

The Good, the Bad, and the Ugly of Electronic Media

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A person's knowledge about how the world works comes from many sources. In modern societies the primary sources of culture-defining stories are entertainment media corporations. The ideas, beliefs, and scripts that people acquire from stories are put to use in the real world, where they have consequences. For example, people exposed mostly to stories involving deceit, crime, and violence will tend to learn that the world is a hostile, mean, and violent place; that others are not to be trusted; that one must be on the lookout for possible threats; and that one must be ready to respond to threats aggressively. Such a hostile outlook can, in fact, create the hostile world that is expected in a type of self-fulfilling prophecy (Anderson, Buckley, & Carnagey, 2008). People with such an outlook tend to elicit hostile behavior from others and are unaware that their hostile expectations actually created others' hostile behavior. Instead, they feel validated in their belief about hostile others.

Our basic thesis is that changing maladaptive behavior patterns requires changing the underlying maladaptive knowledge structures and their reinforcing dynamics. In this chapter we (a) discuss the importance of studying aggression and violence through a risk and protective factor approach, (b) clarify some common misunderstandings regarding media violence studies, (c) describe a psychological perspective on how humans can learn through direct and indirect observations, and (d) summarize evidence on the effects of media violence, especially within field experiments. We conclude by presenting hypotheses on how prosocial media may be used to reduce antisocial cognition and behavior and offer policy relevant suggestions.

Framework: Media Violence—A Risk Factor of Aggression

Aggression is defined as behavior intended and expected to harm another person, who is believed by the perpetrator to be motivated to avoid the harm (e.g., Anderson & Bushman, 2002a). *Violence* is aggression that is severe enough to inflict serious physical injury. Risk and protective factors precede and either increase or decrease (respectively) the likelihood of aggression and violence. Such factors vary across developmental stages and involve individual, biological, and social factors (see Chapters 3 and 6).

Exposure to media violence is a risk factor at both the individual and societal levels. At the individual level, high exposure to media violence detrimentally affects normative beliefs about the acceptability of aggressive behavior and cognitive scripts that can drive aggressive behavior automatically (Carnagey & Anderson, 2003). At the societal level, high use of violent entertainment media increases the proportion of the population that endorses proviolence attitudes, beliefs, and expectations, and thereby increases the frequency of aggression-inducing provocations (Anderson et al., 2003). Because aggression and violence are multidetermined (see Chapter 3; Anderson, Gentile, & Buckley, 2007), media violence is best viewed as *one* of the many causal risk factors that increase the likelihood of aggression.

Still, the effects of media violence on aggression are larger than the effects of calcium intake on bone mass or of lead exposure on IQ in children (Anderson & Bushman, 2001). Media violence effects on aggression are larger than many other aggression risk factors such as low IQ and child abuse (see Figure 4.1). Media violence predicts real violence even when other risk factors

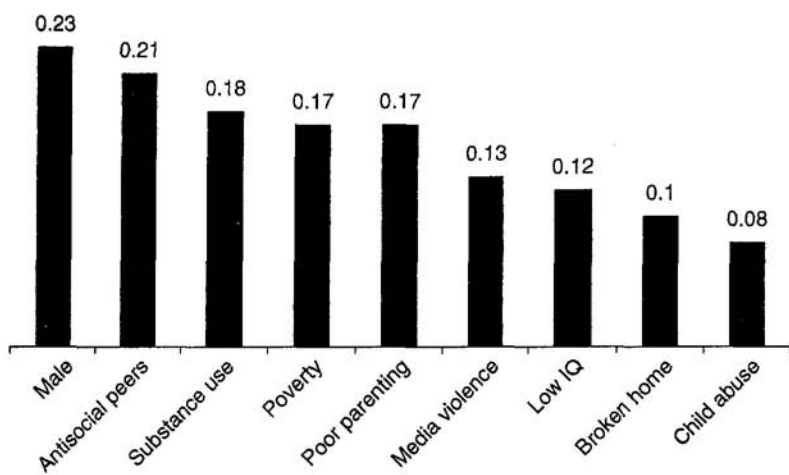


Figure 4.1. Effect sizes of risk factors for violence at age 15 to 18. (Adapted from Surgeon General Report of Youth Violence, 2001.)

are statistically controlled (Boxer, Huesmann, Bushman, O'Brien, & Mocerri, 2009). But, unlike most risk factors, media violence is unique in that most people are exposed to it and it costs little to reduce exposure.

