

Effects of Televised Violence on Aggression

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Any discussion of the relationship between violence in the mass visual media and real-world violence must be prefaced by a brief review of what a century of research has revealed about the causes of violent and aggressive behavior in general. We wish to emphasize three important points at the outset. First, the aggressive behavior studied by researchers in this field is not the same as the assertive behavior that people often admire in so-called aggressive executives. Rather, it is behavior intended to harm another individual. Second, severe aggressive behavior is virtually always caused by multiple factors (cf. Huesmann & Eron, 1986). Any statement that a specific act of violence is "caused" by a single event is an oversimplification. Numerous factors influence the development of aggressive tendencies in children and young adults in the long run and the commission of violent acts in

the short run. Biological predispositions can increase or decrease the likelihood of aggression (Raine, Brennen, & Farrington, 1997). A wide range of community, peer, and family characteristics can socialize children to be more or less aggressive (Berkowitz, 1993). And there are situational factors (e.g., frustrations, guns, insults) over which one may have little control that can stimulate aggression or non-aggression in almost anyone. Third, childhood is the time when the foundation for lifelong aggressive or nonaggressive lifestyles is laid. The more aggressive child generally grows up to be the more aggressive adolescent, young adult, and adult (Huesmann, Eron, Lefkowitz, & Walder, 1984).

The theme of this chapter is *not* that media violence is *the* cause of aggression and violence in our society or even that it is the *most* important cause. The theme is that accumulat-

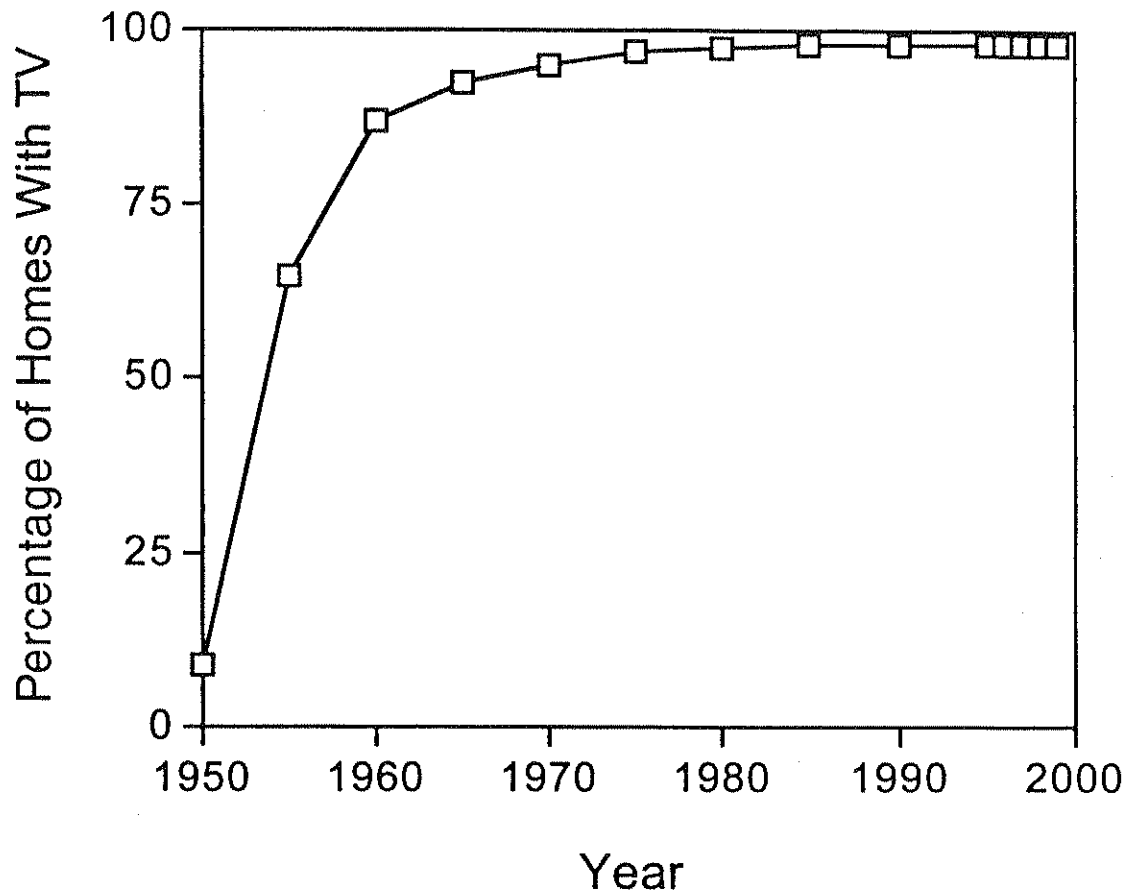


Figure 11.1. Percentage of American Households With TV

SOURCE: Data were obtained from Nielsen Media Research (1998).

ing research evidence has revealed that media violence is *one* factor that contributes significantly to aggression and violence in our society.

How Widespread Is Television Violence?

Pervasiveness of Television

Since its introduction to American society, television has become an integral part of nearly every home. Television was introduced to the United States at the 1939 World's Fair in New York. Two years later, on July 1, 1941,

the Federal Communications Commission (FCC) licensed and approved the first commercially available television stations. Because of World War II, however, full-scale television broadcasting was suspended until 1946. In 1950, about 9% of American homes had TV sets. It didn't take long for television ownership to increase. By 1955, it was up to about 65%, and by 1965, it reached about 93%. Since 1985, television ownership has been about 98% (see Figure 11.1).

In addition to the number of households with television, one can also use the number of television sets in use as a measure of television saturation. In the United States, there are 776 television sets in use per 1,000 people (see Table 11.1). It is estimated that there are

TABLE 11.1 Television Sets in Use per 1,000 People in 1995, by Country

Country	Televisions	Country	Televisions
Pakistan	22	Uruguay	305
Guatemala	54	Taiwan	317
India	61	Trinidad and Tobago	318
Algeria	71	Puerto Rico	322
Paraguay	73	South Korea	323
Honduras	80	Portugal	332
Dominican Republic	87	Argentina	347
Syria	89	Singapore	362
Peru	100	Kuwait	379
South Africa	101	Russia	379
Philippines	121	Iceland	382
Egypt	126	Czech Republic	406
Iran	140	Poland	408
Cyprus	143	Italy	436
Morocco	145	Hungary	441
Indonesia	147	Greece	442
Ecuador	148	Iceland	447
Tunisia	156	Switzerland	461
Panama	169	Belgium	464
Venezuela	180	Sweden	476
Colombia	188	Australia	482
Mexico	192	Spain	490
Cuba	200	Netherlands	495
Romania	201	Austria	497
Costa Rica	220	New Zealand	508
Thailand	221	Finland	519
Malaysia	231	Denmark	536
Turkey	240	Germany	550
China	250	Norway	561
Saudi Arabia	257	France	579
Lebanon	268	Luxembourg	591
Brazil	278	United Kingdom	612
Chile	280	Japan	619
Jamaica	285	Canada	647
Israel	295	United States	776

SOURCE: Adapted from the U.S. Census Bureau (1998).

more television sets in the United States today than there are toilets. In other industrial countries, television sets are also common commodities (Table 11.1). Even in some Third World countries, television sets are fairly common.

Not only are there more TV sets today than ever before, but they are also on longer. The average number of hours American households spend viewing TV has increased from 4.5 hours per day in 1950 to 7.25 hours per day in 1998 (see Figure 11.2). By age 65, the average American will have spent the equivalent of 9 years glued to the tube (Nielsen Media Research, 1998). In the United States, children spend more time watching television than they spend at school, and adults spend more time watching television than they spend doing any other activity except sleeping and working (Huston et al., 1992). One telling statistic is that, at 10:00 A.M. on any Saturday morning, more than 60% of American children are watching TV (Comstock & Paik, 1991)!

The Extent of Violence in Television Programming

Surveys indicate that most Americans consider "TV" to be an acronym for "too violent" (e.g., Brower, 1993; Fischer, 1994; *TV Guide*, 1992; Zipperer, 1994). If most Americans say they do not like it, then why is so much violence on television? Television industry leaders answer this question by claiming that their programs merely reflect the violence that already exists in society. For example, Howard Stern, president of the CBS Broadcasting Group, said the TV industry is "merely holding a mirror to American society" (as cited in West, 1993, p. 40). However, few scholars of the subject accept this claim. As film critic Michael Medved (1995) has written,

If this were true, then why do so few people witness murders in real life but everybody

sees them on TV and in the movies. The most violent ghetto is not in South Central L.A. or Southeast Washington D.C.; it's on television. About 350 characters appear each night on prime-time TV, but studies show an average of seven of these people are murdered every night. If this rate applied in reality, then in just 50 days everyone in the United States would be killed and the last left could turn off the TV. (pp. 156-157)

The amount of violence that occurs in television programs far exceeds the amount of violence that occurs in the streets of America. Even in reality-based TV programs, violence is grossly overemphasized. For example, one study compared the frequency of crimes occurring in the real world with the frequency of crimes occurring in the following reality-based police TV programs: *America's Most Wanted*, *Cops*, *Top Cops*, *FBI*, *The Untold Story*, and *American Detective* (Oliver, 1994). The real-world crime rates were obtained from the Federal Bureau of Investigation (FBI) Uniform Crime Reports. Seven categories of crime are reported annually by the FBI: murder, forcible rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. Murder, forcible rape, robbery, and aggravated assault are classified as violent crimes (against people), whereas burglary, larceny, and motor vehicle theft are classified as nonviolent crimes (against property). About 87% of the crimes occurring in the real world are property crimes, whereas only 13% of crimes occurring in reality-based TV programs are property crimes (see Figure 11.3). The largest discrepancy between the real world and the world depicted on television is for murder—the most violent crime of all. Only 0.2% of the crimes reported by the FBI are murders, whereas about 50% of the crimes shown in reality-based TV programs are murders.

