# Violent media effects: current theory and evidence

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## Introduction

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## Key points

- Exposure to media violence can have harmful effects on children, adolescents, and young adults.
- These effects occur during and immediately after exposure.
- Repeated exposure has enduring, long-term harmful effects.
- Harmful effects include increased aggressive (even violent) behavior, decreased empathy, and development of an aggressive personality.
- Parents and other caregivers, institutions (e.g., day care centers, schools), and public policy can reduce these harmful effects.

## Glossary

- **Cognitive script**: A set of knowledge structures responsible for guiding behavior through a series of events (e.g., ordering food at a restaurant; appropriately responding to a provocation).
- **Desensitization**: A reduction in emotion-related physiological reactivity to real violence.
- **Excitation transfer**: A process in which the arousal derived from a previous event serves to amplify the excitatory response to the subsequent event.
- **Hostile attribution bias**: A tendency to interpret ambiguous provocations by another person as intentionally hostile rather than benign.
- **Knowledge structure**: A cognitive organization of information in a way that assists in guiding behavior and processing information within the environment.
**Abstract**

Exposure to media violence can increase the likelihood of aggressive and violent behavior, and also lead to other harmful effects on youth as well—including children’s play with real guns, risk glorification, sexual violence, stereotyping of gender and minorities, and decline in prosocial behavior. The psychological processes underlying harmful media violence effects are explained, using the General Aggression Model. Appropriate interventions by parents and school systems, and others are explored, to promote more informed parent, caregiver, policymaker, and consumer decisions.

**Introduction**

In the last quarter century, the advancement of technology has revolutionized the ways in which people entertain themselves. Smart phones, tablets, home computers, video game devices, social media and the internet provide access to television shows, news (fake and real), films, video games and much more. A decade ago youth in the United States spend an average of 7.5 h per day consuming media (Rideout et al., 2010) constituting nearly a full-time job. One survey indicated that among a nationally representative sample of US adolescents, 71% of 14-year-olds and 35% of 10-year-olds had seen at least one extremely violent movie. For children without rules in the home regarding violent television viewing, this percentage rises to 87% (Worth et al., 2008).

Such high levels exposure to media naturally leads to questions regarding the short and long-term effects of such exposure. After all, when consuming media, individuals do not merely watch a blank screen. They observe and participate in rich stories with themes, lessons, and portrayals that make lasting impressions on viewers. Such activity not only allows one to enjoy the experience of another (real or fictional), but also allows one to learn from that experience. With this in mind, many researchers have focused on major content themes within media to examine their effects on consumers. Perhaps the most prevalent of these themes, and thus the most heavily researched, is the presence of violence.

A large portion of mass media contains violence (e.g., Linder and Gentile, 2009; Smith et al., 1998; Thompson and Haninger, 2001; Thompson et al., 2006; Yokota and Thompson, 2000; Wilson et al., 1997, 1998). Hundreds of studies have investigated the effects of this type of media on the consumers (Anderson et al., 2010; Bushman and Huesmann, 2006; Wartella and Reeves, 1985).

**Definitions**

Aggression is defined as “any behavior directed toward another individual that is carried out with the proximate (immediate) intent to cause harm. In addition, the perpetrator must believe that the behavior will harm the target, and that the target is motivated to avoid the behavior” (Anderson and Bushman, 2002, p. 28) (see also the Aggression entry in this encyclopedia). Violence is defined as an act of aggression with extreme harm as its goal (Anderson and Bushman, 2002).

However, media violence is usually defined as media portrayals of characters trying to harm other characters. With rise of social media another form of media violence has become widely consumed, in which real people attempt to harm others in public forums. In sum, both minor and severe forms of aggression qualify as “media violence.” (A more specified discussion of the influence of these media types on mental health are found in the “Video Games and Mental Health; and Television, Media Use, and Mental Health” entries in this encyclopedia.)

