The Psychological Effects of Media Violence on Children and Adolescents

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Research on media violence is often misunderstood by the general public. One reason has to do with research methodology. We can't randomly assign children early in their lives to watch different doses of violence on television and then 15 years later see which children committed violent crimes. But the same type of limitation also exists for medical research: We can't randomly assign groups of people to smoke differing amounts of cigarettes for 15 years, and then count the number of people who developed cancer.

Tobacco researchers conduct correlational studies in which they look at the amount people have smoked during their lives and then chart the rate at which they have succumbed to cancer. They control statistically for other factors, of course--other healthy and unhealthy behaviors that either reduce or promote the tendency to develop cancer. Then they can find out whether smoking contributed to cancer, over and above these other influences. And since they can't do cancer experiments on people, they use animal studies. These are artificial, but they tell us something about the short-term effects of tobacco that can't be found from correlational studies. Putting the two types of research together, we now have powerful data about the effects of smoking on the development of cancer.

Similarly, media violence researchers do longitudinal studies of children's media exposure and look at the types of behaviors they engage in over time. They also control for other factors, such as previous aggressiveness, family problems, and the like[1]. They don't look at media violence in a vacuum; they examine whether there is a correlation between television viewing and violent behavior, even controlling for other influences. They also do experiments. Like the animal experiments for cancer, these are not natural situations, but such experiments fill the gaps they cannot fill otherwise. Experiments are designed to show short-term effects, like increases in hostility or more accepting attitudes toward violence--changes that we know increase the likelihood of violent actions, both in the short term and in the long run.

A second reason for the misunderstanding of the media-violence work is that most public discussions of the problem focus on criminal violence and ignore the other unhealthy outcomes that affect many more children. In an attempt to clarify the issues, I will first discuss the research consensus about some of the major consequences of exposure to media violence, illustrating the general trends in the data with specific studies that make the outcomes more comprehensible. I will then discuss some of the implications of these findings for parents and educators, and for society at large.

Effects of Media Violence on Aggression, Desensitization, and Interpersonal Hostility

Most of the research and public attention has focused on the important question of whether viewing violence in the media makes children and adolescents more violent. The question is not, of course, whether media violence *causes* violence, but whether viewing violence contributes to the likelihood that someone will commit violence or increases the severity of violence when it's committed. The most direct and obvious way in which viewing violence contributes to violent behavior is through imitation or social learning. There is a wealth of psychological research demonstrating that learning often occurs through imitation, and, of course, most parents know that children imitate televised words and actions from an early age. Media apologists, who cannot deny that imitation sometimes happens, try to argue that the effects are trivial because children know better than to imitate anything that's really harmful. We are all familiar with incidents in which criminal and lethal violence has had an uncanny resemblance to a scene in a movie. However, any crime is the result of many influences acting together, and skeptics and even researchers will point out that isolated anecdotes cannot be generalized to society at large. Because most children are so fully immersed in our media culture, it is usually difficult to link a specific media program to a specific harmful outcome, even though some similarities between media scenarios and subsequent acts seem too close to be considered coincidences.[2]

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[1] Johnson, J. G., Cohen, P., Smailes, E. M., Kasen, S., & Brook, J. S. (2002). Television viewing and aggressive behavior during adolescence and adulthood. *Science, 295,* 2468-2471.

[2] A web site titled, "Brutality Isn't Child's Play" chronicles some of these incidents. Retrieved from http://www.bicp.org/wwfdeaths.html on March 20, 2002.

Once in a while researchers get the chance to conduct a "natural experiment" that makes a vivid and compelling point in a systematic and rigorous fashion. This happened in the mid 1990's in Israel, shortly after *World Wrestling Federation* was introduced to Israeli TV. Noting news reports that this program had resulted in a crisis of playground injuries in schools, Dafna Lemish of Tel Aviv University conducted a nationwide survey of elementary school principals, with follow-up questionnaires of teachers and students in selected schools.[3] What Lemish found was that more than half of the principals responding to her survey reported that WWF-type fighting had created problems in their schools. The principals had no trouble distinguishing the imitative behavior they were suddenly seeing from the martial-arts type behaviors that had occurred prior to the arrival of *WWF*. The new behaviors occurred during re-creations of specific wrestling matches that had aired, and included banging heads, throwing opponents to the floor and jumping onto them from furniture, poking their eyes with fingers, pulling their hair, and grabbing their genital areas. Almost half of the responding principals reported that these new behaviors had necessitated first aid within the school, and almost one fourth reported injuries (including broken bones, loss of consciousness, and concussions) that required emergency room visits or professional medical care. Although most of the children involved were old enough to know that the wrestling they were watching was fake, this knowledge did not stop many of them from trying out the moves themselves. The mayhem continued throughout Israel until programmers agreed to reduce the frequency with which *WWF* appeared, and until schools initiated media literacy programs designed to counteract the program's effects. During the past few years, there have been news reports of groups of children imitating *WWF* matches in the United States,[4] and of physicians dealing with the consequences of such imitation on a regular basis.[5]

