise better control over which media their children use; but the entertainment industry also needs to take responsibility for the health repercussions of what they produce.

ROLE OF PARENTS

Most parents do not control the media their children or adolescents are exposed to with any consistency or regularity. Not only do parents frequently underreport the number of hours that their offspring view,³³ but also they underreport the problematic shows that they view (Fig 3).¹⁰² In addition, one-fourth of preschoolers, more than one-third of grade-schoolers, and more than half of high-school youth have television sets in their bedrooms (Fig 4).¹⁰² Two 1997 surveys, involving a total of nearly 1500 par-

Fig 3. What parents and their children watch on TV. Parents report watching national news, while their children prefer television talk shows, cartoons, kids’ shows, and Music Television. (From: Stanger JD. *Television in the Home: the 1997 Survey of Parents and Children*. Philadelphia, PA: Annenberg Public Policy Center; 1997. Used with permission.)



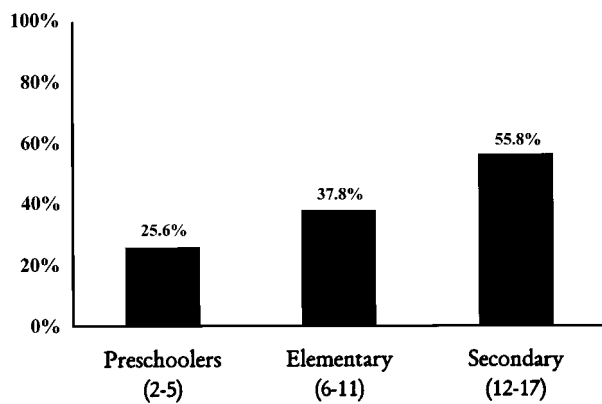


Fig 4. TV sets in the bedroom. As children age, they are increasingly likely to have a television set in their own bedroom. (From: Stanger JD. *Television in the Home: the 1997 Survey of Parents and Children*. Philadelphia, PA: Annenberg Public Policy Center; 1997. Used with permission.)

ents, found that less than half of parents report “always watching” television with their children.^{102,103} Coviewing is thought to be an effective mechanism for mediating untoward effects of television viewing: an adult, watching a program with a child and discussing it with him or her, serves simultaneously as a values filter and a media educator (Table 5).^{30,104} However, one recent survey found that 44% of children or teenagers watch something different (usually Music Television) when they are alone than when viewing with their parents.¹⁰⁵

Despite these data, parents are apparently very concerned about the influence of television, more than all other media.^{102,106} Given the sheer quantity of hours that children spend in front of the television set, these concerns seem justified. However, other media that seem less significant quantitatively may be extremely important qualitatively: “What television suggests, movies and videos do,” as one researcher notes.¹⁰⁷

According to recommendations issued by the American Academy of Pediatrics, based on a review of all available data to date, parents should:¹⁰⁸

- Limit all media use to no more than 1 to 2 hours per day.
- Monitor their children’s use of the media.
- Coview television with their children.

ROLE OF HEALTH PROFESSIONALS

Given the deleterious public health effects of media on youth, it is imperative that health professionals appreciate this relatively new cultural influence on their young patients, educate parents, and advocate for improved, healthier media. Physicians who treat children or adolescents should learn to take a media history (Table 6),¹ especially when seeing patients with a history of aggressive behavior or school difficulties.³²

Educating parents can be accomplished using media education materials from a variety of organizations (Table 7). In addition, physicians can serve as role models by using television sets and videocassette recorders in their waiting rooms for educational programming only. Finally, physicians are important community resources for schools (media education programs), local television stations, and parents (Parent Teacher Asso-

TABLE 5. Five Important Ideas to Teach Children and Adolescents About Television*

1. You are smarter than what you see on your TV.
2. TV’s world is not real.
3. TV teaches that some people are more important than others.
4. TV keeps doing the same things over and over again.
5. Somebody is always trying to make money with TV.

* Adapted from Davis J. Five important ideas to teach your children about TV. *Media and Values* 1992;59/60:10–14.

ciations). They can also advocate for improved media by writing to national networks, Hollywood studios, the United States Congress, and the Federal Communications Commission. They could also be instrumental in pressuring the television industry to begin broadcasting birth control advertising and urging the entertainment industry to restrict their depictions of violence and sexuality to responsible portrayals.