**Aggressive outcomes following violent media exposure**

After decades of research a clear finding emerges: violent media exposure is a causal risk factor for increases in aggression (American Academy of Pediatrics, 2009; American Psychological Association, 2005; Anderson et al., 2003a, 2010, 2017a; Bushman and Huesmann, 2006; Calvert et al., 2017; International Society for Research on Aggression, 2012). These findings have been replicated across cultures, ages, and gender (e.g., Anderson et al., 2003b, 2010, 2017b). Consistent findings occur regardless of how aggressive behavior is measured as well.

Violent media exposure has been found to increase likelihood of verbal aggression (Parke et al., 1977; Krcmar and Farrar, 2009), children’s aggressiveness during free-play (Silvern and Williamson, 1987), physical aggression in the form of noise blasts administered to another person (Zhang et al., 2021), administering hot sauce to another individual known to dislike spicy food (Barlett et al., 2009b), and online aggression (Li, 2021; Zheng et al., 2021). Similarly, exposure to online violence increases the likelihood of later cyber-aggression in school children (Chiang et al., 2021).

One recent study (Greitemeyer, 2018) found that playing violent video games not only increases the aggressiveness of the player, but spreads to other adolescents in the player’s social network, even friends who do not themselves play violent games. In other words, the likelihood of adolescents behaving aggressively is higher if their friends play a lot of violent games, even if they are not habitual violent gamers themselves. Another recent study found that preschooler’s engagement with superhero violent media predicted increased physical and relational aggression 1 year later (Coyne et al., 2017).

One of the most important recent developments has been even stronger evidence that violent behavior is increased by high exposure to media violence. Earlier research provided some good evidence of this effect (e.g., Anderson et al., 2003a; Huesmann et al.
2003). Several more recent large scale longitudinal studies now confirm that high exposure to media violence at an early age roughly doubles the likelihood of later violent behavior, including use of weapons, as many as 10 years later (Huesmann et al., 2021; Kanz, 2016; Ybarra et al., in press).

An especially ingenious experiment found that children who watched a brief video clip that contained a violent act involving a handgun were more likely to play with a real gun than those who saw the same violent clip but with the gun image removed (Dillon and Bushman, 2017).

At a societal level, Jamieson and Romer (2021) found that an increase in the amount of gun violence portrayed in US prime time TV, from 2000 to 2018, was matched by the rise in gun-based homicides.

**Underlying processes**

How does consumption of violent media produce increases in aggressive—even violent—behavior? Numerous theories have contributed to better understanding this question. The General Aggression Model (GAM; Anderson and Bushman, 2002, 2018) serves as the most comprehensive, contemporary framework through which domain-specific theories are integrated to help explain how these phenomena occur, but all modern social-cognitive theories also apply.

**General aggression model**

GAM delineates both short and long-term processes that lead to aggression. Short-term processes are represented by GAM’s single-cycle episode (Fig. 1). The single-cycle begins with two forms of input. The first form of input derives from the characteristics of the person that are carried across situations. These include personality variables, attitudes, and biologically based dispositions such as trait aggressiveness or high testosterone. The second form of input is the situation itself. This includes qualities of the immediate situation that lead to increases or decreases in aggression such as provocation or being in an aggression-inhibiting setting (e.g., church).

![Fig. 1](overview_general_aggression_model.png)

**Fig. 1** Overview of the general aggression model.
Next, these forms of input influence internal states, which consist of affect, cognitions, and arousal. These internal states are highly interactive—for example, following a provocation, aggressive cognitions (e.g., aggressive fantasizing) may increase aggressive affect (e.g., feelings of irritation or frustration), which increase arousal (e.g., heart rate). These internal states then influence decision-making processes that determine a behavioral outcome.

Decision-making processes begin with an initial appraisal, which can occur with or without conscious awareness. If the initial appraisal is deemed appropriate, then a behavioral response will immediately occur. However, if the initial appraisal is considered unsatisfying and important, and if the individual has sufficient time and cognitive resources available, then reappraisal is likely to occur. If the reappraisal is considered satisfactory, then a thoughtful action (or inaction) will likely follow. Importantly, a reappraisal is not guaranteed to reduce the aggressiveness of a behavior nor is an impulsive decision guaranteed to increase the aggressiveness of a behavior. Once a behavioral response is selected and executed, the situation is influenced by the behavior, and thus begins a new cycle.

