

## **RESEARCH ARTICLES**

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Anderson CA, Berkowitz L, Donnerstein E, Huesmann LR, Johnson JD, Linz D, Malamuth, NM, Wartella E. (2003) The influence of media violence on youth. *Psychological Science in the Public Interest*. 2003; 4:81-110.

**Summary** Research on violent television and films, video games, and music reveals unequivocal evidence that media violence increases the likelihood of aggressive and violent behavior in both immediate and long-term contexts. The effects appear larger for milder than for more severe forms of aggression, but the effects on severe forms of violence are also substantial ( $r$  .13 to .32) when compared with effects of other violence risk factors or medical effects deemed important by the medical community (e.g., effect of aspirin on heart attacks). The research base is large; diverse in methods, samples, and media genres; and consistent in overall findings. The evidence is clearest within the most extensively researched domain, television and film violence. The growing body of video-game research yields essentially the same conclusions...

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Anderson, CA, Carnagy, NL, Flanagan M, Benjamin, AJ Jr., Eubanks, J., Valentine, JC. (2004). Violent video games: Specific effects of violent content on aggressive thoughts and behavior. *Advances in Experimental Social Psychology*, Vol. 36, 199-249.

**Introduction** Three experimental studies, one correlational study, and a meta-analysis tested key hypotheses concerning the short-term and long-term impact of exposure to violent video games. ... (*continued*)

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Bushman, BJ, and Anderson, CA. (2001) Media Violence and the American Public: Scientific Facts Versus Media Misinformation. *American Psychologist*, Vol. 56, No. 6/7, 477-489.

**Abstract** Fifty years of news coverage on the link between media violence and aggression have left the U.S. public confused. Typical news articles pit researchers and child advocates against entertainment industry representatives, frequently giving equal weight to the arguments of both sides. A comparison of news reports and scientific knowledge about media effects reveals a disturbing discontinuity: Over the past 50 years, the average news report has changed from claims of a weak link to a moderate link and then back to a weak link between media violence and aggression. However, since 1975, the scientific confidence and statistical magnitude of this link have been clearly positive and have consistently increased over time. Reasons for this discontinuity between news reports and the actual state of scientific knowledge include the vested interests of the news, a misapplied fairness doctrine in news reporting, and the failure of the research community to effectively argue the scientific case.

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Bushman, BJ, and Cantor, J. (2003) Media ratings for violence and sex: Implications for policymakers and parents. *American Psychologist*. Vol 58, No. 2, 130-141.

**Abstract** This article reviews research on the implementation of media-rating systems, parents' use and evaluation of them, and the impact of ratings on children. Although half or more of parents report using media-rating systems, understanding of various components of the systems is low, particularly for television ratings. A meta-analysis of national polls shows that parents overwhelmingly prefer that ratings specify content, rather than giving age recommendations. A second meta-analysis, of experiments testing the effects of ratings on children's interest in programs, shows that ratings indicating restricted or controversial content have a deterrent effect

for children under age 8 but that, by age 11 and especially for boys, the ratings show a small enticement effect. This effect occurs for both age-based and content-based ratings. Implications for policymakers and parents are discussed.

Committee on Public Education. (2001) Media violence. *Pediatrics*. 2001;108:1222-1226.

**Summary** The American Academy of Pediatrics recognizes exposure to violence in media, including television, movies, music, and video games, as a significant risk to the health of children and adolescents. Extensive research evidence indicates that media violence can contribute to aggressive behavior, desensitization to violence, nightmares, and fear of being harmed. Pediatricians should assess their patients' level of media exposure and intervene on media-related health risks. Pediatricians and other child health care providers can advocate for a safer media environment for children by encouraging media literacy, more thoughtful and proactive use of media by children and their parents, more responsible portrayal of violence by media producers, and more useful and effective media ratings.

Dill, KE, and Phillips, KL, (Currently under revision at *Sex Roles: A Journal of Research*.) Depictions of diversity in video game characters.

**Abstract** Video games characters are icons in young people's popular culture. In Study 1, a visual content analysis of magazine images of male and female video game characters revealed the prevalence of exaggerated stereotypes. Male video game characters are almost always portrayed as violent and that violence is often glamorized. Female video game characters are almost always portrayed as stereotypical (e.g., highly sexualized, idealized bodies, scantily clad, and visions of beauty). Eroticized aggression of females, a characterization associated with antisocial behavior, is also common. In Study 2, young people's understanding of video game characters mirrored the portrayals found in Study 1. Results are discussed in terms of the role of these particular popular culture representations of masculinity and femininity in socialization.

