

To Print: Click your browser's **PRINT** button.

NOTE: To view the article with Web enhancements, go to:
<http://www.medscape.com/viewarticle/468087>

Original Article

Violence in Teen-Rated Video Games

Kevin Haninger; M. Seamus Ryan; Kimberly M. Thompson, MS, ScD

Medscape General Medicine 6(1), 2004. © 2004 Medscape

Posted 03/11/2004

Abstract and Introduction

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.

Introduction

The marketing of violent entertainment to children and adolescents continues to represent a significant area of public concern,^[1-4] despite the uncertainties that remain about the impacts of playing video games.^[5-10] Recent meta-analyses of experimental and non-experimental studies suggested children and young adults may show increased aggression with exposure to playing violent video games.^[8,9] In addition, a small study of adults who played a large, diverse set of games (ie, 46 games rated E for "Everyone," T for "Teen," and M for "Mature" that represented a mixture of genres [C.S. Green, personal communication, 2003]) showed that visual attentional skills improve with video game playing.^[10] These results provide more evidence that people learn from playing video games, although the impact of this type of learning for children remains insufficiently studied to date.

Studies of media use by children and adolescents document the popularity of video games, reporting that 8-13 year olds play video games an average of 32 minutes per day, while 14-18 year olds play video games an average of 20 minutes per day.^[11] On any given day, children in either age group who play video games spend more than an hour playing them.^[11]

Since 1994, the ESRB has rated video games with age-based rating symbols and content descriptors, which game manufacturers display on the game box to inform consumer choices. According to the ESRB, the T-rating means that game content "may be suitable for persons ages 13 and older [and] may contain violent content, mild or strong language, and/or suggestive themes."^[12] We previously characterized violence in E-rated video games^[13] and compared the content we observed in a random sample of T-rated video games to ESRB content descriptors.^[14] In this study, we characterize and quantify the depiction of violence and blood in the random sample of T-rated video games, and we assess the content of 9 additional games released on the 2 newest platforms to provide perspective on more recent games and to further explore issues related to cross-media marketing.

Methods

We identified 396 T-rated video game titles released on the major video game consoles in the United States by April 1, 2001, which at that time included Nintendo 64 (N64), Sega Dreamcast (DC), Sony PlayStation (PS), and Sony PlayStation 2 (PS2).^[14] Using several video game Web sites,^[12,15-17] we verified the game titles and ESRB content descriptors, and we classified each game title by 1 of 10 primary genres (ie, action, adventure, fighting, racing, role-playing, shooting, simulation, sports, strategy, trivia, or other.) We stratified the 396 video game titles by genre and randomly selected 20% (n = 80) of the game titles to play, but we played 81 games because one game title (*Final Fantasy Anthology*) included 2 separate games (*Final Fantasy V* and *Final Fantasy VI*).

Our random sample did not include video games for Microsoft Xbox (Xbox) and Nintendo GameCube (GCN) because these consoles entered the US market after we generated our random sample and began collecting data. However, in the interest of including all current consoles, we played 9 additional video games on Xbox (n = 5) and GCN (n = 4). Overall, we played 90 T-rated video games.

For consistency, one author with considerable video gaming experience (M.S.R.) played the entire random sample of video games (n = 81) and recorded all game play on videocassettes for later coding.^[14] Two additional students played the video games for Xbox and GCN (n = 9). We purchased or rented all video games with their original game manuals intact, then the game player read the manual and played each game for several hours to become familiar with the game features. Following this familiarization, the player restarted the video game from the beginning and recorded at least 1 hour of game play on an individual videocassette. We recorded all game content from the moment the player turned the console on, including any introductions and setup. This step differed from our prior study of violence in E-rated video games,^[13] in which we started recording from the first scene when autonomous movement began. We observed in that study that game introductions sometimes depicted content that could warrant an ESRB content descriptor, and that game setup often allowed the player to select weapons. Consequently, in this study, we included those elements in our hour of game play. Our method of playing each game for at least 1 hour yields approximately the same amount of game play for each game and allows us to play a larger number of games while still obtaining a reasonably representative sample of game play.^[14] However, it captures only a small amount of the game play for those games designed for much longer play. For example, we may miss some content in those games that become more difficult as the player advances. We may also introduce some bias if we consistently miss more aggressive, faster, and more violent game play or new types of weapons introduced later in the game.