Although applications of GAM are not limited to understanding the influence of violent media, it serves as a theoretical foundation through which such effects are understood. Next, several of the domain-specific theories of aggression which GAM incorporates are briefly described.

**Cognitive neo-association theory (priming)**
GAM is a biosocial cognitive model of aggression. Cognitive neo-association theory Berkowitz (1990) expands on the earlier frustration-aggression hypothesis, which states that aggression occurs as the direct result of frustration, defined as a reaction to the thwarting of a goal. Cognitive neo-association theory proposed that aggression is the result of experiencing an aversive event. Aversive events produce negative affect, which is automatically associated with fight or flight tendencies. Critically, cognitive neo-association theory incorporated a knowledge structure approach to understanding how aggressive cues, such as witnessing violence, increase aggression. The theory posits that aggressive thoughts, emotions, and behavioral tendencies are linked together in memory, forming a network of related concepts (Collins and Loftus, 1975). For example, the word "gun" is much more closely related to the word "kill" than is the word "cucumber." When exposed to images of violence, related concepts are automatically activated in memory, effectively priming the mind to use aggression-related concepts.

This theoretical account has received support from many studies. For instance, individuals who just played a violent game are more likely to fill in the letters of fragmented words in a way that produced more aggressive words compared to nonaggressive words (Carnagey and Anderson, 2005; Barlett and Rodeheffer, 2009). For example, the word "explo_e" can be completed to form "explore" or "explode." After playing a video game that involved shooting enemy soldiers, participants were more likely to associate aggression-related words with their self-concept in an implicit association task compared to participants playing an identical game involving the watering of flowers in place of firing on enemies (Bluemke et al., 2010). Other studies using other measures of aggressive thinking have found that brief exposure to violent media increases the amount of violent content in written stories, speed of recognizing and reading aggressive words, negative attitudes toward Arab/Muslims, and biased similarity ratings of aggressive/ambiguous word pairs (e.g., Anderson et al., 2003b; Bööme, 2010; Bushman and Anderson, 2002; Saleem and Anderson, 2013; Zhang et al., 2021). In contrast, studies of prosocial media effects on prosocial behavior demonstrate that playing prosocial games reduces the accessibility of aggressive thoughts and increases prosocial behavior (Gentile et al., 2009; Greitemeyer and Osswald, 2009), providing evidence that the same basic psychological principles underlying the harmful effects of violent media also underlie the positive effects of prosocial media. Importantly, cognitive processes such as these appear to be largely responsible for aggressive behavior following brief violent media exposure (Anderson and Dill, 2000; Barlett and Anderson, 2013; Carnagey and Anderson, 2005; Zhang et al., 2021).

**Script theory**
Script theory (Abelson, 1981; Huesmann, 1988) holds that individuals develop knowledge structures responsible for guiding behavior within any given social context. For example, when entering a restaurant, patrons often know the precise steps to conduct business in a socially appropriate manner: enter, wait to be seated, view the menu, order food, eat, pay, and lastly, leave. Script theory contributes to the understanding of violent media effects by elucidating the ways in which such scripts are developed, reinforced, and ultimately guide behavior.

When viewing violent media, individuals repeatedly observe aggression within a rewarding context. Protagonists in films, television shows, and video games are frequently rewarded for providing violent solutions to problems. Meanwhile, the consequences (e.g., pain, fear, and collateral damage) associated with aggression and violence are often underrepresented in such media. These characteristics effectively make the act of aggression appear as more attractive and less threatening than it truly is in real life, consequently making it easier for viewers and players to imagine themselves acting aggressively and having positive outcomes. Supporting evidence indicates that the viewing of violent television shows is associated with aggressive fantasizing in boys (Viémero and Paajanen, 1992) and other research indicates that imagining oneself taking a particular action increases one’s intentions to take such action (e.g., Anderson and Godfrey, 1987). Furthermore, media violence research has found that children who actively imagine themselves as the violent characters in their media diet are also the ones most likely to behave aggressively (e.g., Konijn et al., 2007; Leyens and Picus, 1973).