Over time, the number of violent acts an individual sees on television can accumulate to staggering numbers, much like the U.S. na-

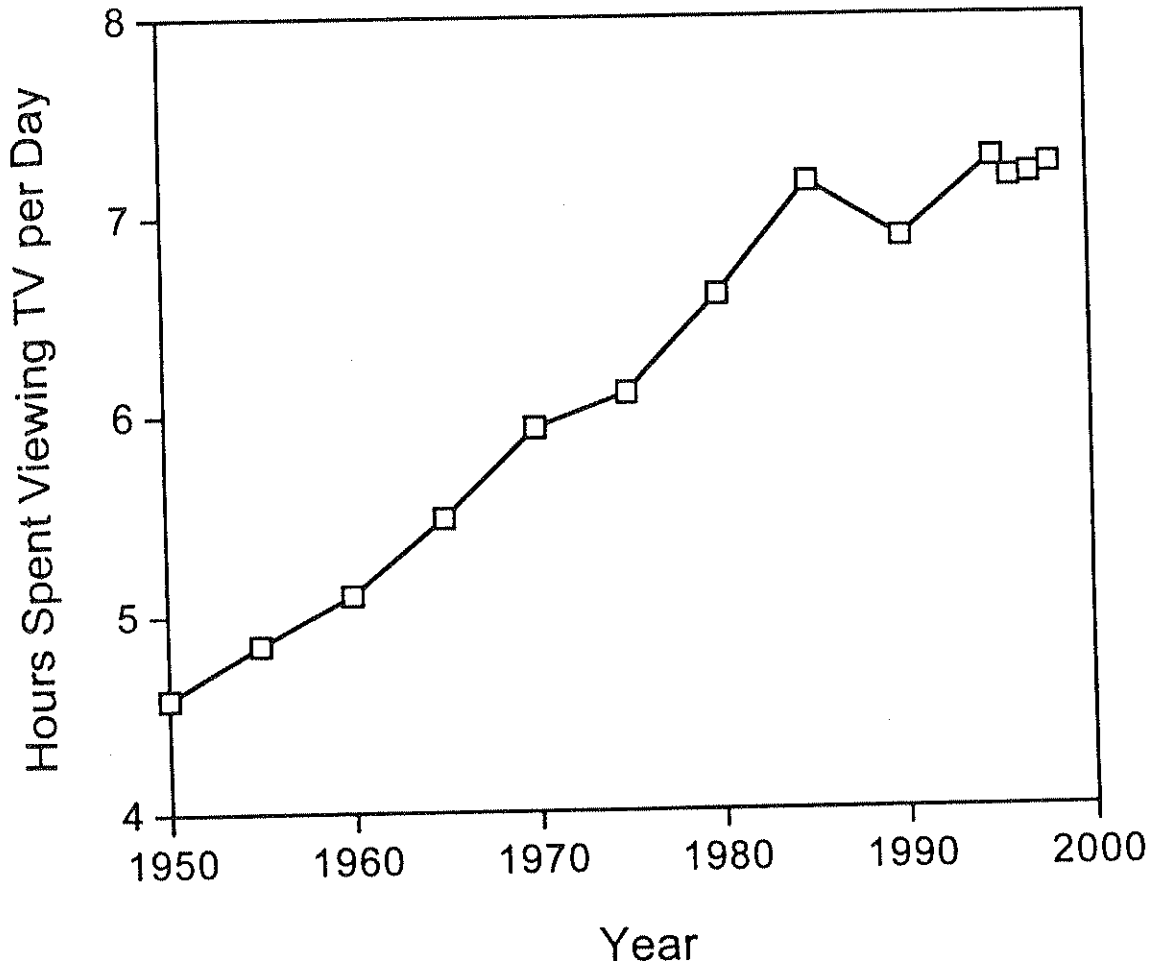


Figure 11.2. Time Spent Viewing TV per American Household per Day
 SOURCE: Data were obtained from Nielsen Media Research (1998).

tional debt and foreign trade deficit statistics. By the time the average American child graduates from elementary school, he or she will have seen more than 8,000 murders and more than 100,000 other assorted acts of violence (e.g., assaults, rapes) on network television (Huston et al., 1992). The numbers are higher if the child has access to cable television or a videocassette player, as most do. If one looks at the distribution of violent portrayals over time of day and day of the week, the situation looks particularly bad for children. The highest proportion of violence is shown on Saturday mornings and in late

afternoons and early evenings when most children are watching TV (Comstock & Paik, 1991).

A recent content analysis reveals how violence is portrayed on television (National Television Violence Study, 1996, 1997, 1998). Researchers sampled more than 8,000 hours of programming on cable and broadcast television between the hours of 6:00 A.M. and 11:00 P.M., 7 days a week, for 3 consecutive years. A content analysis of the programs showed that about 60% contained violence. Less than 4% of the violent programs contained an antiviolence theme.

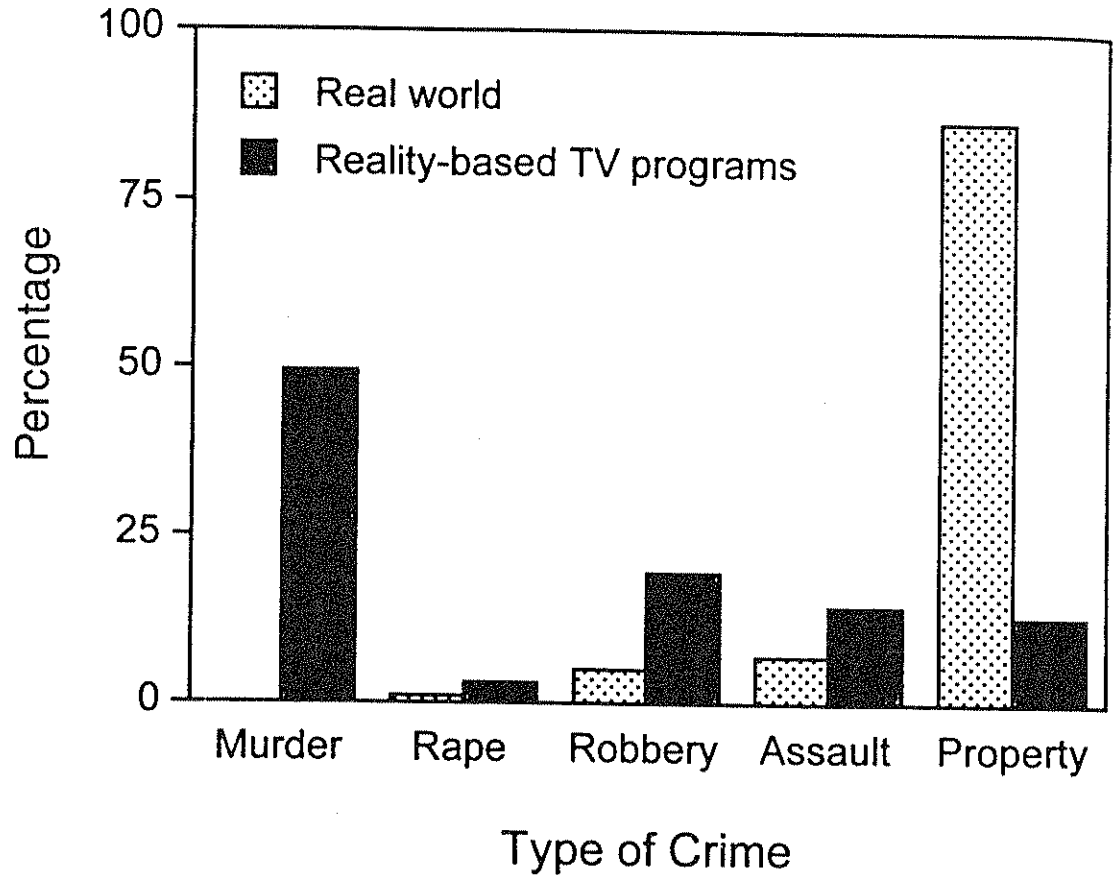


Figure 11.3. Comparison of the Frequency of Different Types of Crimes Occurring in the Real World and in Reality-Based TV Programs

SOURCE: Data were obtained from Oliver (1994).

Although violence in the “real” world is seldom glamorous, sanitized, or trivial, violence in TV’s “reel” world is often portrayed this way. The following statistics were obtained from the National Television Violence Study (1996, 1997, 1998).

Violence on Television Is Often Glamorized

Nearly 40% of the violent acts were perpetrated by “good” characters. Even when the perpetrators of violence were “bad” characters, more than 40% went unpunished. Almost three fourths (73%) of the perpetrators of violence showed no remorse for their actions.

Violence on Television Is Often Sanitized

More than half (55%) of the victims of violence show no pain or suffering. More than one third (36%) of the victims experienced unrealistically low levels of harm. Only 15% of the violent programs portrayed the long-term consequences of the violence to the victim’s family, friends, and community.

Violence on Television Is Often Trivialized

Even though more than half (53%) of the violent scenes on television were lethal, more

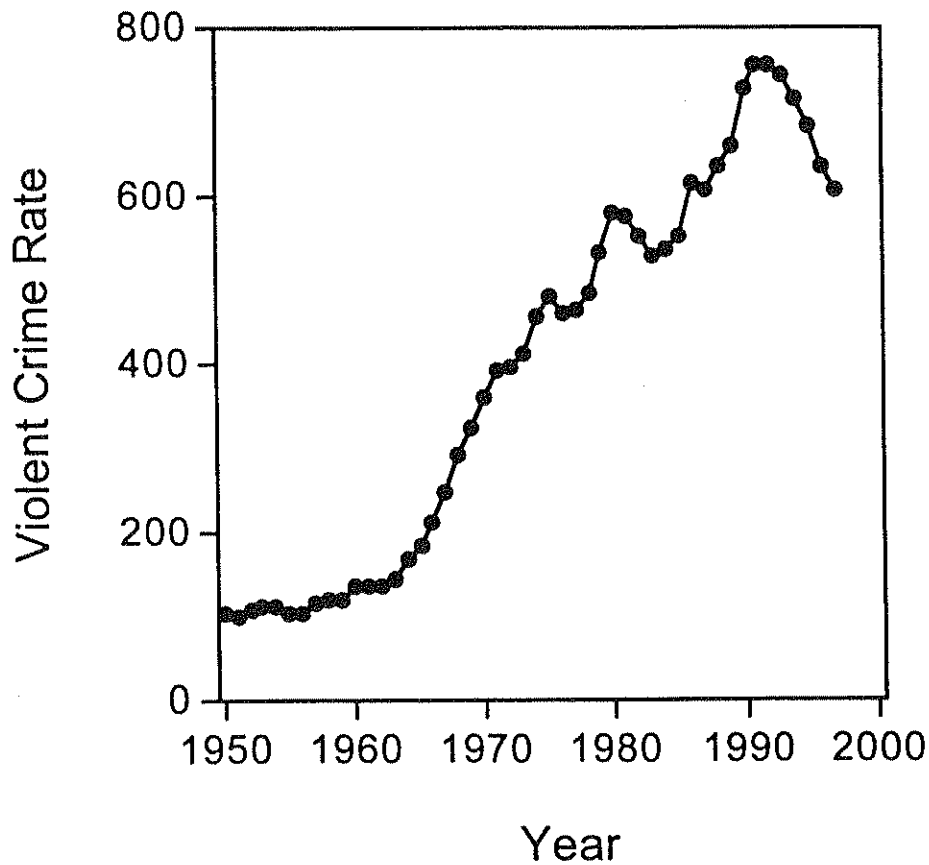


Figure 11.4. U.S. Violent Crime Rate per 100,000 Inhabitants

than 40% of the violent scenes were portrayed as humorous.