One role of health professionals that remains controversial is advocating for greater numbers of public service announcements to offset the deluge of tobacco and alcohol ads that young people currently see. Commercial broadcasting expends the most amount of money per minute (up to \$400 000) to produce commercials. Therefore, it is difficult to compete not only in density but also in production values.¹⁰⁹ Viewing of public service announcements can make an audience more aware of a problem, make the problem seem important, and offer further information.¹¹⁰ Such effects are intensified when other interventions are occurring simultaneously (eg, antismoking public service announcements and restrictions on smoking in public places).^{111,112} One aggressive antismoking campaign in Vermont demonstrated a 35% lower smoking rate after 4 years when radio and television ads were combined with a standard school-based program.¹¹³ However, sometimes public service announcements are used by the very industries they are targeting to deflect criticism (eg, “Know when to say when”).

MEDIA ADVOCACY

Both parents and health professionals need to begin engaging vigorously in media advocacy—“the strategic use of mass media for advancing a social or public policy initiative.”¹¹⁴ According to Wallack,¹¹⁵ current debates must be reframed to refocus public attention on health issues, not individuals’ weaknesses. For example, tobacco manufacturers have long deflected attention by framing the debate about smoking as an issue of individual freedom. Similarly, the National Rifle Association has confused the issue of handgun control by claiming that the Constitution guarantees everyone’s right to own a handgun, despite the fact that no Federal court has ever overturned a gun control law as a violation of the Second Amendment.^{116–118} Simply reclassifying guns as a consumer product would have a profound public health effect, especially because the sale and manufacture of guns is currently subject to less stringent regulations than the sale and manufacture of teddy bears.^{118,119} Successful reframing involves exposing unethical industry practices rather than trying to improve individuals’ behaviors by urging them to be healthier.¹¹⁵

TABLE 6. Taking a Media History

- How many hours a day do you watch television?
- How do you decide what shows to watch? Movies?
- Where is (are) the television(s)?
- Are there any house rules regarding viewing (eg, no viewing until all homework is completed)?
- What are your favorite television programs? Movies?
- Are there rules regarding music videos? Video games?
- Who watches television with you?
- Do you surf the Internet?

* Adapted from American Medical Association. *Physician Guide to Media Violence*. Chicago, IL: American Medical Association; 1996.

ROLE OF SCHOOLS

The United States is one of the few Western nations that lacks a comprehensive, school-based media education program. Recently, Australia mandated media education for nearly every student from kindergarten through grade 12; Ontario, Canada has mandated media education for middle and high school students; and England, Scotland, and South Africa all have far more formal training programs than the United States.¹⁰⁴ A number of advocacy groups (Table 7) have devised and tested curricula that can be used in a variety of settings, but school officials often resent having to commit more time and financial resources to what they view as extra-curricular programs. Viewed in the context of protecting children and adolescents against crucial public health problems such as early sexual intercourse, interpersonal violence, and drug involvement, however, such programs take on a new urgency.

More research is needed regarding the efficacy of media education programs. Nevertheless, several curricula have been field-tested, indicating that such programs can accomplish exactly what they set out to do.¹²⁰⁻¹²⁶ One curriculum, in particular, worked to change attitudes about television violence among first and third graders as well as decreasing their own levels of aggressive behavior as rated by their peers.¹²⁷ Another recent curriculum has been shown to decrease third-graders' intention to drink alcohol.¹²⁸ Computer and video games could also be used for prosocial learning.¹²⁹

ROLE OF THE FEDERAL GOVERNMENT

Although the United States was the first nation in the world to have television, it is unique in lacking any clear public policy regarding it.^{34,130} American television was established and regulated according to the Communications Act, passed by Congress in 1934. The preamble to that act states that the public owns the airwaves, which are leased to the networks to produce programming *in the public's best interests* (authors' italics). Because of the industry's reluctance to regulate itself, especially regarding violent content and production of educational programming for children, Congress and the Federal Communications Commission have taken an increasingly aggressive role during the past decade. The 1990 Children's Television Act required local broadcasters to produce some educational and informational programming for children. Unfortunately, broadcasters tried to cite programs like "The

TABLE 7. Organizations Interested in Media Education (Partial Listing)

American Academy of Child and Adolescent Psychiatry (AACAP)
3615 Wisconsin Ave, NW
Washington, DC 20016
(202) 966-7300

American Academy of Pediatrics (AAP)
141 Northwest Point Blvd
Elk Grove Village, IL 60009-0927
(847) 981-5005