With the game play recorded on videocassettes, one author with considerable video gaming and prior coding experience (K.H.) reviewed and manually coded the content related to the depiction of violence and blood using standard coding instruments (available upon request), then entered the data into a database constructed with *Microsoft Access* (Version 2002, Microsoft Corporation, Redmond, Washington).^[14] All authors discussed all parts of games that presented difficulty in coding.

Recognizing the importance of consistent definitions, we defined violence as intentional acts in which the aggressor causes or attempts to cause physical injury or death to another character. We did not include unintentional actions that led to physical harm, the effects of natural disasters, or the presence of dangerous obstacles not attributed to a particular character. We defined characters broadly, including humans and nonhumans (eg, monsters, animals, and personified robots) that attacked the player or other characters. We did not code as violence intentional acts of physical force that represent normal play in a sports game (eg, tacking in football), because the intention is to stop the opposing player without necessarily causing injury. We did code all punches and kicks as violence, including those in boxing and wrestling games, in which the intention is to cause injury.

To quantify the amount of violence, we divided the videocassettes into 1-second intervals and noted whether each second of game play contained acts of violence. We used a similar coding method in an earlier study in which we obtained good agreement between coders.^[13] However, to assess the consistency of our method between coders in this study, a research assistant with considerable video gaming experience but with no other involvement in this study independently coded a randomly selected subset of 12 video games (ie., 2 video games were used for training and 10 video games were used for comparison with a kappa statistic). In addition to coding whether each second of game play involved a character committing acts of violence, we further coded for both precursor acts of planning violence (ie, selecting a weapon or aiming prior to committing violence) and depictions of injury after violence (eg, a character lying on the ground dead or wounded). Thus, for each second of game play not already coded as "committing violence," we coded the second as "planning violence" if it showed a character planning acts of violence, as "depicting injuries" if it depicted injuries from violence, or as "not violent" if it failed to meet either of these criteria.

To further characterize the overall portrayal of violence, we used categories to rate how the video game depicted injuries to human and nonhuman characters. We designated the violence as relatively "mild" when the most severe depiction of violence in the game involved minor auditory or visual representations of injury and pain that primarily served to notify the player that a character was injured (eg, characters grunted or turned red when injured, but did not scream or bleed). We designated the violence as relatively "moderate" when the most severe depiction involved more realistic representations of injury and pain (eg, characters screamed, fell over, or bled when injured). We designated the violence as "strong" when the most severe depiction involved graphic representations of injury and pain that exaggerated or focused attention on suffering (eg, characters screamed in agony or bled excessively when injured or when otherwise physically tortured). For each video game, we distinguished between human and nonhuman characters and coded the highest (and most severe) category we observed. Given this new aspect of our coding method, the author who played the games (M.S.R.) coded a randomly selected subset of 20 video games for comparison with the categories assigned by the author who coded all of the games (K.H.). We calculated intercoder reliability using the kappa statistic.^[18]

For each video game, we noted the types of weapons used for violence, whether the player could select these weapons, whether violence resulted in injury, whether injuring or killing human and nonhuman characters was rewarded or was required to advance in the game, the number of human and nonhuman deaths from violence, and the depiction of blood. We also noted whether destroying objects was rewarded or was required to advance in the game, although we did not code the destruction of objects as violence.

Finally, following the release of the R-rated film *The Matrix: Reloaded* associated with same-day release of the T-rated video game *Enter the Matrix* (Xbox),^[19] we included this video game as one of 9 additional games we played after we drew our random sample, and we purchased and coded the R-rated films *The Matrix* and *The Matrix: Reloaded* using the same coding scheme. We also quantified the content not related to violence and blood that could motivate the T-rating in the 9 additional games we played on Xbox and GCN, using the same definitions and methods as in a prior study.^[14] We performed statistical tests using SAS (Version 8.2 for Windows, SAS Institute Inc., Cary, North Carolina).