Simply copying what is seen in the media is only one means by which viewing violence contributes to unhealthy outcomes among youth. Another commonly discussed psychological process is desensitization. Desensitization occurs when an emotional response is repeatedly evoked in situations in which the action tendency that is associated with the emotion proves irrelevant or unnecessary. For example, most people become emotionally aroused when they see a snake slithering toward them. The physiological response they are experiencing is part of what is called the "fight or flight" reaction – an innate tendency that prepares an organism to do what it needs to do when it's threatened. But the individual who spends a good deal of time around harmless, nonpoisonous snakes, knows there is no need to retreat or attack the animal, and over time, the body "learns" not to experience increased heart rated, blood pressure, or other physiological concomitants of fear at the sight of snakes. In a somewhat analogous fashion, exposure to media violence, particularly that which entails bitter hostilities or the graphic display of injuries, initially induces an intense emotional reaction in viewers. Over time and with repeated exposure in the context of entertainment and relaxation, however, many viewers exhibit decreasing emotional responses to the depiction of violence and injury. Studies have documented that desensitization results in reduced arousal and emotional disturbance while witnessing violence.[6] More disturbingly, studies have reported that desensitization leads children to wait longer to call an adult to intervene in a witnessed physical altercation between peers,[7] and results in a reduction in sympathy for the victims of domestic abuse.[8] Few people would argue that these are healthy outcomes. Today's youth have greater opportunities for desensitization to media violence than ever before. We now have so many television channels, so many movies on video, and so many video- , computer-, and Internet-based games available, that media-violence aficionados have a virtually limitless supply and can play intensely gruesome images over and over, often in the privacy of their own bedrooms.

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[3] Lemish, D. (1997). The school as a wrestling arena: The modeling of a television series. *Communication, 22* (4), 395-418.

[4] ABCNEWS.com (2001). Backyard wrestling: Don't try these moves at home. Retrieved from http://abcnews.go.com/sections/GMA/GoodMorningAmerica/GMA010828Backyard_wrestling.html on March 20, 2002.

[5] Dube, J. (2000). Wrestling with death: Moves may be faked, but danger isn't. Retrieved from http://abcnews.go.com/sections/living/DailyNews/wrestlingdanger991007.html on March 20, 2002.

[6] Cline, V.B., Croft, R.G., & Courrier, S. (1973). Desensitization of children to television violence. *Journal of Personality and Social Psychology, 27,* 360-365.

[7] Molitor, F., & Hirsch, K. W. (1994). Children's toleration of real-life aggression after exposure to media violence: A replication of the Drabman and Thomas studies. *Child Study Journal, 24,* 191-207.

[8] Mullin, C.R., & Linz, D. (1995). Desensitization and resensitization to violence against women: Effects of exposure to sexually violent films on judgments of domestic violence victims. *Journal of Personality and Social Psychology, 69,* 449-459.

A third common outcome of viewing violence is an increase in hostile feelings. Some people argue that the well-substantiated correlation between chronic hostility and violence viewing simply shows that people who are already hostile are more likely to choose violence as entertainment. Well, it's true that violent, hostile people are more attracted to media violence,[9] but research shows that the relationship goes both ways. A 1992 field investigation[10] is a good illustration of this process. Researchers in Quebec went to a theater and asked moviegoers to fill out the Buss-Durkee hostility inventory either before or after they viewed a film that they themselves had selected. The findings showed that both the male and female viewers who had chosen the Chuck Norris action movie, *Missing in Action*, were initially more hostile than the viewers who had selected the nonviolent drama, *A Passage to India*, demonstrating that people who were more hostile to begin with were more likely to be attracted to a violent than a nonviolent film. Furthermore, viewers' levels of hostility were even higher after viewing the violent movie, but were at the same low level after viewing the nonviolent movie. This study once again disproves the sometimes-popular notion of "catharsis," that violence viewing helps purge people of their hostile inclinations. To the contrary.