The Explosion of Violence in the "Real" World for the Post-TV Generation

Scholars have been investigating television violence as a potential contributor to societal violence almost since the moment television started to become an integral part of children's lives in the 1950s. One of the reasons is that the trend of violence in the industrialized world, and in the United States in particular,

has paralleled the increase in television usage during the second half of the twentieth century. As Figure 11.4 shows, the increase in violence in the United States during the second half of the twentieth century has closely paralleled the introduction of the television into the lives of our children. If one compares Figure 11.4 with Figure 11.1, one can see that the substantial increase in violence in the post-World War II period began in 1965, exactly when the first generation of children raised on TV began to reach the prime ages for committing violent crimes.

Of course, such comparisons of demographic trends are not proof of any relation-

ship. Numerous factors influence homicide rates, including simple demographic trends in the population. But the fact remains that the homicide rate during this period skyrocketed in the United States, the country where children were encountering the greatest exposure to media violence of any country in the world. Homicide rates in other countries have risen as well during the period when television has become an integral part of every child's early learning experience. However, the rates vary dramatically across countries, reflecting all the multiple factors that influence violence in a society. Countries with economic and social upheavals such as Russia and South Africa show some of the greatest increases. Countries with rigid societal controls on social behavior such as Japan and Singapore show some of the smallest increases. Still, the general rise in violence in industrialized societies that has paralleled the telecommunications revolution of the post-World War II period is certainly one thing that has sparked the explosion of research during the past 40 years examining the relationship between exposure to media violence and behaving aggressively.

How Researchers Study the Relationship Between Television Violence and Aggression

All *true experiments*, whether conducted in laboratory or field (i.e., "real" world) settings, share two essential features. The first feature is that the researcher has control over the procedures, manipulating the TV violence variable and holding all other variables constant. All those who participate in the experiment are treated in exactly the same manner—except for the TV program they are exposed to. By exercising control, the researcher attempts to ensure that any differences in aggression observed are produced only by the TV program shown and not by other extraneous variables.

The second feature is that participants are randomly assigned to groups. If there are two

TV programs (e.g., violent vs. nonviolent), for example, the researcher flips a coin to determine who gets assigned to what program. Participants do not get to choose the type of TV program they want to watch. Random assignment is the great equalizer. It ensures that the participants in one group are no different from the participants in another group before exposure to the TV program. If there are differences in aggression between groups after exposure to the TV program, these differences cannot be from any preexisting differences between participants. These two features of true experiments allow researchers to test very clearly whether exposure to TV violence causes aggression in the short run. If children who are randomly selected and shown a violent show behave more aggressively than other randomly selected children who are treated the same except for seeing the violent show, *it must be that viewing the show caused the children to behave more aggressively*. There is no other possibility.

Although experimentation is the preferred method of research because it allows cause and effect to be distinguished, there are some problems with true experiments. They do not say much about long-term effects, for example. One can hardly force a sample of children to watch one or another type of TV program for several years. Also, the types of TV programs children are shown and the types of behaviors they are allowed to do in experimental studies are limited by ethical constraints. So true experiments by themselves are not sufficient to determine the real-world importance of how TV violence affects children.

A popular alternative approach to the true experiment has been the *cross-sectional field study*. In a cross-sectional field study, the researcher does not try to control variables or randomly assign participants to groups. Instead, the researcher merely observes people's TV viewing habits and their aggressive behaviors to see if they are correlated. Does the person who watches more violence behave more aggressively? This type of study can be used to investigate whether TV violence viewing

over a long period of time is related to more serious forms of aggression (e.g., murder, assault) that cannot be studied in true experiments. If a relationship is found, one cannot conclude from this kind of study alone whether it is because TV viewing is causing children to behave aggressively, because aggressive children like watching violence, or because something else such as low IQ or poverty is stimulating children to both watch more violence and behave more aggressively. One knows from this type of study simply whether viewing violence and behaving aggressively are associated with each other.

Longitudinal field studies go one important step beyond cross-sectional field studies. The variables of interest are observed over two or more distinct time periods (e.g., at the beginning of the study and 6 months later or even 20 years later). The longitudinal field studies provide two distinct improvements over cross-sectional field studies. First, one can see if long-term relations differ from short-term relations. Is childhood TV violence viewing associated with behaving aggressively only in childhood, or is it associated with behaving aggressively 20 years later as well? Second, if there are long-term relations, it allows one to test the relative plausibility of competing causal theories about violence viewing causing aggression or aggression causing violence viewing. Is it more plausible that TV violence viewing causes later aggression or that aggression causes later TV violence viewing? Of course, longitudinal field studies are extremely difficult to do, requiring many years and a lot of money to complete.

How Researchers Combine the Results From Different Studies

The most common error that people make in attempting to interpret the research on media violence and aggression is to focus on only one of the above three types of studies and ignore the others. Substantial research has been

completed using all three types of studies: true experiments, cross-sectional field studies, and longitudinal field studies. One must integrate all three bodies of research to gain an accurate picture of what the scientific evidence shows.

In evaluating the results of any study, one needs to attend to both the statistical significance of the effect and the magnitude of the effect. A result is significant if the probability of it occurring simply by chance can be shown to be very small. The effect size of a significant result is a standardized measure of how "big" the result really is. For example, if one is looking at the results of a cross-sectional field study on media-related aggression, one might first ask whether the association discovered is big enough that it could not have occurred by chance. Then one would like to quantify the size of the association on a standardized scale. This would be the effect-size estimate for the study.

Although there are several different effect-size measures, in this chapter we use the correlation coefficient, denoted by r . In any study, the computed correlation between watching TV violence and behaving aggressively would indicate the strength of the relationship between those two measures that was found in that study. The absolute value of the correlation indicates the strength and can range from 0 to 1. The sign of the correlation indicates the direction (direct/positive vs. inverse/negative) of the relation.¹ In social science research, virtually no correlations are very close to 1; they tend to lie somewhere between $-.75$ and $+.75$. Conventional values can be used to interpret the magnitude of a correlation coefficient. Cohen (1988) has defined a "small" correlation as $\pm .1$, a "medium" correlation as $\pm .3$, and a "large" correlation as $\pm .5$ or greater.

Most general reviews of the research on media violence employ either a narrative approach in discussing key studies or a meta-analytic approach in which effect-size estimates from multiple studies are combined. Whenever possible in this chapter, we use the meta-analytic approach to review and integrate the

results from studies of TV-related aggression (for detailed descriptions of meta-analytic procedures, see Cooper & Hedges, 1994; Hunt, 1997; Hunter & Schmidt, 1990; Rosenthal, 1991; Wang & Bushman, 1999). In the meta-analytic review, the reviewer uses statistical procedures to integrate the findings from a collection of studies and describes the results using numerical effect-size estimates. Traditional narrative reviews are more likely than meta-analytic reviews to rely on the subjective judgments, preferences, and biases of the reviewer.

What the Scientific Data Say About the Relationship Between TV Violence and Aggression

Paik and Comstock (1994) recently conducted a comprehensive meta-analytic review of the effects of TV violence on antisocial behavior. Antisocial behavior was defined as aggressive behavior (e.g., giving another person electric shocks, verbally insulting another person), violent criminal behavior (e.g., homicide, assault), and nonviolent criminal behavior (e.g., burglary, grand theft). The meta-analyses examined the results of 217 different studies of the relationship between exposure to media violence and aggressive behavior. The overall computed effect sizes (correlations) between TV violence and all three types of behavior (aggressive behavior, violent criminal behavior, and nonviolent criminal behavior) were significant ($r_s = .32, .10, \text{ and } .28$, respectively). The overall correlation between TV violence and the combined antisocial behavior measure was $.31$, a significant and medium-size effect according to Cohen.

True Experiments

It is useful to examine TV violence effects for different types of studies. True experiments provide the best test of the short-term

effects of TV violence. The typical paradigm is that randomly selected children are shown either a violent or nonviolent short film and then are observed as they play with each other or with objects such as Bo-Bo dolls. The consistent finding is that children who watch a violent film clip behave more aggressively immediately afterward. Children who view violence behave more aggressively toward persons (Bjorkqvist, 1985; Josephson, 1987) and toward inanimate objects (Bandura, 1977; Bandura, Ross, & Ross, 1961, 1963a, 1963b). The effects occur for all children, boys and girls, black and white, normally aggressive or normally nonaggressive. In the laboratory experiments, the aggressive behaviors tend to be milder (e.g., pushing and shoving in Bjorkqvist's 1985 study), but in the field experiments, they tend to be stronger (e.g., fighting in hockey games in Josephson's 1987 study). Paik and Comstock's (1994) meta-analysis showed that the aggregated correlation between TV violence and antisocial behavior was $.40$ for the laboratory experiments they reviewed and $.30$ for the field experiments they reviewed. Both overall effect sizes are significant and are between moderate and large in size. Because these are true experiments, the direction of causality is unambiguous and the conclusion is inescapable. Exposing young viewers to TV violence causes them to behave more aggressively in the short run.

Cross-Sectional Field Studies

It is easier to measure serious violent and nonviolent criminal behavior in nonexperimental studies than it is in true experimental studies. Most of the cross-sectional field studies reviewed by Paik and Comstock (1994) used measures of "real" antisocial behavior. The overall correlation (effect size) that they found for such studies was also significant, though much lower than for experiments, $.19$. This correlation is small to medium in size, but even a small effect can have substantial

social impact when one is dealing with homicide or other serious aggression.