Results

We report the summary results and statistics based on the random sample of 81 T-rated video games, but we tabulate results and discuss insights from our observations of all 90 T-rated video games we played. [Table 1](#)

compares the distribution of genres in our random sample of 80 video game titles with that of all 396 T-rated video game titles released by April 1, 2001. Video games titles in the action (25%), fighting (24%), and shooting (14%) genres represented nearly two thirds of T-rated video games titles available at the time we drew our random sample.

Table 2 groups ESRB content descriptors by type and shows the breakdown of the content descriptors by genre for all 396 T-rated games released by April 1, 2001. Although T-rated games receive content descriptors for a wide range of content, almost all (94%) received some type of content descriptor for violence (ie, Animated Violence, Mild Animated Violence, Realistic Violence, Violence, and/or Mild Violence) and 26% received some type of a content descriptor for blood (ie, Animated Blood, Animated Blood and Gore, Blood, or Blood and Gore). We found that 280 game titles (71%) received a content descriptor for violence but not blood, 93 game titles (23%) received content descriptors for violence and blood, 9 game titles (2%) received a content descriptor for blood but not violence, and 14 game titles (4%) did not receive content descriptors for violence or blood.

Table 3 groups the 90 T-rated video games we played by genre and summarizes our observations of violence and blood. The table shows the game title, console, and release year in the first column, and the ESRB content descriptors in the second column. In the random sample of 81 T-rated video games we played, 79 games (98%) involved intentional acts of violence, with 77 games (95%) receiving content descriptors for violence. Only the trivia game (*You Don't Know Jack, Mock 2*) and one adventure game (*Overblood*) did not contain acts of violence within our hour of game play, although we observed depictions of injuries from violence in the beginning of *Overblood*, and we know that acts of violence occur later in the game. We observed blood in 34 of 81 games (42%), with 22 games (27%) receiving content descriptors for blood.

We observed wide variation in the amount of violence in the games, with the 79 games (98%) that involved violence containing an average of 36% violent game play time (range 0.1% to 87%). If we include the additional game play associated with planning violence and depiction of injuries (ie, "All Violence" shown in Table 3, column 5), then we observed an average of 39% of game play time directly related to violence (range 0.5% to 88%) in these 79 games. Overall, we found that the percentage of game play that involved planning violence and depiction of injuries, while measurable, is smaller than the percentage involved in committing violent acts. Compared with our analysis of E-rated video games, this study suggests that T-rated video games are significantly more likely to contain violence than are E-rated video games (ie, 98% of T-rated video games vs 64% of E-rated video games depicted violence,^[13] chi-squared = 27.8, $P < .001$). However, T-rated and E-rated video games that depicted violence did not contain statistically different amounts of violent game play time, based on a 2-sided Wilcoxon rank-sum test. In coding whether each second of game play contained acts of violence, we found excellent agreement between the author who coded all of the video games and the independent coder who assessed the violence in 10 games ($\kappa = 0.93$).

We observed a total of 11,499 character deaths in approximately 95 hours of game play for the random sample of 81 video games, occurring at an average rate of 122 character deaths per hour of game play (range 0 to 1310). This total 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.

Analysis of the overall portrayal of violence in the random sample of 81 games indicated that 44 games (54%) depicted injuries to nonhuman characters, while 72 games (89%) depicted injuries to human characters, including the player. In classifying the portrayal of violence by severity (ie, "mild," "medium," or "strong"), we found excellent agreement between the author who coded all of the video games and the author who played them ($\kappa = 0.92$). Examining the portrayal of violence to nonhuman characters, we found that 11 of 81 games (14%) portrayed violence categorized as "mild" to nonhumans, 27 games (33%) portrayed "moderate" violence to nonhumans, and 6 games (7%) portrayed "strong" violence to nonhumans. Examining the portrayal of violence to human characters, we found that 8 of 81 games (10%) portrayed "mild" violence to humans, 45 games (56%) portrayed "moderate" violence to humans, and 19 games (23%) portrayed "strong" violence to humans. These results suggest that T-rated video games containing violence portray violence to human characters more severely than violence to nonhuman characters based on a significant result in a test for trend (chi-squared = 28.4, $P < .001$). We also found that video games that received content descriptors for Mild Animated Violence or Mild Violence portrayed violence less severely to human ($P = .001$) and nonhuman characters ($P = .0001$) than video games that received content descriptors for Animated Violence, Violence, or Realistic Violence, based on 2-sided Wilcoxon rank-sum tests.