Center for Media Education
2120 L Street, NW, Suite 200
Washington, DC 20037
(202) 331-7833

Center for Media Literacy
4727 Wilshire Blvd, #403
Los Angeles, CA 90010
(800) 226-9494

Coalition for Quality Children's Media
112 W San Francisco St, Suite 305A
Santa Fe, NM 87501
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Jetsons" as educational, teaching children "what life will be like in the 21st century."¹³¹

Irritated by the industry's lack of compliance with the Children's Television Act and by continued high levels of media violence,¹³² legislators passed the Telecommunications Act of 1996, which put teeth into the 1990 Children's Television Act by requiring ratings for programs and mandating that, beginning in September, 1997, broadcasters must air 3 hours of core educational programming per week.¹³³ The Act also mandated that all television sets manufactured beginning in 1998 contain a v-chip that could be programmed by parents to filter out objectionable media violence. However, which ratings system or systems will be programmable onto the v-chip remains a contentious issue, one that perhaps the Federal Communications Commission will ultimately have to decide.

After discussions with public advocacy groups, the television industry developed a complicated set of ratings that parallel current Motion Picture Association of America movie ratings.¹³⁴ Several problems exist with this proposed system: first, several studies show that parents prefer a more specific, content-based ratings system, not simple categories.^{135,136} Second, the current categories are not specific enough regarding content, and the contextual impact of violent or sexual references is completely ignored. For example, certain content becomes lost to the highest rating: a TV-M program with an "S" for sexual content may contain violence at a TV-14 level, but is not given a "V" for violent content. Third, parents may be tempted to place inappropriate faith in the rating "FV" for fantasy violence, even although research shows that this represents some of the most potentially detrimental programming for young children.^{15,16,137} Finally, studies document that older children and young teenagers are drawn toward the more adult ratings.¹³⁸

Despite the Federal government's traditional reluctance to regulate the entertainment industry because of

First Amendment concerns, several potential solutions are available that would make television and other media healthier for children and adolescents.

Increased Not Decreased (as Many Republicans in Congress Have Advocated) Funding for Public Television

The United States is unique in the industrialized world in spending only \$1.09 per capita for public broadcasting; the United Kingdom spends \$38.56, Canada \$32.15, and Japan \$17.71.^{104,130} With increased revenues, the Corporation for Public Broadcasting could develop its own commercial-free series of stations gearing high-quality, education programming toward individual age-groups (2 to 5 years, 5 to 9 years, 9 to 13 years, and 13 to 17 years). An annual tax on television sets (as is done in Britain) could be used to raise these revenues.^{30,37} If the future home will receive 300 to 500 different channels, shouldn't at least 5% to 10% of them be reserved for noncommercial, educational programming for young people?

Increased Funding for Research About the Effects of Media on Children and Adolescents

This might also include funding for school-based media education programs. In particular, a systematic program of research is urgently needed whose goal would be the development of formal, easily administered educational programs about media sex, drugs, and violence.¹³⁹

Creation of a Year 2002 National Institutes of Mental Health Report on Children, Adolescents, and the Media

It has now been 15 years since the last, official government compilation of all available research to that time.⁵⁶ Such reports highlight current knowledge, expose areas that warrant further investigation, and serve as valuable ammunition in the public health campaign to improve media for young people.

Stricter Regulation of Advertising That Targets Children or Adolescents

As United States Supreme Court Justice Tom Clark once said, there is no war between the Constitution and common sense.¹⁴⁰ Compelling public health interests exist in protecting at least children and adolescents against the advertising of cigarettes and alcoholic beverages. Because such advertising represents commercial speech rather than free speech, it is not automatically protected under the First Amendment.^{141,142} The Federal Trade Commission is already empowered to ban advertising that is unfair or deceptive, and both tobacco and alcohol advertising arguably fit that description.²⁸ But restricting advertising may be more feasible constitutionally than an outright ban.¹⁴³ Current proposed Federal Drug Administration rules would restrict tobacco advertising seen by children or teenagers to black-and-white text only.¹⁴⁴ New proposed legislation by Senator McCain (R-AZ) would completely eliminate tobacco advertising directed at children and, more importantly, would eliminate promotional events and advertis-

ing,¹⁴⁵ which in the past decade has constituted more than half of the \$6 billion that tobacco companies annually spend on advertising.²⁹ One significant drawback to a broadcast ban on alcohol advertising might be the elimination of effective counteradvertising.^{146,147} Two alternatives exist: either require equal amounts of public service announcements that would extoll the dangers of alcohol¹⁴⁸ or mandate that advertisements be restricted to so-called tombstone ads (ie, ads that show the product only but do not depict the qualities that the drinker might acquire). Such restrictions have been endorsed previously by the Federal Drug Administration, the Surgeon General, the American Academy of Pediatrics, and the American Medical Association.^{28,149,150} Because it is unlikely that the density or effectiveness of public service announcements will ever reach the levels of regular commercial advertising, limiting alcohol manufacturers to tombstone ads seems far more prudent.