Longitudinal Field Studies

Longitudinal field studies provide the best test of the long-term effects of TV violence, but not many have been completed. Among those longitudinal studies reviewed by Paik and Comstock (1994) in their meta-analysis, the overall correlation (effect size) between TV violence and antisocial behavior was .19. Again, this is a significant effect, and it is small to medium in size. Several of these longitudinal studies have attracted wide attention because of the compelling nature of their results. For example, Eron, Huesmann, Lefkowitz, and Walder (1972) reported that the correlation between a boy's exposure to TV violence at age 8 and his aggression at age 18 was .31, whereas the correlation from age 8 aggression to age 18 exposure to TV violence was about zero. The surgeon general cited these results in justifying his 1972 national warning that "television violence, indeed, does have an adverse effect on certain members of our society" (Steinfeld, 1972, p. 26).

More recently, Huesmann (1986) showed that these same boys' violent criminal behavior at age 30 was predicted by their violence viewing at age 8. A longitudinal study funded by NBC showed weak effect sizes for TV violence viewing predicting aggression over a variety of age ranges and lags, but the effects were in the direction of TV violence viewing increasing aggression in 12 of 15 cases. A cross-national longitudinal study by Huesmann and his colleagues (Huesmann & Eron, 1986) found that exposure to TV violence at age 6 or 8 predicted aggression 2 years later among many boys and girls in the United States, Finland, Poland, and Israel. More recently, Huesmann and Moise (1999) reported significant longitudinal effect sizes for TV violence viewing at age 6 or 8 predicting antisocial and aggressive behavior in American men and

women at age 23 ($r_s = .21$ and $.19$, respectively). Moreover, these effects remain significant when early aggression, early intellectual functioning, social class, and other variables are controlled.

Although media violence effects tend to be greater for true experiments than for field studies, the same pattern of results is found in both settings. This is true not only in the domain of aggression (Anderson & Bushman, 1997) but in many other domains as well (Anderson, Lindsay, & Bushman, 1999). The larger effect size found for experiments may be substantially due to the different kind of aggression measures used in experiments compared with field studies. Experiments tend to employ measures that can be more accurately assessed and have less noise in them. It is difficult or impossible to study criminal behaviors using experimental designs. It is also difficult to explain variation in criminal behavior, especially violent criminal behavior. Between the years 1950 and 1998, only about 11% of the crimes recorded by the FBI were violent crimes (U.S. Federal Bureau of Investigation, 1951-1999). These two problems might explain why TV violence effects are larger for experimental designs than for nonexperimental designs and why TV violence explains more of the variation in non-violent criminal behavior than in violent criminal behavior.

In summary, the scientific data lead to the same inescapable conclusion: TV violence increases aggression. True experiments have shown conclusively that exposing children to violent TV causes them to behave more aggressively immediately afterward. Cross-sectional field studies have shown conclusively that the children who are watching more violence on TV are the same children who are behaving more aggressively. Longitudinal field studies have shown that children who grow up watching a lot of TV violence are likely to behave more aggressively later in childhood, in adolescence, and in young adulthood. This finding holds up even if one controls for differences in initial aggressiveness,

intellectual functioning, and social class. The bottom line is that, on average, TV violence is making our children behave more aggressively in childhood, and the aggressive habits they learn from TV in childhood carry over into adolescence and even young adulthood.

How Large Is the Effect of Television Violence on Aggression?

Some people claim that the effect of televised violence on aggression is so small that the risks to society and its members are negligible. There are several ways to interpret the magnitude of the relationship between TV violence and aggression. One way is to use Cohen's (1988) conventional values for "small," "medium," and "large" effects. Recall that, for the correlation coefficient, these values are $\pm .1$, $\pm .3$, and $\pm .5$, respectively. In the Paik and Comstock (1994) meta-analysis, the overall correlation between TV violence and antisocial behavior is .31, a "medium"-size effect.

Another way to interpret the magnitude of a correlation is by the Binomial Effect Size Display (Rosenthal & Rubin, 1982). It assumes that the base rate for the to-be-predicted behavior is 50%. The Binomial Effect Size Display estimates the percentage of people who should exhibit the behavior if they are above versus below the median (i.e., 50th percentile) on the predictor variable. In this chapter, we are interested in whether exposure to violent media predicts aggressive behavior. The .31 correlation is equivalent to aggressive behavior being exhibited by 65.5% of those above the median in exposure media violence but only by 34.5% of those below the median in exposure media violence. This 31% difference hardly seems like a trivial effect.

A third way to interpret the magnitude of a correlation is to compare it with correlations from other domains. Figure 11.5 compares media violence effects with several other effects (Bushman, Phillips, & Anderson, 2000).

All of the effects are significantly different from zero. Note, however, that the second largest effect is for TV violence. Most people would agree that the other effects in Figure 11.5 are so strong that they are obvious. For example, most people would not question the assertion that calcium intake increases bone mass or that wearing a condom decreases the risk of contracting HIV, the virus that causes AIDS. Why, then, do some people still question the assertion that viewing violence increases aggression? Probably the major reason is that people do not understand psychological processes as well as they understand physiological processes.

Perhaps one of the best parallels is the relationship between smoking and lung cancer (Bushman, Phillips, & Anderson, 2000). The correlation between media violence and aggression is only slightly smaller than that between smoking and lung cancer (Figure 11.5). Not everyone who smokes gets lung cancer and not everyone who gets lung cancer is a smoker. Even the tobacco industry agrees that smoking causes lung cancer. Smoking is not the only factor that causes lung cancer, but it is an important factor. Similarly, not everyone who watches violent television becomes aggressive and not everyone who is aggressive watches violent television. Watching violent TV programs is not the only factor that causes aggression, but it is an important factor.

The smoking analogy is useful in other respects. Like a first cigarette, the first violent movie seen can make a person nauseous. Later, however, one relishes more and more. The effects of smoking and viewing violence are cumulative. Smoking one cigarette probably will not cause lung cancer. Likewise, seeing one violent movie probably will not turn a child into a psychopathic killer. But repeated exposure to both cigarettes and violent media can have harmful long-term consequences.

Just because TV violence does not increase aggression noticeably in *everybody* does not mean that it does not increase aggression in *anybody*. Medved (1995) points out that,

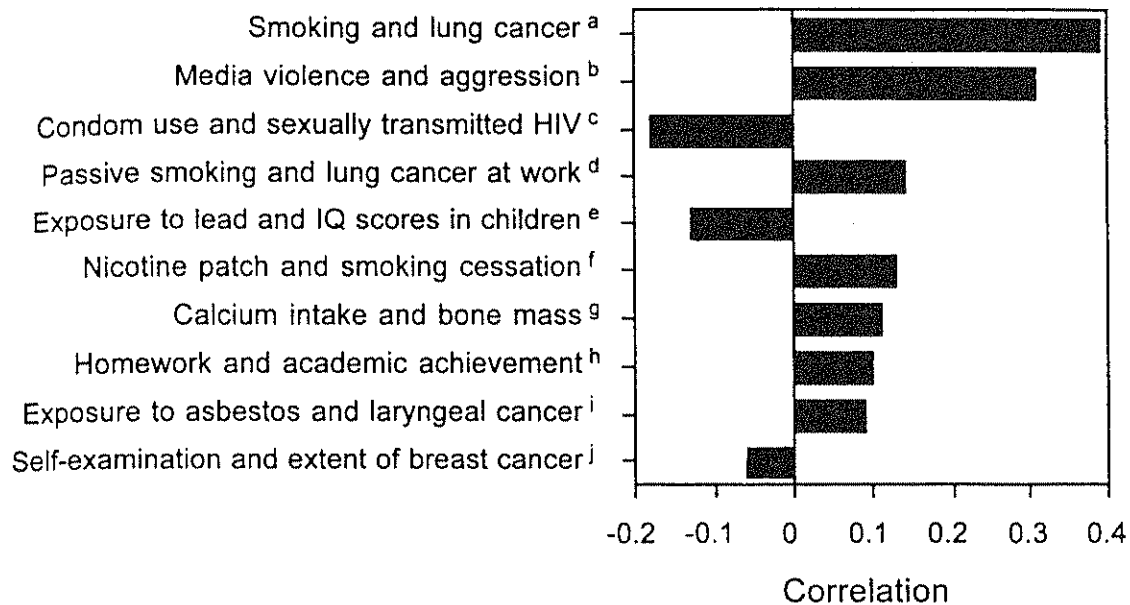


Figure 11.5. Comparison of Television Violence Effects With Effects From Other Domains

SOURCE: Data were obtained from Bushman, Phillips, and Anderson (2000).

NOTE: A correlation coefficient can range from -1 (a perfect negative linear relation) to $+1$ (a perfect positive linear relation), with 0 indicating no linear relation. According to Cohen (1988), a small correlation is ± 0.1 , a medium correlation is ± 0.3 , and a large correlation is ± 0.5 . All of the correlations were significantly different from 0 .

a. The effect of smoking tobacco on lung cancer was estimated by pooling the data from Figures 1 and 3 in Wynder and Graham's (1950) classic article. The remaining effects were estimated from meta-analyses.

b. Paik and Comstock (1994).

c. Weller (1993).

d. Wells (1998).

e. Needleman and Gatsonis (1990).

f. Fiore, Smith, Jorenby, and Baker (1994).

g. Welten, Kemper, Post, and van Staveren (1995).

h. Cooper (1989).

i. Smith, Handley, and Wood (1990).

j. Hill, White, Jolley, and Mapperson (1988).

when an ad is shown on TV, no one expects that it will sell the product to everybody. If the ad influences just one in a thousand viewers, it is considered highly successful. Suppose, for example, that violent TV programs make only 1% of the population more aggressive enough that they harm someone. Should society be concerned about a percentage so small? We believe that society should be concerned even if TV violence only stimulates 1% of the population to commit acts of harm they would not

otherwise have committed. Suppose that 10 million people watch a violent TV program. If only 1% of the viewers will become so much more aggressive afterward that they harm one person, then the violent TV program will have harmed 100,000 people! Because so many people are exposed to TV violence, the effect on society can be immense even if only a small percentage of viewers are seriously affected by viewing violence. Furthermore, one must not forget that, just as with cigarette

smoking, everyone is affected in some way by being exposed to violence.