We observed 37 of 81 games (46%) that rewarded or required destroying objects. We identified 73 games (90%) that rewarded or required injuring characters, with injuring human characters rewarded or required in 54 games

(67%). This included 56 games (69%) that rewarded or required killing characters, with killing human characters rewarded or required in 32 games (40%). Compared with our analysis of E-rated video games, these results suggest that significantly more T-rated video games give players incentives or requirements to commit acts of violence (ie, 73% of T-rated video games vs 60% of E-rated video games,^[13] chi-squared = 17.3, $P < .001$).

Table 3 also shows that 71 of 81 games (88%) depicted weapons other than the body. More than half of games (51%) depicted 5 or more types of weapons, with players able to select weapons in 48 games (59%). A total of 59 games (73%) used the body as a weapon, 56 (69%) used projectiles, 46 (57%) used guns, 44 (54%) used explosives, 36 (44%) used knives or swords, 27 (33%) used fire, 24 (30%) used magic, 11 (14%) used toxic substances, and 44 (54%) used other weapons (eg, automobile, hammer, police baton). This does not represent an exhaustive list of the weapons that players might encounter in the video games because of the limited amount of time we played each game; consequently, the list should be viewed as a subset of the weapons depicted in these games.

Table 4 summarizes our observations of violence and blood by game genre. We measured the highest average percentages of violent game play in the 2 most prevalent genres of T-rated video games: fighting (60%) and action (41%). Shooting and action games depicted the highest average number of character deaths per hour (394 and 221, respectively) and the highest average number of human deaths per hour (270 and 75, respectively). In contrast, fighting games, which contained the highest average percentage of violent game play, showed an average of 7 character deaths per hour, only 3 of these human. Although many fighting games contained the use of lethal weapons, we observed that they often indicated a defeated character was knocked out, but not dead. Role-playing games allowed the player to select the greatest variety of weapons, but they also portrayed injuries less severely (Table 3) and involved the player in more nonviolent game play than did video games from the more prevalent genres. These results offer more evidence that genre provides important information about the violent content of video games.^[13]

Our analysis of the 9 additional video games we played on Xbox and GCN suggest similar results for newer games, which generally contain more vivid depictions of content than some of the older games in our random sample. Table 5 summarizes our quantitative observations of sexual themes, profanity, and substances in these additional games. Table 6 provides notable examples of the different types of content we observed.

Finally, we found that the R-rated films *The Matrix* and *The Matrix: Reloaded* depicted significantly less violence (10% and 16% of screen time, respectively) and fewer human deaths per hour (18 and 22, respectively) than the T-rated video game *Enter the Matrix*, which contained 45% violent game play and 117 human deaths per hour (mainly deaths of police officers, security guards, and postal workers). While the films contained blood and the video game did not, we noted that all portrayed graphic violence involving martial arts and guns. We also noted that the game manual contained a \$3 rebate toward the purchase of *The Matrix* DVD, which indicates the continued marketing of R-rated violent entertainment to children.^[3,4]

Discussion

This study demonstrates quantitatively that T-rated video games contain a significant amount of violence, injury, and death. Given the large amount of violence involving guns and knives, the relative lack of blood seems surprising and suggests that many T-rated video games do not realistically portray the consequences of violence. However, as video game consoles evolve with more powerful graphics, T-rated video games have the ability to portray violence and suffering more realistically. We expect this trend to continue and that it will present challenges for content analyses and for the ESRB, which no longer uses the word "realistic" in content descriptors (eg, Realistic Violence, Realistic Blood).