Generally, the increased positive associations and reduced negative associations between violence and aggression feed into decision-making processes when selecting a most appropriate course of action within a given social context (Huesmann, 1986).
Therefore, when faced with the decision to aggress or not aggress, individuals who are frequently exposed to violence in a positive context are more likely to select an aggressive course of action.

**Excitation transfer theory**

Arousal is another route through which violent media can increase aggression. Viewing violence is inherently arousing and this effect is seen across media forms (c.f. Anderson et al., 2004; Zillmann, 1971). Further, the nature and degree of violence within media also influences arousal. For instance, playing a violent fighting game with the blood option set at maximum increases heart rate (Barlett et al., 2008). The presence of red blood and auditory pain cues (e.g., screaming) have also been shown to increase skin conductance (Jeong et al., 2012), another indicator of physiological arousal. Improved graphical realism also increase physiological arousal in the form of blood pressure and body temperature (Barlett and Rodeheffer, 2009).

Work by Zillmann (1971) demonstrates that arousal resulting from a given event can carry into future contexts and influence behavior. An arousing event is likely to conclude before the dissipation of the arousal elicited by the event itself. Arousal is then carried into the next social encounter (see Fig. 1) and influences the likelihood of aggression by coupling the residual arousal from the previous episode with the arousal elicited by the subsequent episode. Such excitation transfer may play a role in some of the short-term effects of violent media on aggression, though to date there are no studies that have tested this specific application of excitation transfer theory. Nonetheless, when encountering a provoking social situation, residual arousal derived from recent violent media exposure could well add to the arousal resulting from the provocation, and thus could exacerbate an aggressive reaction.

**Desensitization theory**

Violent media exposure also changes the way in which people perceive and react to violence in real life. This process, called desensitization, is a reduction in emotional and physiological responsiveness to violence. Violence in real life becomes more acceptable after much greater violence has been seen on the screen (Mullin and Linz, 1995). For example, after playing a violent video game for 20 min, players exhibit lower physiological arousal while watching scenes of real-life violence (Carnagey et al., 2007). After viewing sexually violent films, people show less empathy to victims of violence and are more likely to blame them for being responsible for the abuse (Dexter et al., 1997; Mullin and Linz, 1995). There is also evidence that long-term violent media consumption leads to chronic desensitization to violence. Habitual violent video game players show reduced neural responding while viewing violent images (Bartholow et al., 2006). Long-term exposure to violent media is also associated with more positive attitudes toward violence and is negatively associated with empathy (Funk et al., 2004).

Desensitization to violence can be adaptive in some contexts (e.g., desensitizing soldiers to the sights of war). However, desensitization of children and other civilians to violence is harmful in several ways. Anxiety in response to violence plays an important role in the inhibition of aggression, so a reduction in such responses is expected to lead to disinhibition of aggression (Bartholow et al., 2006). In line with this view, desensitization has been shown to increase aggressive thoughts and behaviors (Bartholow et al., 2005; Krahé et al., 2011). This type of emotional numbing has also been found to reduce the likelihood of helping victims of violence (Bushman and Anderson, 2009). Frequent exposure to media violence is also associated with significant reductions in certain brain functions known to be associated with emotional processing and cognitive preparation for aggressive behavior, as shown in several functional magnetic resonance imaging and event-related potential studies (Bailey et al., 2011; Hummer et al., 2010; Kronenberger et al., 2005; Mathews et al., 2005; Strenziok et al., 2010; Weber et al., 2006).