What are the consequences of this increased hostility after viewing violence? Often, it interferes with the ability to interact in interpersonal settings. One aspect of this effect has been termed an increased *hostile attribution bias*. A 1998 study illustrated this outcome in an experiment in which 9- to 11-year-old girls and boys were asked to play one of two video games.[11] One was a nonviolent sports game called *NBA JAM:TE*; the was other a somewhat sanitized version of *MORTAL KOMBAT II*, a highly violent martial arts games. After playing the game, the children were read five stories involving provoking incidents in which the intention of the provoker was ambiguous. For example, in one story, a child gets hit in the back with a ball, but it is unclear whether the person who threw the ball, always a same-sex peer of the research participant, has done this on purpose or by accident. In answering questions after hearing the stories, the children who had just played the violent video game were more likely than those who had played the nonviolent game to attribute bad motives and negative feelings to the perpetrator, and to anticipate that they themselves would retaliate if they were in that situation. Participating in violence in fantasy apparently cast a negative cloud over the children's views of interpersonal interactions.

And this increase in hostility is not necessarily short-lived. A 1999 experiment looked at the interpersonal consequences of repeated exposure to gratuitous violence in movies.[12] Researchers randomly assigned both male and female college students to view either intensely violent or nonviolent feature films for four days in a row. On the fifth day, in a purportedly unrelated study, the participants were put in a position to help or hinder another person's chances of future employment. The surprising results indicated that both the men and the women who had received the recent daily dose of movie violence were more willing to undermine that person's job prospects, whether she had treated them well or had behaved in an insulting fashion. The repeated violence viewing apparently provided what the researchers termed *an enduring hostile mental framework* that damaged interactions that were affectively neutral as well as those that involved provocation.

These are just a few studies that illustrate some of the unhealthy effects of media violence. But how representative are these studies? Although media spokespersons argue that the findings are inconsistent, meta-analyses, which statistically combine the findings of all the studies on a particular topic, show otherwise. The most widely quoted of these meta-analyses was conducted by Paik and Comstock in 1994.[13] This meta-analysis combined the results of 217 empirical studies appearing between 1957 and 1990, and included both published and unpublished studies that reported on the

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[9] Goldstein, J., Ed. (1998). *Why we watch: The attractions of violent entertainment*. New York: Oxford University Press.

[10] Black, S.L., & Bevan, S. (1992). At the movies with Buss and Durkee: A natural experiment on film violence. *Aggressive Behavior, 18*, 37-45.

[11] Kirsh, S. J. (1998). Seeing the world through Mortal Kombat-colored glasses: violent video games and the development of a short-term hostile attribution bias. *Childhood, 5* (2), 177-184.

[12] Zillmann, D., & Weaver, J. B. III (1999). Effects of prolonged exposure to gratuitous media violence on provoked and unprovoked hostile behavior. *Journal of Applied Social Psychology, 29,* 145-165.

[13] Paik, H., & Comstock, G. (1994). The effects of television violence on antisocial behavior: a meta-analysis. *Communication Research*, *21*, 516-546.

relationship between viewing violence and a variety of types of antisocial behavior. Using the correlation coefficient (*r*) as a measure of association, Paik and Comstock reported an overall *r* of .31. Although the size of the correlations varied depending on the age of the participant and the genre of programming, a significant association was observed for viewers of all ages and for all genres of programming.
A meta-analysis conducted in 2001[14] confirmed and updated Paik and Comstock's conclusions. Bushman and Anderson's analysis included studies that appeared between 1956 and 2000. The sample of studies was smaller because it included only published studies and only studies involving aggressive behavior (eliminating measures of self-report of aggressive intent and nonviolent antisocial effects). The meta-analysis, which included 202 independent samples, found an overall correlation of .20 between exposure to media violence and aggressive behavior. Anderson and Bushman also published a meta-analysis of the effects of violent video games on aggression and found a similar effect size ($r = .19$, based on 33 independent tests).[15]

Confronted with the meta-analytic results that the findings on the relationship between media violence on aggressive and hostile behaviors consistently show an effect, media apologists often claim that the effects are very small. However, Bushman and Anderson[16] have compared the results of media violence meta-analyses to those of well-documented relationships in nine other areas. Their data showed that Paik and Comstock's media-violence effect was second in size only to the association between smoking and lung cancer. Even using the smaller effect sizes associated with Bushman and Anderson's own meta-analyses, the media violence effect sizes are still among the largest -- larger, for example, than the relationship between exposure to lead and low IQ in children, and almost twice as large as the relationship between calcium intake and bone density.