Research that provides insight into the cognitive effects of video games on children of different levels of development should help determine the need to characterize the realism in video games. In particular, research related to when children distinguish between fantasy and reality^[21,22] represents a priority, along with studies about what other media and social factors affect their development.^[23,24] Researchers should also further study what children learn from video games and whether this learning changes their behavior, attitudes, and beliefs, while recognizing that understanding something as not real does not necessarily negate effects.^[25]

Given the wide variation in the amount and portrayal of violence in T-rated video games, the ESRB content descriptors could provide more information about violence. The ESRB recently added new content descriptors for the type of violence (ie, Cartoon Violence, Fantasy Violence, Sexual Violence) and degree (ie, Intense Violence), and we expect that these content descriptors may give more detail about violence in video games provided that the ESRB uses them consistently. Despite the addition of these content descriptors, the significant amount of

violence in T-rated video games raises important questions about the age-appropriateness of interactive violence, as well as what criteria the ESRB uses to distinguish T-rated and M-rated video games.

The same important limitations exist in this study as in our prior study of T-rated video games.^[14] The change in our methods of allowing the game player to familiarize himself with each game prior to recording and of including the game introduction and set up in recorded game play may have slightly reduced the amount of violence that we observed per hour in T-rated video games compared with the method we used to study E-rated video games, for 2 reasons. First, a more familiar game player may die or be injured less frequently and may need to spend relatively less time committing acts of violence to advance in the game. Second, including the game introduction and set up may record some nonviolent game play associated with viewing film clips, character introductions, and game menus. We see some evidence of these effects since we measured a smaller percentage of violent game play in the T-rated video game *Nuclear Strike* in this study than we did in the E-rated video game *Nuclear Strike 64*.^[13]

Given our effort to play 9 additional newer video games, we note that the continual evolution of video games and the ESRB rating system suggest the need for researchers who conduct future studies to consider using a rolling enrollment process that randomly samples new games. We did not evaluate successive video games in a single series to look at time trends, but improvements in the graphic capabilities of consoles and the increased interactivity of online video games suggest the need for future studies to explore trends in content. In addition, the fact that players can use codes (often well known and available on the Internet) to access content that would not otherwise occur in the game or that the player would not otherwise access as quickly or at all suggests the need for some consideration of the potential for codes to alter the gaming experience from what would be indicated by the ESRB rating and content descriptors. For example, in *Tony Hawk's Pro Skater 4*, the player can enter a code to unlock film clips and characters that otherwise appear much later in the game, including the material we noted in [Table 6](#).

Our findings suggest that the Federal Trade Commission (FTC) should continue to examine the complex challenges regarding the cross-marketing of violent entertainment to children.^[3,4] We noted that the T-rated video game *Enter the Matrix* was marketed as an integral part of the R-rated Matrix films.^[19,26] According to the game Web site, "The [filmmakers] wrote the game's story and script, breaking new ground in how Hollywood works with game developers. They collaborated on all game design elements and outlined all of the action moments in the game in true Matrix style, as well as personally directed new, never-before-seen 35mm film footage for the game, featuring the same actors, sets, costumes and effects used in *The Matrix: Reloaded*."^[26] Based on our play of *Enter the Matrix*, which involved a significant amount of graphic violence and killing of law enforcement officers, and the intimate connections between the video game and the R-rated films, we expected an M-rating on the video game. While the game artificially contains no blood and consequently appears similar in this respect to other violent T-rated video games, the connection of this game to an R-rated film and the cross-marketing evidenced by the \$3 rebate raise questions about the M-rating. Cross-marketing appears to be an increasing trend, as indicated by the simultaneous release of the R-rated DVD and T-rated video game *Terminator 3: Rise of the Machines*, and by the television advertisement and game Web site, which emphasize that the video game contains more than 6 minutes of original film footage not included in the theatrical release and that players can assume the role of the lead character as they play.^[27,28] We also noted recent copromotion of the PG-rated film *The Haunted Mansion* and the T-rated video game *The Haunted Mansion*,^[29,30] which provides an example of cross-marketing in which the film received a relatively lower age-based rating than the video game (ie, PG, not PG-13 film, and T-rated video game). Finally, our observations of both an adult film star in a T-rated video game and a game containing music from albums that received Parental Advisory Labels ([Table 6](#)) also suggest that the FTC should seriously consider cross-marketing issues related to both violent and nonviolent content.