Recent research has investigated the role of moral disengagement in the media violence domain. A person’s moral beliefs and values usually serve as brakes on aggressive impulses. Studies now show that habitual exposure to media violence tends to lead people to fail to engage these inhibitory processes, thus leading to increased aggression (Li et al., 2020; Teng et al., 2017, 2019). In other words, high media violence consumption reduces moral consideration.

Still other research has found links between media violence exposure and lack of empathy. For example, Stockdale et al. (2017) found that frequent violent video game players scored lower on empathy and recruited fewer inhibitory brain resources than non-frequent players. Other studies have also found links between high media violence and low empathy, leading to aggressive behavior (e.g., Anderson et al., 2010, 2017a,b; Calvert et al., 2017; Gabbiadini et al., 2016; Gentile et al., 2014).

In sum, GAM incorporates all of these mini-theories of aggression into a straightforward model of human aggression. Subsequent sections discuss additional underlying processes that link media violence to aggressive/violent behavior, also incorporated into GAM.

**Aggressive perceptions, beliefs and attitudes**

Aggressive behavioral tendencies are significantly influenced by how people encode, interpret, and respond to social cues (Crick and Dodge, 1994; Dodge, 2011). Additional ways that media violence exposure affects aggression is by influencing different aspects of social information processing. Several such processes have been investigated in the context of media violence effects.

**Hostile attribution bias**

One way in which social information is processed is by making attributions (or explanations) regarding the sources (or causes) of another’s behavior. For instance, highly aggressive children and adults exhibit a hostile attribution bias—a tendency to interpret ambiguous provocations by another person as intentionally hostile rather than accidental (Crick and Dodge, 1994; Dodge,
In other words, people who have this type of hostile attributional style “view the world through blood-red tinted glasses” (Dill et al., 1997, p. 275). They “see” intentional harm in events that most people would interpret as accidental. Several studies demonstrate that media violence consumption can foster hostile attributions both in short-term (Bushman and Anderson, 2002; Kirsh, 1998) and long-term contexts. For example, the first longitudinal study to test this mechanism in the media violence domain (Anderson et al., 2007) found that high frequency violent video game exposure early in a school year increased hostile attribution bias, which in turn increased physical aggression later in the school year (see also Gentile et al., 2011; Hasan et al., 2012). A recent meta-analysis of media violence studies with hostile appraisals as an outcome measure confirmed that this bias is consistently found (Bushman, 2016).

**Normative beliefs about aggression**

Exposure to media violence also distorts people’s normative beliefs about violence and leads to perceptions of the world as a dangerous place (Bryant et al., 1981). For example, heavy television viewers tend to overestimate the amounts of crime and danger in the real world (Gerbner et al., 1982). Such distortions lead to other negative consequences. Media violence use reinforces beliefs that aggression is an appropriate response in different situations (Bushman and Huesmann, 2006; Funk et al., 2004). Such increases in pro-violence attitudes can, in turn, lead to increased aggression (Möller and Krahé, 2009).

**Personality processes**

Thus far, the discussion has focused on the major psychological processes through which violent media exposure can increase aggression. Priming effects, scripts, desensitization, hostile attribution bias, and normative beliefs can all be seen as types and artifacts of knowledge structures associated with aggression, structures that are developed and reinforced via violent media exposure. Each of these processes is incorporated within the framework of GAM; they contribute to the long-term development of aggressive personalities (Anderson and Bushman, 2002). Within any given social encounter, individuals draw upon knowledge structures to assist in interpreting social cues, distinguishing between appropriate and inappropriate responses in social situations, making judgments, and executing behavioral responses. Many of these processes occur very rapidly, so rapidly that the person is unaware of them. Fig. 2 graphically represents some of these long-term processes.

**Attention problems, executive functioning, and impulsivity**

Although most media violence research has focused on developing a better understanding of how media violence leads to aggression, other recent work has uncovered several other deleterious effects. Some of these appear to be related to excessive media use in general, although some also appear to be especially linked to violent media.