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Gentile, DA, Humphrey J, Walsh DA. (2005) Media ratings for movies, music, video games, and television: A review of the research and recommendations for improvements. *Adolescent Medicine Clinics*. 2005;16:427-446.

**Introduction** The "nature-nurture" debate has intrigued psychologists since the time of Plato. As modern experimental and behavior genetics techniques have improved, it has become clear that environmental influences are critical for the development of most personality traits and behaviors [1]. In the past 60 years, the environment in which children and adolescents develop has changed in ways that never have been seen before in human history – it has become media-saturated. ...  
(continued)

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Haninger K, Ryan MS, and Thompson KM. (2004) "Violence in Teen-rated video games." *Medscape General Medicine* 6(1) March 12, 2004.

**Abstract Context:** Children's exposure to violence in the media remains a source of public health concern; however, violence in video games rated T (for "Teen") by the Entertainment Software Rating Board (ESRB) has not been quantified. **Objective:** To quantify and characterize the depiction of violence and blood in T-rated video games. According to the ESRB, T-rated video games may be suitable for persons aged 13 years and older and may contain violence, mild or

strong language, and/or suggestive themes. **Design:** We created a database of all 396 T-rated video game titles released on the major video game consoles in the United States by April 1, 2001 to identify the distribution of games by genre and to characterize the distribution of content descriptors for violence and blood assigned to these games. We randomly sampled 80 game titles (which included 81 games because 1 title included 2 separate games), played each game for at least 1 hour, and quantitatively assessed the content. Given the release of 2 new video game consoles, Microsoft Xbox and Nintendo GameCube, and a significant number of T-rated video games released after we drew our random sample, we played and assessed 9 additional games for these consoles. Finally, we assessed the content of 2 R-rated films, *The Matrix* and *The Matrix: Reloaded*, associated with the T-rated video game *Enter the Matrix*. **Main Outcome Measures:** Game genre; percentage of game play depicting violence; depiction of injury; depiction of blood; number of human and nonhuman fatalities; types of weapons used; whether injuring characters, killing characters, or destroying objects is rewarded or is required to advance in the game; and content that may raise concerns about marketing T-rated video games to children. **Results:** Based on analysis of the 396 T-rated video game titles, 93 game titles (23%) received content descriptors for both violence and blood, 280 game titles (71%) received only a content descriptor for violence, 9 game titles (2%) received only a content descriptor for blood, and 14 game titles (4%) received no content descriptors for violence or blood. In the random sample of 81 T-rated video games we played, 79 games (98%) involved intentional violence for an average of 36% of game play time, and 34 games (42%) contained blood. More than half of the games (51%) depicted 5 or more types of weapons, with players able to select weapons in 48 games (59%). We observed 37 games (46%) that rewarded or required the player to destroy objects, 73 games (90%) that rewarded or required the player to injure characters, and 56 games (69%) that rewarded or required the player to kill. We observed a total of 11,499 character deaths in the 81 games, occurring at an average rate of 122 deaths per hour of game play (range 0 to 1310). This included 5689 human deaths, occurring at an average rate of 61 human deaths per hour of game play (range 0 to 1291). Overall, we identified 44 games (54%) that depicted deaths to nonhuman characters and 51 games (63%) that depicted deaths to human characters, including the player. **Conclusions:** Content analysis suggests a significant amount of violence, injury, and death in T-rated video games. Given the large amount of violence involving guns and knives, the relative lack of blood suggests that many T-rated video games do not realistically portray the consequences of violence. Physicians and parents should appreciate that T-rated video games may be a source of exposure to violence and some unexpected content for children and adolescents, and that the majority of T-rated video games provide incentives to the players to commit simulated acts of violence

Haninger, K, and Thompson KM. (2004) Content and ratings of Teen-rated video games, *Journal of the American Medical Association*, 2004; 291(7):856-865

**Abstract Context** Children's exposure to violence, blood, sexual themes, profanity, substances, and gambling in the media remains a source of public health concern. However, content in video games played by older children and adolescents has not been quantified or compared with the rating information provided to consumers by the Entertainment Software Rating Board (ESRB).

**Objectives** To quantify and characterize the content in video games rated T (for "Teen") and to measure the agreement between the content observed in game play and the ESRB-assigned content descriptors displayed on the game box.