Why Does Television Violence Increase Aggression?

Over the past 40 years, psychologists have gained a rather good understanding of how and why media violence stimulates violent behavior. The processes are not mysterious; they are well-recognized psychological processes. It has just taken time to see how the processes operate to influence aggressive behavior. There are six different kinds of psychological processes that seem to play important roles (see Table 11.2).

Before discussing these processes in more detail, let us dispense with one theory that has plagued discussions of the role of media violence for decades, *catharsis theory*, which dates back to Aristotle. This theory posits that watching aggression purges angry feelings and aggressive tendencies or drives. *There is not a shred of convincing scientific data to support this theory.* Certainly, physically aggressive actions can reduce tension in subjects who have been frustrated (Hokanson & Burgess, 1962), but so can physical exertion that is nonaggressive. The more important fact is that there are no convincing data to indicate that watching violent acts reduces tension or the propensity to act aggressively (Doob & Wood, 1972). The one field study often cited as demonstrating a catharsis effect (Feshbach & Singer, 1971) has methodological flaws (Huesmann, Eron, Berkowitz, & Chaffee, 1991) that the authors have recognized. As shown above, the majority of evidence demonstrates that violence viewing and aggression are *positively* related, which contradicts the catharsis hypothesis. Furthermore, studies that have examined the relationship between fantasizing about aggression and aggressive behavior have shown that children who fantasize more behave more aggressively (Huesmann & Eron, 1986; Viemero & Paajanen, 1992). As an explanation of the relationship between aggressive behavior and

TABLE 11.2 Psychological Processes Through Which Media Violence Influences Aggressive Behavior

- Observational learning of behaviors and scripts
 - Fantasy rehearsal
- Observational learning of beliefs and attitudes
 - Hostile attributional bias
 - Normative beliefs
 - Cognitive desensitization
- Emotional desensitization
- Cognitive justification
- Cognitive cueing and priming
- Arousal and excitation transfer

viewing violence, catharsis theory can be put to rest.

Observational Learning of Behaviors and Scripts

Children learn both specific aggressive behaviors and attitudes supporting more complex aggressive behaviors through observational learning. It has become an accepted tenet of developmental theory that, through imitation and vicarious reinforcements, children develop habitual modes of behavior that are resistant to extinction (Bandura, 1977, 1986). But there are additional predictions of vicarious learning theory that have also been confirmed. For instance, it has been shown that the extent to which a child imitates an actor is greatly influenced by the reinforcements an actor receives. If the actor is rewarded for a behavior, the child is more likely to imitate that behavior (Bandura, 1965; Bandura et al., 1963a, 1963b; Walters, Leat, & Meaci, 1963). If the actor is punished for a behavior, the child is less likely to imitate that behavior (Bandura, 1965; Walters & Parke, 1964). On TV, about 75% of violent acts go unpunished (National Television Violence Study, 1996). Other studies have indicated that the persistence of such learned behavior seems to depend on the direct reinforcements the child receives (Bandura, 1965; Hayes, Rincover, & Volosin, 1980). Finally, whether the child identifies with the model (Huesmann & Eron,

1986; Huesmann, Lagerspetz, & Eron, 1984) and whether the model is perceived as possessing valued characteristics also appear to influence whether a child will imitate the model (Bandura et al., 1963b; Hicks, 1965; Neely, Hechel, & Leichtman, 1973; Nicholas, McCarter, & Hechel, 1971). On TV, nearly 40% of the violent acts are perpetrated by characters who possess valued characteristics that would make them attractive role models for viewers (National Television Violence Study, 1996, 1997, 1998).

More recently, Huesmann (1988, 1998) extended the concept of observational learning to argue that children learn what might be called social scripts for complex aggressive behaviors from observing violent dramas in the media (Huesmann, 1982, 1986, 1988; Huesmann & Miller, 1994). Scripts are programs for how to solve social problems. Children may employ these scripts automatically, with little or no thought. Often, a script is suggested by what a child observes, and the child fantasizes about behaving that way. Such cognitive rehearsals of the script make the use of the script even more likely. Fantasizing about the violence one has seen on TV thus becomes an important mediating variable that exacerbates the effects of viewing violence.

Observational Learning of Beliefs and Attitudes

A substantial body of data has accumulated indicating that media violence also changes beliefs and attitudes about violence. It tends to make viewers believe the world is more hostile than it really is; it promotes the acceptability of behaving aggressively; and it desensitizes viewers to thinking about violence.

TV Violence Shapes Schemas About How Hostile the World Is

Viewing television cultivates a sense of personal risk in the real world (Gerbner & Gross, 1976, 1981).² In comparison with light

TV viewers, heavy TV viewers are more anxious about becoming victims of violence, are less trusting of others, and are more likely to perceive the world as a dangerous, mean, hostile place. Such hostile attributional biases promote aggressive interactions with others (Crick & Dodge, 1994). If people perceive the world to be a dangerous place, not only are they more likely to carry a weapon to protect themselves, but they are also more likely to misinterpret others' actions as hostile and provocative and to behave aggressively in retaliation.

One of the general themes in social psychology is that people's perceptions of a situation are more important for understanding their behavior than are the objective features of the situation. Consider, for example, the classic study of the 1951 Princeton-Dartmouth football game (Hastorf & Cantril, 1954; also see Loy & Andrews, 1981). The two rival universities played a grudge match in which noses were broken, fists were thrown, and players were ejected. Some time later, students from each school were shown a film of the game and were asked to play the role of a scientist observer, noting each infraction and who committed it. Even though the students from the two universities saw exactly the same game on film, they rated it very differently. For example, the Princeton students "saw" twice as many Dartmouth infractions as the Dartmouth students "saw."

TV Violence Changes Normative Beliefs About Violence

In the United States and elsewhere, a "culture of violence" is said to exist (e.g., Anderson, 1990; Cohen & Nisbett, 1997; Shirley, 1993; Somers, 1976). Certainly, this is one of the factors that promotes violent behavior. If it is not obvious that violent behavior is wrong, it is more likely to happen. A variety of studies have shown that more aggressive children are less likely to believe that aggression and violence are wrong (Huesmann & Guerra, 1997). From the standpoint of psychological theory, this is not surprising. Peo-

ple (especially children) tend to behave consistently with their beliefs, and if they believe violence is justified when one is sufficiently provoked, they are more likely to behave aggressively. Did the young perpetrators of the Columbine massacre in Littleton, Colorado, believe they were justified in what they were doing because they had been provoked? Quite probably they did. Constant exposure to scenes of heroic characters being provoked and then using violence in retaliation promotes this type of thinking. This is a very important effect of TV violence. Longitudinal studies have shown that early exposure to TV violence in childhood is related to having normative beliefs more accepting of violence even 15 years later in young adulthood (e.g., Huesmann & Moise, 1999).

TV Violence Produces a Cognitive Desensitization to Violence

One of the factors that inhibits aggressive and violent behaviors in socialized humans is that we are not "used" to it. The more we see violence around us, the more we experience it, or even the more we think about it, the more "used" to it we become. Just as soldiers who have been in the front lines for a long time become inured, at the cognitive level, to the horrors of the death all around them, the children who are constantly observing violence around them or in the mass media become more inured to thinking about violence. Psychologists call this a cognitive desensitization to violence. The problem is that, as children become more "used" to violence, it becomes easier for them to behave aggressively. And repeated exposures to TV violence produce this cognitive desensitization. The more televised violence a child watches, the more accepting the child's attitude toward aggressive behavior becomes (Dominick & Greenberg, 1972; Drabman & Thomas, 1974a, 1974b; Thomas & Drabman, 1975). This cognitive desensitization then makes people's own aggression more acceptable to them.

Emotional Desensitization

We have designated the changes in attitudes brought about by frequent violence viewing as a cognitive desensitization to violence. Similarly, there is some evidence that a real emotional desensitization can occur. In one quasi-experimental field study (Cline, Croft, & Courier, 1973), boys who regularly watched a heavy diet of television displayed less physiological arousal in response to new scenes of violence than did control subjects. Although these results have apparently been difficult to replicate in the field, Thomas, Horton, Lippincott, and Drabman (1977) found similar short-term effects in laboratory studies of changes in skin conductance in response to violence. It should not be surprising that emotional and physiological responses to scenes of violence produce habituation, as do responses to other stimuli. The problem is that the arousal that is naturally stimulated by observing violent behaviors is unpleasant for most people and therefore inhibits aggressive actions (Halpern, 1975; Winn, 1977). Once this arousal habituates, aggression is no longer inhibited. People, and children in particular, find it easier to think about behaving aggressively and easier to behave aggressively if they do not have unpleasant emotional responses to violence.

Cognitive Justification Processes

The justification process is a psychological phenomenon that explains why people who are aggressive like to watch violent television (Huesmann, 1982). People watch violence because it allows them to justify their own behavior as being normal. Justification involves the observational learning of attitudes, but it operates in the opposite direction from desensitization. A child's own aggressive behaviors normally should elicit guilt in the child, but this guilt is relieved if the child who has behaved aggressively watches violent television. Thus, the child who has behaved aggressively watches violent television shows to

justify his or her own aggressiveness. The problem is that the reduction in guilt that viewing violence provides makes continued aggressive and violent behavior by that child even more likely.

Cognitive Cueing and Priming

Whereas the observational learning process explains how exposure to media violence can teach lasting aggressive habits, the cueing and priming processes explain how aggressive habits learned in other venues may be "triggered" by violent media displays. Berkowitz (1984) has proposed that "the aggressive idea suggested by a violent movie can 'prime' other semantically related thoughts, heightening the chances that viewers will have other aggressive ideas in this period" (p. 411). In addition, thoughts are linked, along the same sort of associative lines, not only to other thoughts but also to emotional reactions and behavioral tendencies (Bower, 1981; Lang, 1979). Thus, viewing TV violence can activate a complex of associations consisting of aggressive ideas, emotions related to violence, and the impetus for aggressive actions. The appearance of a specific stimulus in the child's environment (e.g., a threat or a weapon) may then *cue* aggressive scripts or ideas that are more readily accessible because they have been *primed* by the violence viewing.