Particular focus has been placed on fast-paced screen media with research suggesting that it may increase attention problems and impulsiveness as well as decrease cognitive control. Television viewing is associated with greater attention problems in childhood.
Several studies have found a higher prevalence of attention problems among habitual video game players (Bioulac et al., 2008; Gentile, 2009; Mistry et al., 2007). Longitudinal studies demonstrate that television and video game use is related to greater subsequent attention problems, even when earlier attention problems are statistically controlled (Gentile et al., 2012; Swing et al., 2010). These findings suggest that the relationship between screen media and attention problems may be causal. High excitement and rapid changes of focus that occur in many television shows and video games may make it harder for children to focus on less exciting tasks (e.g., homework) and shorten their attention spans (Christakis et al., 2004; Gentile et al., 2012).

Several studies have also linked screen media use with decrements in certain types of executive functioning. For example, several studies found that habitual video game players demonstrate lower proactive cognitive control, a type of executive function involving the maintenance of information in working memory that serves to optimize task preparation (Bailey et al., 2010). Experimental studies involving training on violent video game play have found causal evidence of such harmful effects (e.g., Hummer et al., 2010, 2019; Mathews et al., 2005; West et al., 2020).

Some executive function studies have used brain wave measures (ERP, fMRI), whereas other used standard behavioral measures of executive function (such as reaction times). For example, Gentile et al. (2016) had habitual violent gamers and habitual nonviolent gamers play a video game while simultaneously getting fMRI recordings of brain function. The results showed neurological evidence that violent gaming is associated with both aggression desensitization and with visuo-spatial improvement. Another recent fMRI study randomly assigned participants to play a violent or a nonviolent racing game while fMRI measurements were taken (Zvyagintsev et al., 2016). The results supported the hypothesis that violent gaming can affect functional brain connectivity in ways related to increased aggressive affect, cognition, and behavior.

One recent experimental study investigated the short-term effect of playing a violent video on the stress-related hormone cortisol (Gentile et al., 2017) in 8–12 year old children. Results showed that playing a violent video game (relative to playing an equally arousing nonviolent game) increased salivary cortisol. This suggests that violent gaming may activate the sympathetic nervous system and elicit a fight-or-flight type response in children. A cognitive measure of accessibility of aggressive thoughts replicated the finding that violent games increase aggressive thinking.

There also is evidence linking media use to increased impulsiveness. One longitudinal study found evidence of a bidirectional relationship of video game use with attention problems and impulsiveness: more impulsive individuals tend to spend more time playing video games, which in turn increases subsequent attention problems and impulsiveness (Gentile et al., 2012).

Other effects of media violence

Prosocial behavior decrements

Prosocial behaviors involve voluntary, intentional actions that benefit another person or society at large, especially when this behavior brings no benefit to the helper (Barlett et al., 2009a). The same social learning mechanisms that link violent media to aggressive behavior also affect prosocial behavior. In fact, several studies have demonstrated reduced prosocial behavior as a result of media violence use. Even a single instance of media violence exposure has been shown to reduce the likelihood of helping and cooperation in the immediate situation (Rothmund et al., 2011; Sheese and Graziano, 2005). For example, a field experiment showed that participants who just watched a violent movie are less likely to help a seemingly injured woman pick up her crutches than participants who watched a nonviolent movie (Bushman and Anderson, 2009).

Longitudinal and correlational studies have linked media violence use to decreases in prosocial behavior and empathy for others (Anderson et al., 2007, 2010; Gentile et al., 2009). For example, Prot et al. (2014) showed that habitual violent game play of primary and secondary school children in Singapore led to a decline in prosocial behavior two years later. The results also showed that habitually playing prosocial games increased prosocial behavior two years later.

Rothmund et al. (2015) conducted one experimental and one longitudinal study of violent gaming effects on interpersonal trust. They found that playing violent video games produces a decrease in interpersonal trust immediately after game play, and that frequent exposure to violent video games led to decreased trust 1 year later.