Mechanism: Observational Learning

Observing (and subsequently imitating) other people's behavior is one of the most important sources of learned behavior (Bandura, 1973, 2002). In fact, observational learning is a key component of every theoretical account of media violence effects (Anderson et al., 2003). Once an observer attends to and remembers a new behavior, this new knowledge can guide future behavior. Use of such knowledge depends on motivation, which among other things is influenced by whether the observed behavior was rewarded or punished.

Observations of real behavior as well as symbolic observations, such as TV, video games, and other media, yield observational learning. Early childhood observations influence the construction and modification of knowledge structures, rules, attitudes, and behaviors that persist even in adulthood (Huesmann & Miller, 1994). Concerning antisocial cognitions and behaviors, media influences learning by (a) modeling specific behaviors (prosocial, neutral, antisocial); and (b) showing which types of behaviors are rewarded, punished, or ignored.

What Is Observed Through Television, Movies, and Video Games

Television, in the average U.S. household, is watched almost 5 hours a day (Nielsen Company, 2009). In the United States, 68% of 8–18-year-olds and 33% of children from birth to age 6 have a TV in their bedroom (Kaiser Family Foundation, 2005). Nearly two-thirds of TV programs contain some physical violence (Smith et al., 1998). A typical hour of television features an average of six different violent exchanges (Wilson, Colvin, & Smith, 2002). In programs targeted to young children, violence is even more prevalent. Roughly 70% of children's programs (compared to 60% of adult programs) contain violence (Wilson et al., 2002), whereas only 10% of the most popular children's shows contain prosocial lessons (Woodard, 1999). Fewer than 4% of violent programs shown on U.S. television contain any antiviolence theme (National Television Violence study [NTVS], 1998). Although far less is known about movie content, a content analysis of G-rated movies revealed that almost all contain violence, which often is portrayed as a response to a conflict. This content analysis also revealed that the duration of screen violence has increased significantly in the last 40 years (Yokota & Thompson, 2000).

Video games are very popular, and time spent playing them is on the rise (Escobar-Chavez & Anderson, 2008). Content analyses have shown that most video games contain some violent content, even children's games. For example,

Gentile (2009) found that 91% of video games rated as appropriate for 10 year olds are violent, as are 31% of games for younger children. Furthermore, violent games are preferred by children. More than half of 4th–8th-grade children report a preference for games in which the main action is violent (Buchman & Funk, 1996). The vast majority of 4th–12th-grade children play industry rated “mature” video games, which include graphic violence (Walsh et al., 2005).

The next section reveals that people (including children) extract the general meaning of what they see and apply these ideas, beliefs, and scripts to real-life situations. For example, playing violent video games involving war with fictitious aliens increases real aggression against real people in nonwar contexts (Anderson et al., 2004; Anderson, Gentile, & Buckley, 2007; Sheese & Graziano, 2005).

Effects of Violent TV and Movies on Aggressive Behavior, Attitudes, and Desensitization

Effects on Aggressive Behavior

Research robustly indicates that television and film violence is associated with aggression (see Anderson et al., 2003 for a detailed review). For example, meta-analysis of over 200 studies involving over 43,000 participants demonstrated that the evidence for negative effects of media violence is strong and its strength is increasing (Anderson & Bushman, 2002b; Bushman & Anderson, 2001). Furthermore, no group—distinguished by age (children, adolescents, young adults), sex, or personality type—is immune to these effects.

Studies With Children

Decades of experiments reveal that violent media increases children’s aggression (e.g., Bandura, Ross, & Ross, 1961; Bjorkqvist, 1985; Liebert & Baron, 1972). For example, children who watched a single violent *Power Rangers* episode committed significantly more intentional acts of aggression inside the classroom (e.g., hitting, kicking, shoving, and insulting) than those in a control condition (Boyatzis, Matillo, & Nesbitt, 1995). Indeed, for every aggressive act perpetrated by children in the control group, there were seven aggressive acts committed by children in the *Power Rangers* group.

Longitudinal studies reveal that early childhood exposure to media violence uniquely predicts later aggression and violence, even after controlling for other causal risk factors (Huesmann, Moise, Podolski, & Eron, 2003). Indeed, these researchers found that TV violence exposure in childhood significantly predicted adulthood violent and criminal behavior.