This idea of cognitive cueing and priming is useful in explaining why the observation of aggression in the media is often followed by aggressive acts that differ from the observed behavior. Many studies have demonstrated this phenomenon using television violence (Berkowitz, 1970; Berkowitz & Rogers, 1986; Worchel, 1972; Wyer & Hartwick, 1980; Wyer & Srull, 1980) and using music video violence (Hansen & Hansen, 1990). For example, in one study, it was found that subjects who viewed slides of weapons were more willing to severely punish a target than were those subjects who viewed neutral slides (Leyens & Parke, 1975). Presumably, viewing

the weapons stimulated other aggressive ideas and emotions that then affected the viewers' subsequent attitudes and behaviors.

Even innocuous objects that have been paired in the past with observed aggression might serve as stimulating cues in the future. One study that demonstrated this effect quite nicely was Josephson's (1987) study of schoolboy hockey players. In this study, the boys were deliberately frustrated and then shown either a violent or nonviolent television program. A walkie-talkie radio was held by the actor in the violent program but not by the actor in the nonviolent program. During a subsequent hockey game, boys were most aggressive if they had previously seen the aggressive film *and the referee in their current game carried a walkie-talkie radio*.

This idea of cueing seems particularly important in reference to the effects of violent music videos. The audio portion of the video may serve as a cue for aggression observed in the video, causing these aggressive acts to be retrieved when the music is heard in the future.

Arousal and Excitation Transfer

Until one becomes desensitized to it, media violence is arousing. Several studies have demonstrated that increasing a subject's general arousal increases the probability of aggressive behavior when this excitation transfers to actual behavior (e.g., Geen & O'Neal, 1969; Zillmann, 1971). Thus, exciting and stimulating scenes in the mass media may make aggressive behavior more likely immediately afterward because of the excitement they create.

These six major processes—four long-term (observational learning of behaviors, observational learning of cognitions, desensitization, and cognitive justification) and two short-term (cueing and priming and excitation transfer)—probably account for most of the impact of TV violence on a viewer's aggressive behavior. The processes may not seem as inevitable as infection by a virus or the start of

a cancer by a carcinogen, but they are well-understood psychological processes that operate in humans. The outcome of such processes is highly predictable—an increase in the likelihood that the young viewer of violent TV will behave more aggressively.

What Kinds of Violence Have the Biggest Effects?

Do all kinds of TV violence have the same effects? Does TV violence affect all people to the same extent? Given the substantial effect sizes that have been found in all the various types of research, these are important questions. Let us first deal with the “what kinds” of violence question.

Recent surveys of television violence have shown that about 75% of violent acts on TV are unpunished and almost 40% are committed by attractive and heroic characters (National Television Violence Study, 1996). Observational learning theory tells us that these are the “best” kinds of violence to show if we want children to imitate the violent scripts they see and adopt attitudes and beliefs condoning violence (Bandura, 1986). Violent acts that are perceived as morally justified and rewarded produce the strongest learning effects (Berkowitz, 1993). Other characteristics of the format of almost any violent presentation increase learning effects compared with many nonviolent presentations. For example, learning does not occur without viewer attention, and the rapid movements, changes in audio levels, and changes in emotions produced by violent scenes are very good at attracting children’s attention (Comstock & Paik, 1991).

At the same time, certain viewer characteristics that lead to different interpretations of violent content have been shown to be important in determining how much influence TV violence has on a viewer. Huesmann and Eron (1986) have reported data from several different countries showing that children who perceive TV violence as more realistic and who identify more with the aggressive characters

in the violent programs are influenced more by the violence. The children most at risk for behaving aggressively when they become young adults are not only those who watched a steady diet of TV violence but also those who perceived it as realistic and who identified with the aggressive characters (Huesmann & Moise, 1999).

Who Is Most Affected by Television Violence?

Jack Valenti, president of the Motion Picture Association of America, has said that, when his two children were younger, they watched a lot of violent TV. “They are now adults,” Valenti said, “and their integrity is preserved, and their values are intact, and their standards of conduct, I think, are pretty good” (as cited in Medved, 1995, p. 156). As media violence researchers, we have personally heard some version of this argument numerous times. Many people think that, although television violence can harm other people, it will not harm them personally (e.g., Innes & Zeitz, 1988). This optimistic bias is called the “third-person effect.” It is robust and pervasive (Davison, 1983). Most often, it is coupled with the implied argument that TV violence only affects a small number of people. In this section, we show that, *although TV violence may affect some types of people more than others, it has an effect on everyone.*

Age of Viewer

In the meta-analysis by Paik and Comstock (1994), an inverse relationship was found between age and the magnitude of the effect of TV violence on aggression and other anti-social behaviors. *The effects of TV violence were greatest for the youngest age group* (see Figure 11.6). This finding is consistent with what is known about the cognitive development of children. During the first years of life, children are developing social scripts and be-

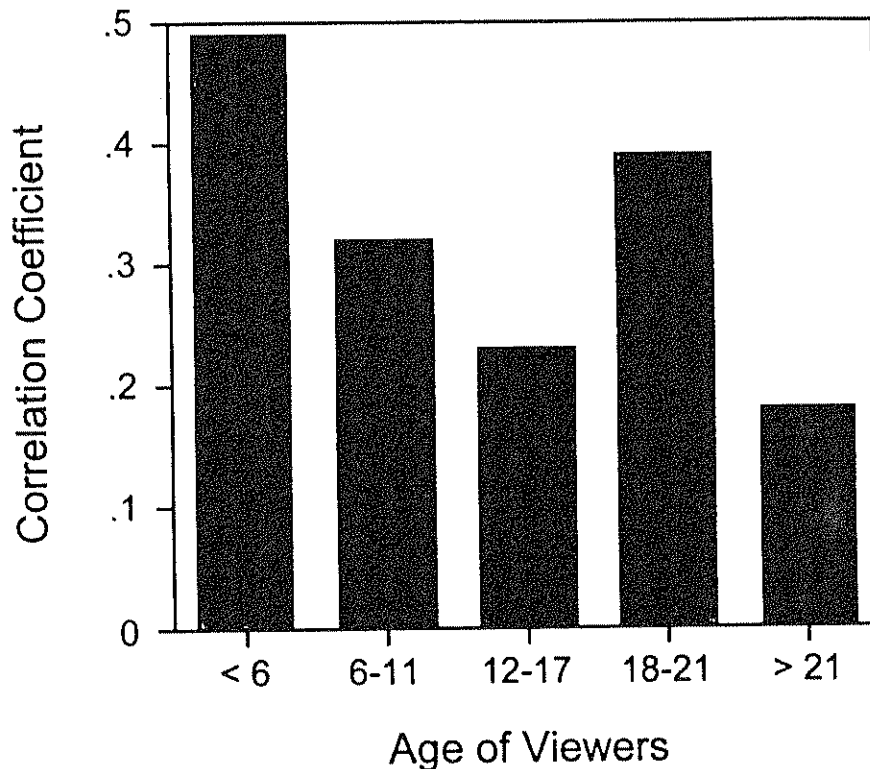


Figure 11.6. Effects of TV Violence on Antisocial Behavior for Viewers of Different Ages
 SOURCE: Data were obtained from Paik and Comstock (1994).

liefs that will influence behavior throughout their lifetime. As we noted at the beginning of this chapter, there is no better predictor of the chances that an adult will behave aggressively than whether that adult was an aggressive child. Childhood is the cradle of social behavior.

There are also more specific reasons why TV violence should have its biggest effects on young children. Younger children have a more difficult time distinguishing fantasy from reality—everything looks real to them (e.g., Davies, 1997; McKenna & Ossoff, 1998). Young children are more likely to imitate the unrealistic violence of cartoons and fantasy shows than are older children, and they are less likely to perceive crime shows and so on as unrealistic. As discussed earlier, children who think that TV violence is realistic are more influenced by it. Previous research has

also shown that TV violence is more likely to increase aggression when the violence is perceived as justified than when it is perceived as unjustified. But younger children have a more difficult time understanding such things as portrayed motives for aggression. Finally, as described above, TV violence is more likely to increase aggression when viewers identify with the aggressive character than when they do not identify with the aggressive character. The age group most susceptible to the influence of television role models is young children (e.g., King & Multon, 1996), who are more likely to identify with violent TV characters and imitate them than are older children or adults.

Early reviews of age effects focused on small differences in responses to experimental manipulations for children of different ages (Dorr & Kovaric, 1980). The more important

question is whether adults and older teenagers respond differently than children. In fact, it is difficult to find specific field studies with older teenagers or young adults that have shown significant relationships between current TV viewing habits and current aggressive behavior. Experimental studies do show short-term effects with college-age youth and even some longer-term effects on attitudes and beliefs. The strong consistent finding that long-term exposure to TV violence stimulates later habitual aggressive behavior only seems to hold up for exposure during childhood up to about the early teens. This is an important fact to remember when one considers social solutions to the problem of media violence. We especially need to protect young children from exposure to media violence.

Sex of Viewer

Paik and Comstock (1994) tested the moderating role of viewer sex in their meta-analysis of the effects of TV violence on antisocial behavior. In experimental studies, TV violence had a slightly stronger effect on males than on females ($r_s = .44$ and $.39$, respectively). In nonexperimental studies, TV violence had the same effect on males and females ($r_s = .18$ and $.19$, respectively). Their meta-analysis ignored how these effects may have changed over the past quarter century as female sex roles have changed in most industrialized societies. An examination of a few specific studies suggests that the effect of TV violence on females' behaviors has only become apparent during recent years as more aggressive female models have appeared on TV and as it has become more socially acceptable for females to behave aggressively.

In their longitudinal studies of girls growing up in the 1950s and early 1960s, for example, Eron and Huesmann (Eron et al., 1972; Huesmann, 1986) found no long-term effects of early childhood exposure to TV violence on girls' aggressive behavior at the time, 10 years later, or 22 years later. The significant

effects they found were only for boys. In their cross-national study of girls growing up in the 1970s and 1980s, however, they found comparable effects for girls and boys in the United States and in several other countries. For both genders, early high exposure to TV violence predicted greater aggressiveness at the time and 15 years later when they were young adults. Thus, TV violence increases aggressive and other antisocial behaviors in both males and females as long as society treats them fairly comparably and as long as female aggressive models are shown on TV.