While we remain uncertain about the ability to create a universal media rating system given the very different nature of interactive and noninteractive media, we see the convergence of media and cross-marketing issues as presenting major challenges to parents and rating boards. We believe our findings suggest that a significant research effort should be undertaken to explore the development and creation of a universal media rating system. We recognize that the academic community might bring important analytical rigor to the discussion about media content and ratings, and that ultimately a single system would probably provide the simplest tool for parents, if one can be designed and effectively implemented.

This study provides important and useful information to parents and physicians about violence in T-rated video games. Unfortunately, the limited data that exist on parental supervision of media suggests that parents are less likely to supervise video games than other entertainment media.^[31] We emphasize that parents whose children play video games should actively participate in game selection and engage their children in discussions of game content, since while researchers continue to study the effects of violent entertainment on children, parents and

caregivers continue to be the primary mediators of any effects. Physicians must play an active role in engaging parents and children to critically consume media and to pay attention to what the media teach.

Conclusion

T-rated video games contain significant amounts of violence, injury, and death. Parents and physicians should appreciate that these games may be a source of violence and other unexpected content for children and adolescents, and that the vast majority of T-rated video games provide incentives to the player to commit simulated acts of violence. The medical and public health communities should actively engage in efforts to inform parents about violence in children's entertainment media and support additional research to better understand the effects.

Tables

Table 1. Genres of Game Titles in Random Sample and All T-Rated Game Titles Released by April 1, 2001

Genres	Number (%) of Game Titles	
	Random Sample (n = 80)	All T-Rated (n = 396)
Action	20 (25.0)	99 (25.0)
Fighting	20 (25.0)	97 (24.5)
Shooting	11 (13.8)	56 (14.1)
Role-Playing	9 (11.3)	46 (11.6)
Adventure	7 (8.8)	34 (8.6)
Strategy	5 (6.3)	25 (6.3)
Racing	3 (3.8)	14 (3.5)
Sports	3 (3.8)	14 (3.5)
Simulation	1 (1.3)	6 (1.5)
Trivia	1 (1.3)	3 (0.8)
Other	0 (0)	2 (0.5)

Table 2. Percentage of Game Titles Assigned Specific ESRB Content Descriptors by Game Genre

ESRB Content Descriptor	Action (n=99)	Fighting (n=97)	Shooting (n=56)	Role-Playing (n=46)	Adventure (n=34)	Strategy (n=25)	Racing (n=14)	Sports (n=14)	Simulation (n=6)	Trivia (n=3)	Other (n=2)	Total (n=396)
Violence*												
Animated Violence [†]	93	93	95	46	88	72	57	64	67	33	50	83
Mild Animated Violence [†]	2	4	2	46	6	8	21	14	0	0	50	10
Realistic Violence [‡]	0	2	4	0	3	8	7	0	17	0	0	2
Violence	1	0	2	0	0	0	0	0	0	0	0	1
Mild Violence	0	0	0	0	0	0	0	0	0	0	0	0
Blood												
Animated Blood	22	16	23	20	50	24	0	7	0	0	0	21
Animated Blood and Gore [†]	3	1	13	2	9	8	0	0	0	0	0	4
Blood	1	0	0	0	0	0	0	0	0	0	0	0
Blood and Gore	0	0	0	0	0	0	0	0	0	0	0	0
Sexual Themes												
Suggestive Themes	7	21	5	37	0	0	14	7	17	67	100	14
Mature Sexual Themes	0	3	0	0	3	0	0	0	17	0	0	1
Strong Sexual Content	0	0	0	0	0	0	0	0	0	0	0	0
Profanity												
Mild Language	4	7	7	28	15	20	7	29	17	33	0	11
Strong Language	1	1	0	2	3	0	14	0	33	67	0	3
Mild Lyrics	0	0	0	0	0	0	7	7	0	0	0	1
Strong Lyrics	0	0	0	0	0	0	0	0	0	0	0	0
Comic Mischief	7	4	2	11	6	8	0	0	17	100	50	7
Substances												
Use of Tobacco and Alcohol [§]	0	0	0	9	3	4	0	0	0	0	0	2
Use of Drugs	0	0	0	0	0	0	0	0	0	0	0	0
Gambling	0	0	0	0	0	0	0	0	0	0	0	0