**Design and Setting** We created a database of all 396 T-rated video game titles released on the major video game consoles in the United States by April 1, 2001, to identify the distribution of games by genre and to characterize the distribution of ESRB-assigned content descriptors. We randomly sampled 80 video game titles (which included 81 games because 1 title included 2 separate games), played each game for at least 1 hour, quantitatively assessed the content, and compared the content we observed with the content descriptors assigned by the ESRB. **Main Outcome Measures** Depictions of violence, blood, sexual themes, gambling, and alcohol, tobacco, or other drugs; whether injuring or killing characters is rewarded or is required to

advance in the game; characterization of gender associated with sexual themes; and use of profanity in dialogue, lyrics, or gestures. **Results** Analysis of all content descriptors assigned to the 396 T-rated video game titles showed 373 (94%) received content descriptors for violence, 102 (26%) for blood, 60 (15%) for sexual themes, 57 (14%) for profanity, 26 (7%) for comic mischief, 6 (2%) for substances, and none for gambling. In the random sample of 81 games we played, we found that 79 (98%) involved intentional violence for an average of 36% of game play, 73 (90%) rewarded or required the player to injure characters, 56 (69%) rewarded or required the player to kill, 34 (42%) depicted blood, 22 (27%) depicted sexual themes, 22 (27%) contained profanity, 12 (15%) depicted substances, and 1 (1%) involved gambling. Our observations of 81 games match the ESRB content descriptors for violence in 77 games (95%), for blood in 22 (27%), for sexual themes in 16 (20%), for profanity in 14 (17%), and for substances in 1 (1%). Games were significantly more likely to depict females partially nude or engaged in sexual behaviors than males. Overall, we identified 51 observations of content that could warrant a content descriptor in 39 games (48%) in which the ESRB had not assigned a content descriptor. We found that the ESRB assigned 7 content descriptors for 7 games (9%) in which we did not observe the content indicated within 1 hour of game play. **Conclusions** Content analysis suggests a significant amount of content in T-rated video games that might surprise adolescent players and their parents given the presence of this content in games without ESRB content descriptors. Physicians and parents should be aware that popular T-rated video games may be a source of exposure to a wide range of unexpected content.

Harrison, K. (2003). Television viewers' ideal body proportions: The case of the curvaceously thin woman, *Sex Roles*, 48, 255-264.

**Abstract** Dozens of studies have linked ideal-body media exposure to the idealization of a slim female figure, but none have examined the proportions of this figure. College women's and men's exposure to ideal-body images on television was correlated with their perceptions of the ideal female bust, waist, and hip sizes and their approval of surgical body-alteration methods. For women, exposure to ideal-body images on television predicted the choice of a smaller waist and hips, and either a larger bust (for those who perceived themselves to be smaller-busted) or a smaller bust (for those who perceived themselves to be larger-busted). For both women and men, exposure to ideal-body images on television predicted approval of women's use of surgical body-alteration methods such as liposuction and breast augmentation.

Huesmann, LR, Moise-Titus, J, Podolski, CL, Eron, LD. (2003) Longitudinal Relations Between Children's Exposure to TV Violence and Their Aggressive and Violent Behavior in Young Adulthood: 1977-1992, *Developmental Psychology*, March 2003 Vol. 39, No. 2, 201-221.

**Abstract** Although the relation between TV-violence viewing and aggression in childhood has been clearly demonstrated, only a few studies have examined this relation from childhood to adulthood, and these studies of children growing up in the 1960s reported significant relations only for boys. The current study examines the longitudinal relations between TV-violence viewing at ages 6 to 10 and adult aggressive behavior about 15 years later for a sample growing up in the 1970s and 1980s. Follow-up archival data (N = 450) and interview data (N = 329) reveal that childhood exposure to media violence predicts young adult aggressive behavior for both males and females. Identification with aggressive TV characters and perceived realism of TV violence also predict later aggression. These relations persist even when the effects of socioeconomic status, intellectual ability, and a variety of parenting factors are controlled.

Ross, CJ. (2000) Anything Goes: Examining the State's Interest in Protecting Children from Controversial Speech *Commentary on. Vanderbilt Law Review*. 2000;53:427-524.