Effects of Media Violence on Fears, Anxieties and Sleep Disturbances

Although most of researchers' attention has focused on how media violence affects the interpersonal behaviors of children and adolescents, there is growing evidence that violence viewing also induces intense fears and anxieties in young viewers. For example, a 1998 survey of more than 2,000 third through eighth graders in Ohio revealed that as the number of hours of television viewing per day increased, so did the prevalence of symptoms of psychological trauma, such as anxiety, depression, and posttraumatic stress.[17] Similarly, a 1999 survey of the parents of almost 500 children in kindergarten through fourth grade in Rhode Island revealed that the amount of children's television viewing (especially television viewing at bedtime) and having a television in one's own bedroom, were significantly related to the frequency of sleep disturbances.[18] Indeed, 9% of the parents surveyed reported that their child experienced TV-induced nightmares *at least once a week*. Finally a random national survey conducted in 1999 reported that 62% of parents with children between the ages of two and seventeen said that their child had been frightened by something they saw in a TV program or movie.[19]

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[14] Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public: Scientific facts versus media misinformation. *American Psychologist, 56,* 477-489.

[15] Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12,* 353-359.

[16] Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public: Scientific facts versus media misinformation. *American Psychologist, 56,* 477-489.

[17] Singer, M. I., Slovak, K., Frierson, T., & York, P. (1998). Viewing preferences, symptoms of psychological trauma, and violent behaviors among children who watch television. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1041-1048.

[18] Owens, J., Maxim, R., McGuinn, M., Nobile, C., Msall, M., & Alario, A. (1999). Television-viewing habits and sleep disturbance in school children. *Pediatrics, 104* (3), 552.

[19] Gentile, D. A., & Walsh, D. A. (1999). *MediaQuotient(tm): National survey of family media habits, knowledge, and attitudes*. Minneapolis, MN: National Institute on Media and the Family.

Two independently conducted studies of adults' retrospective reports of having been frightened by a television show or movie demonstrate that the presence of vivid, detailed memories of enduring media-induced fear is nearly universal.[20,21] Of the students reporting fright reactions in the study we conducted at the Universities of Wisconsin and Michigan, 52% reported disturbances in eating or sleeping, 22% reported mental preoccupation with the disturbing material, and 35% reported subsequently avoiding or dreading the situation depicted in the program or movie. Moreover, more than one-fourth of the respondents said that the impact of the program or movie (viewed an average of six years earlier) was still with them at the time of reporting.

Studies like these and many anecdotal reports reveal that it is not at all unusual to give up swimming in the ocean after seeing *Jaws* -- in fact, a surprising number of people report giving up swimming altogether after seeing that movie. Many other people trace their long-term fears of specific animals, such as dogs, cats, or insects, to childhood exposure to cartoon features like *Alice in Wonderland* or *Beauty and the Beast* or to horror movies.[22] Furthermore, the effects of these depictions aren't only "in the head," so to speak. As disturbing as unnecessary anxieties are by themselves, they can readily lead to physical ailments and interfere with school work and other normal activities (especially when they disrupt sleep for long periods of time).

For the most part, what frightens children in the media involves violence or the perceived threat of violence or harm. It is important to note, however, that parents often find it hard to predict children's fright reactions to television and films because a child's level of cognitive development influences how he or she perceives and responds to media stimuli. My associates and I have conducted a program of research to explore developmental differences in media-induced fright reactions based on theories and findings in cognitive development.[23,24] This research shows that as children mature cognitively, some media images and events become less likely to disturb them, whereas other things become potentially more upsetting.

As a first generalization, the importance of appearance decreases as a child's age increases. Both experimental[25] and our survey[26] research supports the generalization that preschool children (approximately 3 to 5 years old) are more likely to be frightened by something that looks scary but is actually harmless (like E.T., the kindly but weird-looking extra-terrestrial) than by something that looks attractive but is actually harmful; for older elementary school children (approximately 9 to 11 years), appearance carries much less weight, relative to the behavior or destructive potential of a character, animal, or object. A second generalization is that as children mature, they become more disturbed by realistic, and less responsive to fantastic dangers depicted in the media. This change results from developmental trends in children's understanding of the fantasy-reality distinction.[27,28] Because of this, older elementary school children begin to be

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[20] Harrison, K., & Cantor, J. (1999). Tales from the screen: Enduring fright reactions to scary media. *Media Psychology, 1*, 97-116.