Studies With Adolescents and Adults

Leyens and colleagues (1975) studied delinquent boys in a residential facility who were randomly assigned to cottages and to viewing either a violent or

nonviolent film every evening for a week. Boys exposed to the violent films engaged in significantly more physical assaults on their cottage mates compared to boys exposed to nonviolent films. Correlational studies of violence yield similar effects (see Paik & Comstock, 1994 for a review). For example, McLeod, Atkin, and Chaffee (1972) studied the link between "aggressive behavioral delinquency" (fighting, hitting, etc.) and TV viewing habits of junior high and high school students. Exposure to TV violence was positively linked to aggressive behavioral delinquency for both boys and girls. In a longitudinal study, Johnson and colleagues (2002) found that TV exposure at age 14 predicted assault and fighting behavior at age 16 and 22, even after controlling for other risk factors. More recent results from experiments using undergraduate students are consistent with these findings (see Anderson et al., 2003).

Effects on Aggressive Attitudes and Beliefs

The media often glamorizes criminal acts (Garofalo, 1981; Marsh, 1991), and it may be an important source of inaccurate beliefs about the consequences of crime (e.g., Kappeler, Blumberg, & Potter, 1993). Studies indicate that media violence changes beliefs and attitudes toward violence among children, adolescents, and adults (see Anderson et al., 2003). Exposure to media violence leads viewers to see the world as more hostile than it really is, and it increases the acceptability of violence. Longitudinal studies reveal that exposure to TV violence in childhood increases the acceptance of violence 15 years later (e.g., Huesmann & Moise, 1999).

Effects on Desensitization

Another way media violence can influence aggression is by reducing the normal inhibitions that most people have against such behavior. Desensitization occurs when there is an extinction of fear and anxious reactions toward violence, which can be manifested through decreased attention to violent events, decreased sympathy for violence victims, and decreased negative attitudes toward violence. A consequence is moral disengagement, in which someone not only fails to refrain from behaving inhumanely but also fails to invest in social obligations (Bandura, 1999). Those who are morally disengaged are more likely to aggress, because they rationalize or justify the use of violence and do not adopt countervailing social values.

Exposure to violent media is associated with tolerance for violence, willingness to engage in aggression, lower empathy for violence victims, and lower willingness to intervene on behalf of a victim (Anderson et al., 2003; Bushman & Anderson, 2009). These effects have been found for children, adolescents, and adults (Linz, Donnerstein, & Penrod, 1984; Mullin & Linz, 1995; Thomas & Drabman, 1975). The increased frequency, realism, and graphic portrayal of violence in media may indicate that modern societies (such as the

United States) have become desensitized and have a higher tolerance for violence than ever before (Hayes, 2007).

Effects of Violent Video Games

Video game violence may have greater effects on behavior than other forms of media violence (Gentile & Anderson, 2003). Meta-analytic reviews demonstrate that video game violence exposure increases aggressive cognitions, aggressive behaviors, hostile affect, desensitization, and physiological arousal, and decreases prosocial behavior and empathy (Anderson et al., 2010). Longitudinal studies indicate that children and adolescents who frequently play violent video games become more aggressive and delinquent over time, even after controlling for earlier aggressiveness and other variables (e.g., Anderson et al., 2007, 2008; Hoph, Huber, & Weis, 2008; Moller & Krahe, 2009). Video game violence also increases aggression-related beliefs and attitudes, including beliefs that other people intend to harm one (e.g., Anderson et al., 2007; Moller & Krahe, 2009). Similarly, such exposure leads to violence desensitization and reduced empathy for victims of violence (e.g., Bushman & Anderson, 2009).

Factors That Influence the Effects of Media Violence

Effect-Boosting Factors

Media violence is more likely to elicit aggressive behavior if it is portrayed as unpunished or rewarded (Bandura, 1986), effective (Tan, 1986), justified (Bandura, 1973), lacking consequences (Potter, 1997); if the viewer identifies with the perpetrator of violence (Bandura, 1986) and perceives it as realistic (Huesmann & Eron, 1986); and if it is arousing (Mustonen & Pulkkinen, 1993). The portrayal of consequences (or lack thereof) is especially central to what is learned (Bandura et al., 1961). An extensive study of 2,500 hours of U.S. television programs found that only 19% of aggressive actors were punished for their aggressive actions and 8% were both punished and rewarded (NTVS, 1997). Similarly, most violent video games reward their characters (and players) with points, money, or status for aggression, and such rewards increase later aggression (Carnagey & Anderson, 2005). Thus, violent actions in these forms of media are more likely to be learned and to lead to future aggression.