Thompson KM and Haninger K. (2001) Violence in E-rated video games. *Journal of the American Medical Association*, 2001; 286(5):591-598

**Abstract Context:** Children's exposure to violence, alcohol, tobacco and other substances, and sexual messages in the media are a source of public health concern; however, content in video games commonly played by children has not been quantified. **Objectives:** To quantify and characterize the depiction of violence, alcohol, tobacco and other substances, and sex in video games rated E (for "Everyone"), analogous to the G rating of films, which suggests suitability for all audiences. **DESIGN:** We created a database of all existing E-rated video games available for rent or sale in the United States by April 1, 2001, to identify the distribution of games by genre and to characterize the distribution of content descriptors associated with these games. We played and assessed the content of a convenience sample of 55 E-rated video games released for major home video game consoles between 1985 and 2000. **Main Outcome Measures:** Game genre; duration of violence; number of fatalities; types of weapons used; whether injuring characters or destroying objects is rewarded or is required to advance in the game; depiction of alcohol, tobacco and other substances; and sexual content. **Results:** Based on analysis of the 672 current E-rated video games played on home consoles, 77% were in sports, racing, or action genres and 57% did not receive any content descriptors. We found that 35 of the 55 games we played (64%) involved intentional violence for an average of 30.7% of game play (range, 1.5%-91.2%), and we noted significant differences in the amount of violence among game genres. Injuring characters was rewarded or required for advancement in 33 games (60%). The presence of any content descriptor for violence (n = 23 games) was significantly correlated with the presence of intentional violence in the game (at a 5% significance level based on a 2-sided Wilcoxon rank-sum test,  $t(53) = 2.59$ ). Notably, 14 of 32 games (44%) that did not receive a content descriptor for violence contained acts of violence. Action and shooting games led to the largest numbers of deaths from violent acts, and we found a significant correlation between the proportion of violent game play and the number of deaths per minute of play. We noted potentially objectionable sexual content in 2 games and the presence of alcohol in 1 game. **Conclusions:** Content analysis suggests a significant amount of violence in some E-rated video games. The content descriptors provide some information to parents and should be used along with the rating, but the game's genre also appears to play a role in the amount of violent play. Physicians and parents should understand that popular E-rated video games may be a source of exposure to violence and other unexpected content for children and that games may reward the players for violent actions.

Thompson KM, Tepichin K, and Haninger K. (2006) Content and ratings of Mature-rated video games. *Archives of Pediatrics and Adolescent Medicine* 2006; 160:402-410.

**Abstract Objectives** To quantify the depiction of violence, blood, sexual themes, profanity, substances, and gambling in video games rated M (for "mature") and to measure agreement between the content observed and the rating information provided to consumers on the game box by the Entertainment Software Rating Board. **Design:** We created a database of M-rated video game titles, selected a random sample, recorded at least 1 hour of game play, quantitatively assessed the content, performed statistical analyses to describe the content, and compared our observations with the Entertainment Software Rating Board content descriptors and results of our prior studies. **Setting:** Harvard University, Boston, Mass. **Participants** Authors and 1 hired game player. **Main Exposure:** M-rated video games. **Main Outcome Measures** Percentages of game play depicting violence, blood, sexual themes, gambling, alcohol, tobacco, or other drugs; use of profanity in dialogue, song lyrics, or gestures. **Results:** Although the Entertainment Software Rating Board content descriptors for violence and blood provide a good indication of such content in the game, we identified 45 observations of content that could warrant a content descriptor in 29 games (81%) that lacked these content descriptors. M-rated video games are significantly more likely to contain blood, profanity, and substances; depict more severe injuries to human and nonhuman characters; and have a higher rate of human deaths than video games rated T (for "teen"). **Conclusion:** Parents and physicians

should recognize that popular M-rated video games contain a wide range of unlabeled content and may expose children and adolescents to messages that may negatively influence their perceptions, attitudes, and behaviors.

Walsh, DA, and Gentile, DG. (2001) A Validity Test of Movie, Television, and Video-Game Ratings, *Pediatrics*, 2001;107,6:1302-1308