Social Class of Viewers

Several studies have shown that children from lower social classes watch more television in general (e.g., Greenberg, 1974; Huesmann & Eron, 1986; Huston et al., 1992; Tangney & Feshbach, 1988) and more violent television in particular (e.g., Chaffee & McLeod, 1972) than do children from middle or upper social classes. It is also well established that children from lower social classes are more at risk to become violent young adults (Huesmann, 1986; Wilson & Herrnstein, 1985). Thus, a plausible conjecture might be that low social class is responsible for the relationship between TV violence viewing and aggression. The data contradict this conjecture. Within every social stratum, viewing TV violence increases the likelihood of behaving aggressively (Eron et al., 1972; Huesmann & Eron, 1986; Huesmann & Moise, 1999). Statistical controls for social class do not remove this effect, and only a few studies have shown a difference in effect sizes for different social strata (e.g., Noble, 1970).

Family Environment

It is not surprising that the family environment can influence the risks associated with viewing TV violence. If parents and older siblings have a heavy diet of TV violence, then

younger children will be exposed to more TV violence. But a variety of parental behaviors have also been shown to reduce the influence of TV violence (e.g., Singer, 1989; Tangney & Feshbach, 1988).

Obviously, if parents can limit the number of hours their child watches TV and restrict the types of programs the child can watch (e.g., programs with a "V" content code), the effects will be reduced. There is evidence that the effects of viewing violence can also be reduced by the parent's coviewing with the child (Tangney & Feshbach, 1988). Unfortunately, studies have shown that children watch TV with their mother less than 10% of the time (Comstock & Paik, 1991). Coviewing allows parents to discuss with their child how unrealistic the scene really was, what motivated characters to use violence, what a better response could have been, how the character might have solved the problem differently, and what the painful consequences of violence are. Parents can also be reassuring if something on TV seems frightening to the child (see Cantor, 1998a, and Chapter 10 for some excellent suggestions for helping a child who has been frightened by media violence).

Aggressive Predisposition of Viewers

There are theoretical reasons for predicting that the people who are most affected by TV violence are those who are characteristically aggressive. For example, the priming and cueing process described above explains how already existing aggressive scripts and beliefs might be activated when someone views TV violence. Bushman (1995, 1996; Bushman & Geen, 1990) recently extended this theory to explain how individual differences in aggressiveness could moderate the effect of viewing TV violence. In comparison to their less aggressive counterparts, individuals who are characteristically aggressive are presumed to have more extensive aggressive associative

networks in memory. Because they have more extensive aggressive networks, televised violence should have the strongest effect on aggressive people. The bulk of experimental evidence is consistent with these predictions. Immediately after watching a violent TV program, people who are characteristically aggressive have more aggressive thoughts and ideas, feel more angry inside, and behave more aggressively in comparison to those who are not characteristically aggressive (Bushman, 1995; Bushman & Geen, 1990; Friedrich & Stein, 1973; Josephson, 1987; Russell, 1992).

It is important to understand that this process predicts a less intense effect of media violence on low-aggression children only in the short run. Cueing and priming are not long-term socializing processes. In every longitudinal study that has examined both low- and high-aggression children, there has been evidence of TV violence affecting both types of children (see, for example, Eron et al., 1972; Huesmann, 1986; Huesmann & Eron, 1986; Huesmann & Moise, 1999; Milavsky, Kessler, Stipp, & Rubens, 1982).

One of the reasons why the TV violence effect may be so powerful is that aggression and TV violence viewing seem to feed on each other, at least in the short run. Although little evidence has been reported that more aggressive children turn to watching more violent TV in the long run, more aggressive children do seem to be attracted to viewing violent programs in the short run (e.g., Bushman, 1995; Fenigstein, 1979; Gunter, 1983; O'Neal & Taylor, 1989). This reciprocal relationship between TV violence and aggression can create a vicious cycle. Children are stimulated to behave aggressively by watching TV violence. They behave aggressively. Then they turn back to watching TV violence because it makes them feel better about having behaved aggressively, and the cycle continues. The fact that aggressive behavior usually makes children unpopular, and unpopular children watch more TV, may add to the process.

Intellectual Functioning of Viewers

Theoretically, one could argue that the effects of TV violence on aggression should be either greater for children with higher intellectual ability because they learn better or smaller for children of high intellectual ability because they are better able to perceive the unreality of TV violence. Several studies have shown that children with lower intellectual ability watch more television in general (e.g., Sprafkin & Gadow, 1986) and watch more violent television in particular (e.g., Chaffee & McLeod, 1972; Sprafkin & Gadow, 1986; Stein & Friedrich, 1972; Wiegman, Kuttschreuter, & Baarda, 1986). In addition, it is well established that children with low intellectual ability are more at risk of growing up to behave aggressively and violently (Berkowitz, 1993; Huesmann, Eron, & Yarmel, 1987; Wilson & Herrnstein, 1985). As with social class, one might then ask whether the observed relationship between TV violence viewing and aggressive behavior could simply be the result of low-IQ children watching more TV violence and behaving more aggressively. The answer is no! Most longitudinal studies have shown that the relationship between early exposure to TV violence and later aggressive and violent behavior remains robust even when one controls statistically for differences in intellectual or educational background (Belson, 1978; Eron et al., 1972; Huesmann & Eron, 1986; Huesmann & Moise, 1999; Singer & Singer, 1981). Low intellectual functioning does account for some of the relationship (e.g., Sprafkin, Gadow, & Grayson, 1987; Wiegman et al., 1986), but TV violence clearly affects both smart children and less smart children.

Effects of Warning Labels, Age-Based Ratings, and Content Codes on Attraction to Televised Violence

Because of political pressure exerted in the last decade, today's violent television programs

often contain a warning label (e.g., "This program contains violence. Viewer discretion is advised"), an age-based rating (e.g., "TV-M, Mature Audiences Only. . . . This program may be unsuitable for children under 17"), a content code (e.g., "V," for violence), or some combination of the three. Although warning labels and age-based ratings are directed at parents to permit them to monitor what their children watch on television, viewers of all ages might also use them to select TV programs. In particular, a number of researchers and policy makers have worried that warnings and ratings could make violent TV programs "forbidden fruits" and attract young viewers.

Attorney General Janet Reno has speculated that labels, warnings, and restrictive ratings might do nothing to reduce the amount of violence on television and might even increase the audience for it (Drevitch, 1994). According to Peggy Charren, founder of Action for Children's Television, "If you tell everybody, 'Hey, this program is going to be terribly violent and scare the wits out of you,' you'll get every teenager in America watching it" (as cited in Drevitch, 1994, p. 13). TV executives have been among the forefront of those making this argument. For example, Leslie Moonves, president of CBS entertainment, said, "My 12-year-old son, I'll take him to the video store and I'll say, 'What do you want to get?' He says, 'Anything with an "R" on it.' He does not even care what the movie is" (as cited in Bark, 1997, p. 63). Of course, the arguments of such executives must be read in light of their vested economic interest in violence and fear that ratings will reduce the economic viability of violence. Clearly, they fear that if warning labels and age-based ratings for a given program are considered by the public as a warning of the potentially harmful effects of television violence, then fewer people might watch the program. This would especially be true if the warning comes from an authoritative source and is seen by everyone as a warning about "tainted fruit" rather than simply an attempt to forbid a desirable fruit.

The bulk of the experimental evidence suggests that warning labels and age-based ratings

draw viewers to violent programs, but content codes do not have this effect (Bushman, 1997; Bushman & Stack, 1996; Cantor, 1998b; Cantor & Harrison, 1997; Cantor, Harrison, & Nathanson, 1997). In the typical study, subjects are given a set of fictitious titles from which to select a film to view. In one randomly selected group, a film receives one rating; the other group receives a different rating. Labeling a program as violent does not seem to make it more attractive, but labeling a program as "restricted" or for mature audiences does seem to increase its attractiveness to viewers. In particular, age-based restrictive ratings are much more likely to draw young viewers to violent programs than to repel them. Warning labels and age-based ratings increase attraction to violent programs in both male and female viewers ranging in age from 5 to 77 years.

Regarding the source of the warning, Bushman and Stack (1996) found that a warning from the U.S. surgeon general almost doubled the number of people who chose to watch a violent film. However, content codes (e.g., the code "V" for violence) did not show such an effect. Content codes do not appear to increase the attractiveness of a violent program (Bushman, 1997; Bushman & Stack, 1996; Cantor, 1998b; Cantor & Harrison, 1997; Cantor et al., 1997). This finding also applies to both males and females ranging in age from 5 to 77 years.

One of the problems with these experimental studies is that they cannot assess how the protective actions of parents in response to age-based ratings might balance out the attraction they provide for children and actually result in less exposure for children. It is clear from this research, though, that content codes are a much better bet for reducing the amount of TV violence to which our children are exposed.

For the TV industry, age-based ratings and warning labels serve the function of averting censorship policies being imposed by outside groups while not reducing the attractiveness of programming to young viewers. It is somewhat ironic that, even though age-based ratings and warnings can increase the attractive-

ness of TV programs with violence, the TV industry can claim that it is attempting to be more sensitive to the potentially harmful effects of TV violence.

Counteracting the Harmful Effects of Television Violence

The Role of Parents and Guardians

Sitting a child in front of a TV set can buy a parent time, a precious commodity to any parent, especially those who are single. However, the TV set is a shoddy baby-sitter, especially when TV content is not monitored. Parents are in the best position to counteract the harmful effects of TV violence on the child. The primary TV exposure a child experiences occurs in the home. TV viewing habits are established early in life and are quite persistent over time. The harmful effects of violent TV are also greatest for young children (e.g., Paik & Comstock, 1994). Thus, parents should take an active role rather than a passive role in counteracting the potentially harmful effects of TV violence.

Training for parents includes informing them of the negative effects TV violence can have on their child and teaching them how to counteract these negative effects. Parents should teach their child how to be a critical TV viewer. Previous research has shown that teaching children critical TV viewing skills can make them less susceptible to the harmful effects of TV violence (e.g., Abelman & Courtright, 1983; Eron, 1982; Singer & Singer, 1983; Watkins, Sprafkin, Gadow, & Sadetsky, 1988). Parents need to watch TV with their children and to discuss the unreality of the violence they see (Tangney & Feshbach, 1988).