Effect-Attenuating Factors

In contrast, some factors *reduce* the effects of media violence on aggression, including parental involvement (Anderson et al., 2007; Nathanson, 1999) and

focusing on the consequences to the victim (Wilson et al., 1999). Focusing on the victim prompts aversive reactions that decrease the likelihood of imitation. Such a focus also prompts perspective taking, which in turn might increase prosocial behavior (Hoffman, 2008).

Media Exposure Effects on Other Risk Factors for Aggression

Media exposure may also have indirect effects on aggression by causing attentional problems, poor educational and reading performance, and substance abuse (see Chapter 3). Recent research indicates that high exposure to television (entertainment rather than educational) programs and video games is associated with attentional problems (e.g., Bailey, West, & Anderson, 2010, in press; Bioulac, Arfi, & Bouvard, 2008; Johnson, Cohen, Kasen, & Brook, 2007; Swing, Gentile, & Anderson, 2010). Some studies suggest that TV viewing (Koolstra & Van der Voort, 1996), particularly entertainment viewing (Ennemoser & Schneider, 2007), is negatively associated with reading achievement. Longitudinal studies indicate that there is strong association between exposure to alcohol advertisements and early alcohol use (e.g., Collins, Ellickson, McCaffrey, & Hambarsoomians, 2007). Alcohol use is depicted in more than 70% of popular television shows among 12-to-17-year-olds (Christensen, Henriksen, & Roberts, 2000) and in most (92%) popular movies (Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006). Furthermore, nearly 20% of PG-13 movies portray illegal drug use (Roberts, Henriksen, & Christenson, 1999). These exposures are associated with more favorable attitudes toward alcohol, early initiation of alcohol use, and increases in alcohol consumption (e.g., Pechmann & Shih, 1999; Sargent et al., 2006).

Effects of Prosocial Media Content

Effects of Prosocial Media

Prosocial behavior is action that benefits another being. Although pure, non-violent prosocial behavior is relatively rare in the media, documented effects of such media include increases in friendliness, positive social interactions, altruism, cooperation, self-control, and delay of gratification; and reduction of stereotypes (see Mares & Woodard, 2005, for a detailed review). A meta-analysis of 34 studies involving more than 5,000 children found that viewing prosocial media enhances children's prosocial behavior (Mares & Woodard, 2005). Several studies on prosocial content have focused on *Sesame Street*. Beyond educational benefits, *Sesame Street* viewing increased social skills and prosocial attitudes, including nonracist attitudes and behaviors (Ball & Bogatz, 1970; Huston & Wright, 1998; Rice, Huston, Truglio, & Wright, 1990). Similar effects

have been observed for other prosocial shows like *Mr. Rogers' Neighborhood* (Hearold, 1986).

Some shows presented as “prosocial” are not. “Prosocial” media in which the “good guys” achieve social justice by beating up the “bad guys” actually decreases prosocial behavior (Mares & Woodard, 2005). Similarly, frequent viewers of superhero shows in which the heroes defeat villains with physical violence (e.g., *Power Rangers*) are relatively likely to judge aggression in hypothetical situations as morally correct (Krcmar & Curtis, 2003) and to behave more aggressively and less prosocially (Liss, Reinhardt, & Fredriksen, 1983).

Prosocial video game exposure also relates positively to prosocial behavior (Gentile et al., 2009). In correlational and longitudinal studies, adolescents who frequently played prosocial video games were significantly more likely to display prosocial behavior (e.g., cooperation, empathy, helping someone in need). In an experimental study, participants who were randomly assigned to play a prosocial video game were more likely to help others on a subsequent task than those who played neutral or violent games.