In sum, habitual media violence use leads to reductions in trust, empathy, and helping.

Risk glorification

In addition to glorifying violence, violent media often glorify other risk-taking behaviors, such as risky driving, binge drinking, smoking, and risky sexual behaviors. Positive portrayals of risk taking are frequent in advertisements, television shows, movies, music lyrics, and video games (Fischer et al., 2011). A number of recent studies show that exposure to risk-glorifying media increases both risk-taking inclinations and actual risk-taking behaviors. For example, frequency of playing racing video games is positively correlated with competitive driving and frequency of car accidents (Fischer et al., 2007). Exposure to alcohol use in movies is related to early onset of drinking and binge drinking among adolescents (Hanewinkel et al., 2007; Sargent et al., 2006). Similar effects have been found for smoking (Wills et al., 2009). Exposure to sexual content in different media (television, movies, music, and internet) predicts earlier initiation of sexual activity among adolescents (Pardun et al., 2005). Exposure to violent X-rated material predicts increased sexually aggressive behaviors (Ybarra et al., 2011). In all of the prediction studies mentioned, earlier levels of risk behavior were statistically controlled, suggesting that the risk-glorification media serve as another causal risk factor. In sum, risk glorification in the media has been found to lead to increased risk taking in real life across a broad range of specific risk behaviors and media types.
**Sex and violence effects**

Portrayals of sex in the media do not always lead to negative outcomes. In fact, when such portrayals contain accurate information and socially responsible messages, they can effectively teach youth about sexuality and promote responsible sexual behaviors (e.g., Brodie et al., 2001; Collins et al., 2003). However, negative consequences emerge when sexual content is coupled with aggression and violence. Exposure to pornography that depicts sexual aggression has been linked to aggressive attitudes and sexually aggressive behavior toward women in a number of studies (e.g., Linz and Malamuth, 1993; Malamuth et al., 2012; Ybarra et al., 2011). For example, after viewing pornography portraying a woman eventually enjoying a rape, men demonstrate more acceptance for rape myths and are more likely to behave aggressively toward a female target (Linz and Malamuth, 1993). Furthermore, viewing sexual violence leads to desensitization and decreased empathy toward domestic violence victims (Mullin and Linz, 1995). It is important to note that detrimental effects of violent pornographic images are similar in size to those of nonsexual violent images, whereas nonviolent pornography does not lead to such effects (e.g., Linz et al., 1987). These findings suggest that it is the violent content that is most responsible for increasing the risk of aggression against women, not the sexual content. A recent meta-analysis confirms and extends earlier reports of the harmful effects violent sexualized media on later aggression, against both women and men (e.g., Burnay et al., 2021).

**Violent stereotype depictions**

Mass media do not just present distorted depictions of aggression and violence—such depictions are frequently coupled with distorted portrayals of different social groups. Research concerning stereotyping in violent media has mainly focused on two types of group stereotypes: gender stereotypes and racial stereotypes.

Both males and females are often stereotypically portrayed in television shows, movies, and video games. In television shows, females are often shown as emotional, warm, and affectionate. In contrast, males are shown as independent, assertive, and aggressive (Thompson and Zerbinos, 1995). Female video game characters are commonly depicted as attractive and hypersexualized, whereas male characters are portrayed as muscular, dominant, and aggressive (Beasley and Collins-Standley, 2002; Dill and Thill, 2007; Stermer and Burkley, 2012). Do such stereotypical portrayals significantly influence viewers? Research shows that exposure to gender stereotypes in the media significantly affect consumers’ attitudes and behaviors. For example, children who are exposed to gender stereotypes on television are more likely to endorse gender stereotypes in real life (e.g., Eisenstock, 1984). Playing violent video games that contain sex-typed characters correlates with rape myth acceptance and negative attitudes toward women (Dill, 2009).