The Role of the Television Industry

Some in the TV and film industry claim that viewing violence is therapeutic because it

allows individuals to drain their angry and aggressive impulses into harmless channels, producing a cathartic effect. As we pointed out earlier in this chapter, viewing violence is not cathartic. In her review of the relevant literature, Tavris (1988) concluded, "It is time to put a bullet, once and for all, through the heart of the catharsis hypothesis. The belief that observing violence (or 'ventilating it') gets rid of hostilities has virtually never been supported by research" (p. 194).

Others in the TV and film industry claim that violent media have no effect on violence and aggression. Consider the following quotes.

If you cut the wires of all TV sets today, there would still be no less violence on the streets in two years.

Jack Valenti, President of the
Motion Picture Association of America

No TV set ever killed a kid.

Lucie Salhany, Chairperson
of Fox Broadcasting

I don't think there is any correlation between violence on TV and violence in society.

Jim Burke of Rysher Entertainment

These kinds of opinions seem foolish in light of the scientific data. On the one hand, the TV industry charges hundreds of thousands of dollars for a few minutes of commercial airtime, claiming that TV advertisements can sell anything from canned goods to political candidates. On the other hand, the TV industry asserts that the hours of programming surrounding the few minutes of advertisements have no effect on viewers. This is an absurd contradiction. As former FCC chairman Reed Hundt said, "If a sitcom can sell soap, salsa and cereal, then who could argue that TV violence cannot affect to some degree some viewers, particularly impressionable children?" (as cited in Eggerton, 1994, p. 10).

Historically, violent TV programs have attracted *smaller* audiences than nonviolent pro-

grams have (Hamilton, 1998). Violent programs are valued by advertisers, however, because they attract younger viewers (e.g., 18- to 49-year-olds) and because they are slightly less expensive for the networks to purchase (Hamilton, 1998). Violent programming is also more likely to be exported to foreign broadcast markets than other types of programming, perhaps because violence loses less in translation than, for example, situation comedies that rely on some knowledge of the popular culture. According to Gerbner, "Violence travels well in foreign markets. It is a low-cost, high-circulation commodity" (as cited in Jenish, 1992, p. 40). In time, violent media might become America's most exportable commodity, making the United States the "bread-casket for the world" (Hammerman, 1990, p. 79).

It is unlikely that moral appeals from parents and other concerned citizens will influence the TV industry to reduce the amount of violent programming. The bottom line really determines what programs are shown on television. If advertisers refused to sponsor them, violent TV programs would become extinct. Several years ago, a spokesperson for the J. Walter Thompson Company stated, "The more we probe the issue, the more we are convinced that sponsorship of television violence is potentially bad business, as well as a social risk" ("Lousy Frames," 1977, p. 56).

The available research evidence is consistent with this conclusion in ways that TV executives might not realize. Commercial messages actually seem to be less effective if they are embedded in violent programs than if they are embedded in nonviolent programs (Bushman & Phillips, in press). Even if a commercial is interesting, enjoyable, and persuasive, it will not be very effective if the potential buyer cannot remember it. Violent action-adventure programs excite and arouse viewers. Previous research has shown that arousing programs impair attention to, as well as processing and storage of, commercial messages (e.g., Mundorf, Zillmann, & Drew, 1991; Pavelchak, Antil, & Munch, 1988; Singh & Churchill, 1987). But even when violent and nonviolent programs are matched in terms of how exciting and

arousing they are, violence impairs memory for commercial messages (Bushman, 1998).

The negative effect of TV violence on memory for commercial messages is at least partly due to the anger induced by the violence. Violent programs make viewers angry, and the more angry viewers are, the less they remember about commercial messages (Bushman, 1998). There are at least two reasons why anger might interfere with memory for commercials. First, the angry mood induced by violent TV programs might activate other aggressive thoughts and memories in viewers that interfere with rehearsal of commercial messages. Second, people who are angry might try to repair their moods, which takes a lot of effort and energy. During the time that advertisers hope viewers are absorbing their commercial messages, viewers may actually be focusing on themselves, trying to calm the anger brought on by what they have just seen on the screen. Thus, sponsoring violent programs might not be a profitable venture for advertisers.

The Role of the Government

The government has been involved in the TV violence debate since the 1950s. In 1972, the surgeon general concluded that TV violence was harmful to children and issued his famous warning about it (Steinfeld, 1972). Only recently has Congress actually acted to do something about the problem. The 1996 Telecommunications Act was passed and signed into law. This act mandated that new television sets be manufactured with a V-chip (short for violence-chip), a silicon sentry that will allow parents to block out TV programs with objectionable content. The act also mandated that TV programs be rated or labeled to provide information that can be read by the V-chip. When the V-chip is activated by a special code inserted by broadcasters into the TV signal, it scrambles the reception of the incoming picture.

One problem with the V-chip is that some parents have difficulty with modern technol-

ogy. During a Senate Commerce Committee hearing in July 1995, a Zenith television executive who was demonstrating how the V-chip worked struggled for more than 10 minutes and was unable to get the device to work, finally pleading to an aide, "Am I doing something wrong?" (Gray, 1996, p. 30). If this expert on V-chip technology can't make it work, how will the average parent make it work?

A bigger problem concerns the rating system adopted. Within a year of passage of the 1996 Telecommunications Act, the TV industry announced a new age-based rating system referred to as "TV Parental Guidelines." The television rating system is similar to the movie rating system used by the Motion Picture Association of America. Children's programs are designated with one of two ratings: (a) "TV-Y, All Children," or (b) "TV-Y7, Directed to Older Children." Other programs are designated with one of four ratings: (a) "TV-G, General Audience" ("Most parents would find this program suitable for all ages"); (b) "TV-PG, Parental Guidance Suggested" ("Some parents would find this program unsuitable for younger children"); (c) "TV-14, Parents Strongly Cautioned" ("Many parents would find this program unsuitable for children under 14"); and (d) "TV-M, Mature Audiences Only" ("This program may be unsuitable for children under 17"). Some violent TV programs also contain warning labels (e.g., "Due to some violent content, parental discretion is advised"). When applicable, TV programs are designated with one or more content codes. The five content codes are (a) "V" (violence), (b) "FV" (fantasy violence), (c) "S" (sex), (d) "L" (adult language), and (e) "D" (suggestive dialogue).

On the basis of the available empirical evidence, we can expect that these ratings will have a "forbidden fruit" effect on young viewers (see Chapter 34). Parents may try to limit children's exposure to programs rated "mature," but children will try hard to see them too. The better approach would be simply to use content codes rather than warning labels and age-based ratings. Content codes are quite informative (e.g., they allow parents to decide

which programs are appropriate for their children), but they do not draw viewers to violent programs. In other words, inform viewers but do not give them unwanted advice about what they should not watch on TV. The vehemence with which the TV industry has attacked content ratings makes one suspect that economic fear of sponsors rejecting violent shows is what has driven the TV industry's objections to content ratings.

Conclusion

In this chapter, we have reviewed the evidence relating TV violence to aggressive and violent behavior and have concluded that (a) TV violence has a short-term stimulating effect on aggressive behavior for viewers of all ages, and (b) TV violence has a long-term socializing effect that makes lifelong aggressive behavior more likely for children who watch a lot of it while growing up. We have concluded that this effect is not something that happens only to already aggressive children, only to poor children, or only to less intelligent children. Just as cigarette smoking raises the risk of lung cancer in everyone, exposure to a lot of media violence raises aggression in everyone.

Researchers have made substantial progress in understanding the psychological processes involved in how media violence affects children. Children who watch TV violence imitate the aggressive scripts they see; they become more condoning of violence; they start to believe the world is a more hostile place; they become emotionally desensitized to violence; the violence they see justifies to them their own violent acts; the arousal of the violence they see arouses them; and the violence they see cues aggressive ideas for them.

Unfortunately, understanding the process by which media violence may engender aggression in children does not immediately suggest a solution. Still, five points provide us with guidelines.

First, we need to be more concerned about the effects of TV violence on children than about the effects of TV violence on teenagers and adults. Media violence may have short-term effects on adults, but the real long-term effects seem to occur only with children. This makes some societal controls more palatable in a free society.

Second, the violent films and programs that may have the most deleterious effects on children are not always the ones that adults and critics believe are the most violent. The type of violent scene the child is most likely to use as a model for violent behavior is one in which the perpetrator of the violence is rewarded for the violence. Thus, a violent act by someone like "Dirty Harry" that results in a heinous criminal being eliminated and brings glory to Harry is of much more concern than a bloodier murder by a despicable criminal who is brought to justice. Parents need to be educated about these facts.

Third, we need to be aware that media violence can affect any child from any family. It is not, as some have suggested, only the already violence-prone child who is likely to be affected. 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 a little bit the likelihood of behaving more aggressively in some situation.

Fourth, broadcasters and film and program makers cannot avoid all responsibility and expect parents, governments, and others to control viewing violence. The argument that people watch it, so we give it to them, is not valid in a modern socially conscious society. It is unrealistic to expect parents to completely control what children watch in a society with multiple TVs in each household, VCRs everywhere, and both parents working.

Finally, we must recognize the economic realities of media violence. Violence sells. Both children and adults are attracted to violent scenes by the action and intense emotions. Many of the most popular shows and

popular films for children have contained violence. The income that a film generates is directly affected by how many viewers watch it. Even a 1% increase in viewers can increase profits by millions of dollars; the ability of violence to attract viewers is an important factor. Furthermore, violence is generally less expensive to produce because one can get by with trite, mundane stories that are poorly acted when one has violence to attract viewers (Gerbner & Gross, 1981). On the other hand, successful dramatic stories cost correspondingly more and require better talent.

What is the solution? Better parental control, more government control, training children not to be affected by media violence, electronic chips that cut out violence, and boycotting sponsors of violence may all be needed. Society needs to make decisions based on an appropriate balance between freedom of expression and protection of our children, and it is time for society to take this problem seriously and act. The future of our children and society is too precious for us not to act.

Notes

1. More precisely, the correlation between exposure to media violence and aggressive behavior represents the extent to which a graph of the two measures is a perfectly straight line. In other words, a correlation measures the "linear" relationship between two measures. A correlation of 0 means that there is no linear relation between the measures. However, the two might still be systematically related in some nonlinear manner.

2. Not all studies have replicated this finding (e.g., Hughes, 1980; Wober & Gunter, 1982).

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