[21] Hoekstra, S. J., Harris, R. J., & Helmick, A. L. (1999). Autobiographical memories about the experience of seeing frightening movies in childhood. *Media Psychology, 1*, 117-140.

[22] Cantor, J. (1998). "*Mommy, I'm scared": How TV and movies frighten children and what we can do to protect them.* San Diego, CA: Harvest/Harcourt.

[23] Cantor, J. (1998). "*Mommy, I'm scared": How TV and movies frighten children and what we can do to protect them.* San Diego, CA: Harvest/Harcourt.

[24] Cantor, J. (2002). Fright reactions to mass media. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research.* (2d Ed.) (pp. 287-306). Mahwah, NJ: Erlbaum.

[25] Hoffner, C., & Cantor, J. (1985). Developmental differences in responses to a television character's appearance and behavior. *Developmental Psychology, 21*, 1065-1074.

[26] Cantor, J., & Sparks, G. G. (1984). Children's fear responses to mass media: Testing some Piagetian predictions. *Journal of Communication, 34*, (2), 90-103.

[27] Cantor, J., & Sparks, G. G. (1984). Children's fear responses to mass media: Testing some Piagetian predictions. *Journal of Communication, 34*, (2), 90-103.

especially susceptible to fear produced by the news and other realistic presentations. A third generalization is that as children get older, they become frightened by media depictions involving increasingly abstract concepts, such as world problems and invisible environmental threats.[29,30] The media's constant showing of the events of September 11th and their aftermath had something to frighten viewers of all ages, but different-aged children most likely responded to different features of the presentations. Prior research suggests that preschoolers most likely responded to images of bloodied victims and expressions of emotional distress; older elementary school children most likely responded to the idea of their own and their family's vulnerability to attack; teenagers, like adults, were able to grasp the enormity of the events and the long-term implications they presented for civilized society.[31]

What Can Be Done and Why It's So Difficult

The research I've described above provides overwhelming evidence that growing up with unrestricted access to media violence is, in the least, very unhealthy for young people. Nonetheless, media violence comes into our homes automatically through television, and is actively marketed to children and adolescents (even when the content is labeled as appropriate only for "mature" audiences).[32] Moreover, it is extremely difficult to disseminate the message of media violence's harms. An important component of this difficulty is the fact that violent entertainment is a highly lucrative business and the entertainment industry is loath to communicate information suggesting that its products are harmful. An intriguing analysis by Bushman and Anderson, comparing the cumulative scientific evidence to the way the issue has been reported in the press, revealed that as the evidence for the aggression-promoting effect of media violence has become stronger, news coverage has implied that the relationship was weaker and weaker.[33] Parents have been given tools, such as media ratings and filtering devices like the V-chip, but publicity for these tools has been so sporadic that parents have little understanding of what they are or how to use them.[34] Parents need to receive better information about the effects of media violence, and they need more convenient and reliable means of understanding what to expect in a television program, movie, or video game.

Parents also need information on parenting strategies that will help them counteract some of the negative effects of media violence on their children. Research in cognitive development, for example, has explored effective ways to reassure children who have been frightened by media threats.[35] Strategies for coping with media-induced fears need to be tailored to the age of the child. Up to the age of about seven, nonverbal coping strategies work the best.[36] These include

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[28] Cantor, J., & Nathanson, A. (1996). Children's fright reactions to television news. *Journal of Communication, 46* (4), 139-152.

[29] Cantor, J., Wilson, B. J., & Hoffner, C. (1986). Emotional responses to a televised nuclear holocaust film. *Communication Research, 13*, 257-277.

[30] Cantor, J., Mares, M. L., & Oliver, M. B. (1993). Parents' and children's emotional reactions to televised coverage of the Gulf War. In B. Greenberg & W. Gantz (Eds.), *Desert storm and the mass media* (pp. 325-340). Cresskill, NJ: Hampton Press.

[31] Cantor, J. (2001). Helping children cope: Advice in the aftermath of the terrorist attacks on America. http://joannecantor.com/terror_adv.htm.

[32] Federal Trade Commission (2000). *Marketing violence to children: A review of self-regulation and industry practices in the motion picture, music recording, & electronic game* industries. Washington, D.C.: Federal Trade Commission.