Racial and ethnic minority groups are also frequently stereotyped in the media. For example, African American characters in television shows and video games are often associated with social problems, crime, and violence (Abraham, 2003; Dixon, 2008; Dunlop, 2007). Arab characters are often linked with violence and terrorism, supporting the unrealistic belief that “all Arabs and Muslims are terrorists” (Shaheen, 2009; Van Buren, 2006). Research shows that such distorted representations have significant effects on consumers’ attitudes and behaviors toward racial and ethnic minority groups. For example, exposure to negative stereotypes of African Americans in the media significantly affects attitudes toward African Americans in general (Mastro and Tropp, 2004). Even briefly playing a video game that portrays Arab as terrorists increases players’ anti-Arab bias and perceptions of Arabs as aggressive (Saleem and Anderson, 2013). A more recent series of studies (Saleem et al., 2017) found that US adults whose main contact with Muslims came from electronic media (compared to those who had had direct contact with people who are Arab or Muslim) had more negative stereotypes about Arabs/Muslims, were more supportive of depriving American Muslim citizens of their civil rights, and were more supportive of violent action against predominately Muslim countries. One of the experiments showed that these effects can be (temporarily) eliminated by viewing a positive news story about American Muslims, such Muslims working overtime to allow Christians to have more family time during the Christmas holiday period.

**Interventions**

Several large sample studies have investigated the long-term effects of interventions designed to reduce youngsters’ (i.e., children and adolescents) exposure to violent media. Some such longitudinal studies examine the possible effects of parental restrictions and guidance in their child’s media habits. Others have created school- and home-based interventions. All ask the question of whether or not such interventions reduce later aggressive behavior.

Older intervention studies (reviewed in Anderson et al., 2003a) have found that reducing exposure to violent media does reduce later aggression, especially if the intervention includes features designed to change youngsters’ beliefs about and attitudes toward violence and violent media. Examples of such features include: having parents discuss with their youngsters the inaccuracy and inappropriateness of the violence seen in media; having the youngsters create explanations for why violence seen in the media is harmful; having youngsters create videos of themselves explaining the harmful aspects of media violence; sharing these videos with others, including other youngsters who are in the same intervention program.

More recent studies have found similar positive effects of parental and formal interventions. For example, Cote et al. (2021) examined the effect of parental rules restricting their 10–14 year old children’s access to violent video games. They found that this reduced children’s fighting behavior 8 months later. A similar longitudinal study (Anderson et al., 2007, study 3) found that positive parental involvement in youths’ video game decisions reduced the size of the violent game effect on later aggression.

Krahé and Busching (2015) randomly assigned German seventh and eighth graders to either a 5-week school-based intervention program or to a no-intervention control condition. Media violence use, attitudes toward aggression, and aggressive behavior were
measured 3 months prior to the intervention, and at several times post-intervention (the longest was 30 months). Results showed that the intervention reduced consumption of media violence that in turn led to a decrease in aggression.

In sum, theoretically based interventions work, in two ways. One is by reducing the amount of media violence exposure. The other is by reducing the development of positive attitudes and beliefs about violent behavior depicted in media violence.

Conclusions

There is ample evidence of harmful effects of media violence, and that these concerns rise to the level of needing ongoing evaluation by researchers and policy makers (e.g., Anderson et al., 2015; Anderson and Gentile, 2008). Furthermore, the few reports of “no harmful effects” tend to come from groups (e.g., video game industry) that have a vested interest in policies or from studies that have serious methodological and/or statistical shortcomings that lead to underestimation of the actual effect size (see Anderson et al., 2013; Bushman and Anderson, 2021; Bushman et al., 2010; Huesmann, 2010; Kim et al., 2021; Sacks et al., 2011; Wright et al., 2022).

Media violence can increase aggressive and violent behavior, and can create other harmful effects on youth as well. The psychological processes underlying these harmful effects are well understood. Some theoretically appropriate and empirically verified interventions by parents and school systems reduce these harmful effects. The authors hope that this article helps readers to understand the nuances and subtleties of media violence on aggression and other important outcomes, and enables more informed parent, caregiver, policymaker, and consumer decisions.

References


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