Increased Regulation of Educational Television by the Federal Communication Commission and of the Internet by the Federal Trade Commission

Although deregulation, not increased regulation, seems to be the current trend in Washington, children and adolescents deserve special protection from the Government. Although broadcasters complain that 3 hours of educational programming per week is burdensome, such an amount seems totally inadequate given their free use of public airwaves. All television networks and stations should be mandated to air at least 1 hour per day of educational programming for children. The United States is unique among nations in not having any such regularly scheduled programming.

Likewise, young people deserve and will need special protections while using the Internet.¹⁵¹ Development of special blocking services, proscription of entrances to certain Web sites, and other solutions will have to be developed to shield young people from pornography, dangerous chat rooms, and other explicit material on the Internet.¹⁵² A recent White House summit (July, 1997) has begun this process with cooperation from technology industries and Internet providers.

ROLE OF THE ENTERTAINMENT INDUSTRY

Although the entertainment industry currently sees little problem with the quality of their product, the research literature and most parents would disagree. American media are the most graphically violent and sexually suggestive in the world. At present, networks, studios, and software companies have little incentive to create more educational and healthier programming. Indeed, the industry is quick to point to such exemplary works as "Shindler's List" as being prohumanitarian or "The Cosby Show" as showing strong family values, but then denies that any programming can have negative effects.¹⁵³ Unlike adults, children view television and movies as depicting the real world, with real adults interacting, and unfortunately it is a world that is rife with happy violence, unprotected and casual sex, drinking,

TABLE 8. Recommendations for the Television Industry Re: Media Violence*

- 1) Produce more programs that avoid violence. If a program does contain violence, keep the number of incidents low.
- 2) Reduce the number of high-risk portrayals of violence in children's cartoons.
- 3) Be creative in showing:
 - More violent acts being punished.
 - More short-term and long-term negative consequences of violence.
 - More alternatives to the use of violence to solve problems.
 - Less justification for violent actions.
- 4) When violence is presented, consider greater emphasis on a strong anti-violence theme.
- 5) Entertainment programs with substantial violent content should be scheduled later in the evening.
- 6) When reality programs present violent themes, programmers should present more alternatives to violence and strategies for coping with its effects to resolution.
- 7) Anti-violence psa's should be targeted to specific adolescent audiences, using narrative formats rather than celebrity endorsements.

* From: National Television Violence Study, Vol. 3, 1998.

smoking, stereotypes, and a variety of other, unhealthy images and behaviors.¹⁵⁴

One frequently heard excuse from the industry is that it is merely giving people what they want. Yet, there is significant evidence to the contrary. Gerbner¹³² compared Nielsen ratings of two samples containing more than 100 programs each—one of violent programs, the other of programs without violence. The nonviolent programs had a higher overall rating and market share. Similarly, a movie industry study found that PG-rated movies were three times more likely to gross \$100 million than R-rated films.¹⁵⁵ And public opinion polls document that as many as 80% of adults believe that entertainment violence is harmful to society.³⁰

What is needed is a virtual sea-change in attitude, from one of crass commercialism to one of respectful paternalism for the unique psychology and needs of young people. The American public is quick to criticize teenagers for their early sexual activity, drug-taking, or violent behavior; yet these youngsters are learning important behavioral cues from the media that surround them.

Ratings, v-chips, school-based media-literacy programs, even increased parental scrutiny can only accomplish so much. There is no substitute for an immediate and significant decrease in the easy violence (especially when guns are included), the casual unprotected sex, and the frequent smoking and drinking currently being beamed at American children and adolescents (Table 8).^{30,37,156} Expecting the entertainment industry to acknowledge their responsibility to the public health may be naive, but the stone wall is beginning to crumble. Children and teenagers comprise a captive audience for entertainment producers, but they also represent the next and only source of adults in American society. As such, they deserve far better than what they are being exposed to now.

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