**Abstract Context:** Numerous studies have documented the potential effects on young audiences of violent content in media products, including movies, television programs, and computer and video games. Similar studies have evaluated the effects associated with sexual content and messages. Cumulatively, these effects represent a significant public health risk for increased aggressive and violent behavior, spread of sexually transmitted diseases, and pediatric pregnancy. In partial response to these risks and to public and legislative pressure, the movie, television, and gaming industries have implemented ratings systems intended to provide information about the content and appropriate audiences for different films, shows, and games. **Objective.** To test the validity of the current movie-, television-, and video game-rating systems. **Design:** Panel study. **Measure:** Participants used the KidScore media evaluation tool, which evaluates films, television shows, and video games on 10 aspects, including the appropriateness of the media product for children based on age. **Results:** When an entertainment industry rates a product as inappropriate for children, parent raters agree that it is inappropriate for children. However, parent raters disagree with industry usage of many of the ratings designating material suitable for children of different ages. Products rated as appropriate for adolescents are of the greatest concern. The level of disagreement varies from industry to industry and even from rating to rating. Analysis indicates that the amount of violent content and portrayals of violence are the primary markers for disagreement between parent raters and industry ratings. **Conclusions:** As 1 part of a solution to the complex public health problems posed by violent and sexually explicit media products, ratings can have value if used with caution. Parents and caregivers relying on the ratings systems to guide their children's use of media products should continue to monitor content independently. Industry ratings systems should be revised with input from the medical and scientific communities to improve their reliability and validity. A single ratings system, applied universally across industries, would greatly simplify the efforts of parents and caregivers to use the system as well as the efforts of outside parties to monitor the use and validity of the system.

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## **REPORTS**

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Cantor, J., Stutman, S., & Duran, V. (1996, November). What parents want in a television rating system: Results from a national survey.

Report released by the National Parent Teacher Association, the Institute for Mental Health Initiatives, and the University of Wisconsin-Madison.

Kaiser Family Foundation (2005) *Generation M: Media in the Lives of 8-18 Year-olds Report*, Program for the Study of Entertainment Media and Health. Publication No.: 7581, Publish Date: 2005-03-09.

The study, *Generation M: Media in the Lives of 8-18 Year-olds*, examined media use among a nationally representative sample of more than 2,000 3rd through 12th graders who completed detailed questionnaires, including nearly 700 self-selected participants who also maintained seven-day media diaries.

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Kaiser Family Foundation (2004) *Parents, Media and Public Policy: A Kaiser Family Foundation Survey*, Program for the Study of Entertainment Media and Health. Publish Date: 2004-09-23.

A national Kaiser Family Foundation survey of parents found that a majority says they are “very” concerned about the amount of sex (60%) and violence (53%) their children are exposed to on TV.

The survey of 1,001 parents of children ages 2-17 was conducted in July and August 2004.

[View report online](#)

National Television Violence Study. (1998) The Center for Communication and Social Policy, University of California, Santa Barbara, Thousand Oaks, CA, Sage Publications, 1998.

**Abstract** This third annual report presents comparative year-to-year data on the nature of violence on television across program genres and channel types in the United States. It contains an analysis of how the new television rating system was initially implemented and tracks trends over three years in the use of program advisories and content codes. It also evaluates public service announcements designed to prevent handgun violence among adolescents. Finally, it provides new analyses of ‘high risk’ presentations of violence most likely to adversely affect younger audiences.

## **BOOKS**

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Anderson, CA, Gentile, DA, Buckley, KE, (2007) *Violent Video Game Effects on Children and Adolescents: Theory, Research and Public Policy*, Oxford University Press, 2007.

Asamen, JK, and Berry, GL. (2003) The Multicultural Worldview of Children Through the Lens of Television. In Palmer, EL, Young, BM (Eds.) *The Faces of Televisual Media: Teaching, Violence, Selling To Children*, Lawrence Erlbaum Associates, June 2003.

Berry, GL, and Asamen, JK (2001) Television, Children, and Multicultural Awareness: Comprehending the Medium in a Complex Multimedia Society. In Singer, DG, and Singer, JL (Eds.) *Handbook of children and the media*. Thousand Oaks, CA: Sage Publications, 2001.

Dill, KE. (in press) Do Anti-Social Video Games Corrupt? A study of pro-rape, anti-women attitudes among gamers. Praeger Publishers.

[View chapter online.](#)

Durham, M. G. (2006). Girls, media and the negotiation of sexuality: A study of race, class, and gender in adolescent peer groups. In J. O’Brien (Ed.) *The Production of Reality: Essays and Readings on Social Interaction* (4th ed.), Thousand Oaks: Sage Publications, 2006.

Gentile, DA, & Anderson, CA (2006). Violent video games: Effects on youth and public policy implications. In N. Dowd, D.G. Singer, & R. F. Wilson (Eds.) *Handbook of children, culture, and violence* (pp. 225-246). Thousand Oaks, CA: Sage Publications, 2006.

Ross, CJ. (2006) Constitutional obstacles to regulating violence in the media. In N. Dowd, D.G. Singer, & R. F. Wilson (Eds.) *Handbook of children, culture, and violence* (pp. 225-246). Thousand Oaks, CA: Sage Publications, 2006.