Effects of Educational Media Content

Educational media can teach or improve personal skills. In a longitudinal study of low-socioeconomic status preschoolers, Wright et al. (2001a) found that viewing educational TV programs (such as *Sesame Street*) positively predicted time spent reading, letter-word knowledge, math skills, vocabulary size, and school readiness 3 years later, even after controlling for demographic variables and preschool attendance (see also Wright et al., 2001b). In a study that exposed children ages 5–8 to a safety videotape that portrayed children engaging in both injurious recreational behavior and alternative safe behavior, Potts and Swisher (1998) found that children’s willingness to take physical risks was decreased and their identification of injury hazards was increased. Moreover, educational video games have been shown to increase performance in a range of areas from algebra to computer programming (e.g., Fery & Ponserre, 2001; Murphy, Penuel, Means, Korbak, & Whaley, 2002; Subrahmanyam & Greenfield, 1994). Video games also have been used to teach life skills to students with severe learning disabilities (Standen & Cromby, 1996) and health self-care behaviors to children with asthma and diabetes (Lieberman, 2001).

Using Media for Good

Media are being used to target global problems such as overpopulation, illiteracy, women’s inequality, environmental destruction, and AIDS (see Singhal, Cody, Rogers, & Sabido, 2004). Bandura (2001) and his colleagues have designed dramatic serials on television and radio to inform and motivate people to change their behavior to alter detrimental societal norms and practices.

For example, a serial drama was aired to address family planning issues in a region in Kenya. Compared to the control region (with additional statistical controls), contraception use in the broadcast region increased by 58% and family size declined 24% (Westoff & Rodriguez, 1995). Thus, media models can activate, channel, and support prosocial behavior (Bandura, 1986).

Although these results are promising, caution is warranted. First, media campaigns have shown limited effectiveness with children as isolated strategies for prevention (Schilling & McAlister, 1990), although they seem to enhance the effects of other school- and community-based prevention programs (Perry, Kelder, Murray, & Klepp, 1992) in addressing issues as substance abuse (e.g., Pentz et al., 1989; Perry et al., 1992). Second, among late adolescents and adults, media campaigns sometimes seem to exacerbate negative target attitudes (i.e., boomerang effects) and behaviors instead of inducing positive change (see Cantor & Wilson, 2003, for a review).

Implications for Correctional Practice

One implication of media effects research for correctional practice is that violent media are likely to reinforce offenders' antisocial ideas, beliefs, and scripts, and to increase the likelihood of violent behavior. Relevant research in correctional settings is limited, but Waite, Hillbrand, and Foster (1992; see also Parke, Berkowitz, Leyens, West, & Sebastian, 1977) longitudinally examined the effects of disallowing MTV in a forensic hospital on aggressive behavior. At the time, MTV showed mostly music videos, which tend to focus on sexual and violent themes. Disallowing MTV reduced verbal (32%) and physical (47%) aggression. Although there are methodological limitations to this study, results suggest that reducing exposure to media violence exposure may reduce aggression in correctional settings. Of course, more research with better methodological controls is needed to support this idea.

A second implication is that positive media could promote prosocial behavior. Antisocial cognition, including beliefs supportive of crime, anger, and criminal identity (Andrews, Bonta, & Wormith, 2006), is one of the main risk factors for aggression and other crime (see Chapter 6). Research shows that these cognitions are easily learned and conditioned but are resistant to change (Huesmann, Eron, & Dubow, 2002). Thus, it could be the case that prosocial media makes little difference if provided late (i.e., adulthood intervention) rather than early (i.e., childhood prevention). Still, whether positive media promotes prosocial behavior among juvenile and adult offenders is a question open to empirical testing. Social-cognitive theories suggest that this may be a fruitful avenue of research. Exposure to prosocial media could (a) increase the accessibility of prosocial thoughts and scripts, providing adaptive alternatives to aggression, (b) reduce risky thinking (e.g., believing the world is hostile) that can foster aggression, (c) reduce the likelihood of imitating aggression by avoiding its glamorization and showing realistic

consequences, (d) increase the likelihood of prosocial behavior by showing that it is rewarded, (e) increase empathy and perspective taking toward victims of aggression (Shechtman, 2008), perhaps “re-sensitizing” individuals by increasing their normal negative emotional response to violence (see Nathanson & Cantor, 2000). More research is needed to investigate whether media (which is low cost) can enhance the effectiveness of cognitive behavioral interventions in reducing antisocial cognition and violent recidivism.

Media and Public Policy

Given parents’ and others’ concerns about the amount of violence in today’s media (Gentile & Walsh, 1999) and the overwhelming evidence of its detrimental effects, it is surprising that little has been done to minimize children’s exposure to media violence. In this section, we summarize past attempts to do so before making recommendations for progress.