*Content descriptors are mutually exclusive, except for 3 of the 396 titles that received both Animated Violence and Realistic Violence.

[†]The ESRB no longer uses the word Animated in this content descriptor.

[‡]The ESRB no longer assigns the Realistic Violence content descriptor.

[§]The ESRB currently assigns separate content descriptors for Use of Alcohol and Use of Tobacco.

Table 3. ESRB Content Descriptors Assigned to Game Titles Compared With Observed Violence and Blood

Game Title (Console, Year)	ESRB Content Descriptors	Length, sec.	Violence, %			Deaths per Hour		Depiction of Injuries from Violence		Rewards and Requirements*	Weapons†
			Acts	All	Blood	Human	All	Human	Nonhuman		
Action											
<i>Armored Core</i> (PS, 1997)	Animated Violence	4063	46	46	No	0	83		Medium	RD, RI, RK	‡ B, E, G, K, O, P
<i>Army Men: Sarge's Heroes 2</i> (PS2, 2001)	Animated Violence	4286	35	40	No	157	158	Medium		RD, RI, RK	‡ B, E, F, G, P
<i>Army Men: World War Final Front</i> (PS, 2001)	Animated Violence	3922	65	77	No	205	205	Medium		RD, RI, RK	‡ E, G, O, P
<i>Blasto</i> (PS, 1998)	Animated Violence, Mild Language, Suggestive Themes	4269	21	22	No	3	212	Medium	Medium	RD, RI, RK	‡ F, G, O
<i>Body Harvest</i> (N64, 1998)	Animated Blood, Animated Violence	3867	18	19	Yes	7	115	Strong	Medium	RD, RI, RK	‡ B, E, G, O, P
<i>C: The Contra Adventure</i> (PS, 1998)	Animated Violence, Mild Language	4036	66	67	No	37	1310	Medium	Mild	RD, RI, RK	‡ B, E, F, G, O, P, T
<i>Charge 'N Blast</i> (DC, 2001)	Animated Violence	3863	67	75	Yes [§]	14	366	Medium	Strong	RI, RK	‡ B, E, F, G, P, T
<i>Dragon Heart: Fire and Steel</i> (PS, 1996)	Animated Violence, Animated Blood	4025	45	58	Yes	154	155	Strong	Strong	RD, RI, RK	‡ B, E, F, K, P
<i>Enter the Matrix</i> (Xbox, 2003)	Mild Language, Suggestive Themes, Violence	4060	45	51	No	117	117	Strong		RD, RI, RK	‡ B, E, G, M, O, P, T
<i>Fighting Force</i> (PS, 1997)	Animated Blood, Animated Violence	3922	64	64	Yes	308	308	Strong		RD, RI, RK	B, G, K, O, P
<i>Fur Fighters</i> (DC, 2000)	Animated Violence, Comic Mischief, Suggestive Themes	5015	12	15	No	0	75		Mild	RD, RI, RK	‡ B, E, G, O, P, T
<i>Gekido</i> (PS, 2000)	Animated Blood, Animated Violence	4211	66	67	Yes	247	283	Strong	Strong	RD, RI, RK	B, E, G, K, M, O, P
<i>Grudge Warriors</i> (PS, 2000)	Animated Violence	3871	14	14	No	20	43	Medium	Medium	RI, RK	‡ E, G, P
<i>Medal of Honor</i> (PS, 1999)	Animated Violence	4206	22	27	No	104	116	Medium		RD, RI, RK	‡ B, E, G, K, P
<i>The Mummy</i> (PS, 2000)	Animated Blood, Animated Violence	4458	17	20	Yes	13	126	Medium	Medium	RD, RI, RK	‡ B, G, K, M, O, P
<i>O.D.T.</i> (PS, 1998)	Animated Blood, Animated Violence	4025	14	17	Yes	3	30	Strong	Strong	RD, RI, RK	‡ B, E, G, P, T
<i>Perfect Weapon</i> (PS, 1996)	Animated Violence	4269	34	36	No	46	95	Medium	Medium	RI, RK	B
<i>Slave Zero</i> (DC, 1999)	Animated Violence	3951	36	40	No	0	136		Medium	RD, RI, RK	‡ E, G, O, P
<i>Star Wars Episode I: Jedi Power Battles</i> (DC, 2000)	Animated Violence	4219	63	67	No	5	415	Medium	Medium	RD, RI, RK	B, E, F, G, O, P
<i>Syphon Filter</i> (PS, 1999)	Animated Blood, Animated Violence	4049	19	32	Yes	110	110	Strong		RD, RI, RK	‡ E, F, G, P
<i>Twisted Metal</i> (PS, 1995)	Animated Violence	3981	87	88	No	69	71	Medium	Mild	RD, RI, RK	‡ E, G, O, P
Fighting											
<i>Battle Arena Toshinden 3</i> (PS, 1997)	Animated Violence	4016	62	72	No	0	0	Medium		RI	B, E, F, G, K, M, O, P
<i>Bloody Roar 2</i> (PS, 1999)	Animated Blood, Animated Violence, Suggestive Themes	3983	61	66	Yes	0	0	Strong	Strong	RI	B
<i>Criticom</i> (PS, 1995)	Animated Violence	4071	66	73	Yes [§]	10	45	Medium	Medium	RI, RK	B, E, F, G, K, M, O, P