[33] Bushman, B. J., & Anderson, C. A. (2001). Media violence and the American public: Scientific facts versus media misinformation. *American Psychologist, 56,* 477-489.

[34] Bushman, B. J., & Cantor, J. (2003). Media ratings for violence and sex: Implications for policymakers and parents. *American Psychologist, 58* (20), 130-141.

[35] Cantor, J. (1998). "*Mommy, I'm scared": How TV and movies frighten children and what we can do to protect them.* San Diego, CA: Harcourt Brace.

[36] Wilson, B. J., Hoffner, C., & Cantor, J. (1987). Children's perceptions of the effectiveness of techniques to reduce fear from mass media. *Journal of Applied Developmental Psychology, 8,* 39-52.

removing children from the scary situation, distracting them, giving them attention and warmth, and desensitization.[37] Eight-year-olds and older can benefit from hearing logical explanations of why they are safe. If what they saw is fantasy, it helps children in this age group to be reminded that what they have seen could never happen.[38] If the program depicts frightening events that can possibly occur, however, it may help to give older children information about why what they have seen cannot happen to them[39] or to give them empowering instructions on how to prevent it from occurring.[40]

As for reducing the aggression-promoting effect of media violence, research is just beginning to explore mediation strategies that can be used by parents and teachers. In a study published in 2000,[41] we tested means of counteracting the effects of classic cartoons, a genre involving nonstop slapstick violence that trivializes the consequences to the victim. This study showed not only that watching a Woody Woodpecker cartoon could increase boys' endorsement of aggressive solutions to problems, but that empathy-promoting instructions could intervene in this effect. Second- through sixth-grade boys were randomly assigned to one of three groups: (1) a no-mediation group, who watched the cartoon without instructions; (2) a mediation group who were asked, before viewing, to keep in mind the feelings of the man in the cartoon (this was the tree surgeon who was the target of Woody's attacks); and (3) a control group, who didn't see a cartoon. As is usually found in such studies, the children who had just seen the violent cartoon without instructions scored higher on pro-violence attitudes than those in the control condition (showing stronger agreement with statements like, "Sometimes fighting is a good way to get what you want"). However, the children who were asked to think about the victim's feelings showed no such increase in pro-violence attitudes. As a side-effect, this empathy-promoting intervention reduced the degree to which the children found the cartoon funny. An empathy-promoting intervention may therefore have a dual benefit -- intervening in the direct effect of viewing and perhaps reducing future choices of similar fare. More research is needed to explore other ways to intervene in the negative effects of media violence.

In conclusion, media violence has many unhealthy effects on children and adolescents. Even though violence has been and will continue to be a staple of our media environment, it is appropriate to speak out when especially problematic presentations are aired in contexts in which children are likely to see them and when inappropriate programming is actively marketed to vulnerable young people.[42] Although the entertainment industries are mostly concerned with profits, they sometimes react to large-scale criticism, and sponsors and local television stations prefer to avoid public censure.

Beyond complaining about media practices, researchers and advocates for the welfare of children can work to diminish the negative influence of media violence by providing better public education about media effects, by developing and promoting more useful content labels and filters, and by exploring effective intervention strategies based on research findings. We also need to expand media literacy education for children, including helping them place what they see in perspective, and encouraging them to engage in a critical analysis of their own media choices.

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[37] Wilson, B. J. (1989). Desensitizing children's emotional reactions to the mass media. *Communication Research, 16*, 723-745.

[38] Cantor, J., & Wilson, B. J. (1984). Modifying fear responses to mass media in preschool and elementary school children. *Journal of Broadcasting, 28,* 431-443.

[39] Cantor, J., & Hoffner, C. (1990). Children's fear reactions to a televised film as a function of perceived immediacy of depicted threat. *Journal of Broadcasting & Electronic Media, 34*, 421-442.

[40] Cantor, J., & Omdahl, B. (1999). Children's acceptance of safety guidelines after exposure to televised dramas depicting accidents. *Western Journal of Communication, 63* (1), 1-15.

[41] Nathanson A.I., & Cantor, J. (2000). Reducing the aggression-promoting effect of violent cartoons by increasing children's fictional involvement with the victim. *Journal of Broadcasting & Electronic Media, 44*, 125-142.

[42] A recent campaign asked Toys 'R' Us to stop selling WWF-related merchandize. See http://www.bicp.org/bicp1.html, retrieved on March 20, 2002.

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