Past Attempts

Although attempts have been made to reduce children’s media exposure in the United States, most have failed (see Anderson et al., 2003; Kunkel et al., 2001). For example, children’s access to violent video games has not been effectively restricted because the courts do not perceive a sufficiently strong causal connection between such media and aggression to warrant First Amendment intrusion (Gentile, Saleem, & Anderson, 2007). Still, the industry has adopted “voluntary” regulatory policies, including attaching age-based ratings to their products. However, these ratings have been criticized as inconsistent, inaccurate, and confusing to parents (e.g., Gentile, 2009; Greenberg, 2001). For example, independent analyses suggest that the Entertainment Software Review Board (ESRB) underreports violence in video games by almost half (Thompson & Haninger, 2001). Furthermore, age-based ratings encourage children to seek older fare (e.g., Cantor, 1998), perhaps because they desire what is forbidden (Bushman & Stack, 1996). Fundamentally, there is the option for parents to discourage or regulate children’s TV viewing and video game playing. Two small-scale intervention studies suggest that such actions can improve children’s outcomes, including the reduction of aggression (e.g., Huesmann et al., 1983; Robinson et al., 2001).

Suggestions for Policy and Practice

Based on past research, we make the following policy suggestions to mitigate children’s exposure to media violence:

1. Implement (or emphasize) content code ratings rather than age-based ratings. Content code ratings would specify questionable material

- (e.g., sex and violence). There is evidence that content ratings are more informative and less likely to attract young viewers (Cantor, 1998) than age-based ratings.
2. Use a single rating system rather than the multitude that currently exist. A science-based organization that is independent of the media industry (such as the American Psychological Association, the Association for Psychological Science, or the American Academy of Pediatrics) should develop a reliable and valid system that is informed by research on what content is harmful, and that is informative to parents. An independent organization should implement the rating system; and media might be encouraged, such as by market forces, to label their products with this organization's ratings. Organizations that have a vested interest in producing and selling media products (such as media companies) should not be allowed to interfere with the creation, composition, or deliberations of the independent organization(s) charged with creating and implementing the systems.
 3. Conduct a media campaign to correct misconceptions and increase awareness about media effects, with three target audiences: parents, schools, and pediatricians. First, the campaign should target getting parents actively involved in reducing their child's exposure to violent media (see Nathanson, 1999). For example, the American Academy of Pediatrics (2007) recommends that children under 2 not be exposed to any screen media, and those over age 2 not spend more than 2 hours per day exposed to electronic screens (e.g., TV, movies, video games, Internet). Second, the campaign should target schools and school boards, which can implement media literacy programs to educate children about unrealistic portrayals observed in media, including the unrealistic consequences of aggressive and violent acts (for an example of an effective program, see Robinson et al., 2001). Third, the campaign should target pediatricians, who could provide information to parents about unhealthy media habits and their outcomes (e.g., increase in aggression, favorable attitudes toward alcohol and drugs, and attention problems).

Policy-Relevant Gaps to Address in Future Research

First, although there is preliminary evidence that prosocial media can affect positive societal changes, there are only a handful of media interventions that have achieved successful short-term and long-term outcomes. Thus, there is a need for controlled experimental research to identify what kinds of factors in a media intervention can successfully influence attitudes and behaviors in the long term, and how unanticipated boomerang effects can be avoided. Second, the effect of prosocial media on offenders' aggression is essentially unknown. It would be useful to test the effects of prosocial media (e.g., TV, movies,

video games) embedded in cognitive-behavioral interventions on offenders' recidivism. The work of Bandura and others on the use of serial dramas to affect positive attitudinal and behavioral changes in several domains of risky behavior could serve as a model for the creation of engaging, entertaining electronic media for use in correctional settings. Third, truly large-scale longitudinal research is needed to examine the unique, additive, and interactive effects of media violence and other known risk factors on violence from childhood to adulthood.

Conclusion

Electronic media have immense effects on socialization. Given the prevalence and glamorization of violent media in our society, it is not surprising that antisocial cognition and behaviors are common. If we want a society that is less prone to aggression and violence, we need to promote media that teach prosocial problem solving. Also, rather than eliminate war movies, police drama, or first-person shooter video games, we must change the context of the stories being told and the audiences that are exposed to potentially harmful content. Because of the dearth of positive media, a potential untapped market is opened up to media conglomerates that would also, in turn, benefit society. Improvements in each of these factors should reduce societal acceptance and prominence of antisocial cognitions, norms, and behaviors.

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