Table 3. ESRB Content Descriptors Assigned to Game Titles Compared With Observed Violence and Blood

Game Title (Console, Year)	ESRB Content Descriptors	Length, sec.	Violence, %			Deaths per Hour		Depiction of Injuries from Violence		Rewards and Requirements*	Weapons†
			Acts	All	Blood	Human	All	Human	Nonhuman		
<i>Dead or Alive 3</i> (Xbox, 2001)	Mature Sexual Themes, Violence	3948	51	56	No	0	0	Strong		RI	B, E, F, G, M, O, P
<i>Deadly Arts</i> (N64, 1998)	Animated Violence	3914	50	60	No	0	0	Medium		RI	B
<i>Dynasty Warriors</i> (PS, 1997)	Animated Blood and Gore, Animated Violence	3963	65	72	Yes	0	0	Strong		RI	B, K, O
<i>Evil Zone</i> (PS, 1999)	Animated Violence, Suggestive Themes	4257	64	71	No	2	2	Strong		RI, RK	B, F, K, M, O, P
<i>Killer Instinct Gold</i> (N64, 1996)	Animated Violence, Animated Blood	3817	66	74	Yes	44	61	Strong		RI, RK	B, F, K, M, O, P
<i>The King of Fighters '99</i> (PS, 2000)	Animated Violence, Suggestive Themes	3884	44	50	Yes	0	0	Medium		RI	B, K, M, O, P
<i>Marvel Super Heroes</i> (PS, 1997)	Animated Violence	3920	52	62	No	0	0	Medium	Medium	RI	B, E, F, K, M, O, P
<i>Marvel vs. Capcom</i> (PS, 2000)	Animated Violence	3753	56	64	No	0	0	Medium	Medium	RI	B, E, F, G, K, O, P
<i>Project Justice</i> (DC, 2001)	Animated Violence, Suggestive Themes	4217	54	60	No	0	0	Medium		RI	B, K, O, P
<i>Psychic Force</i> (PS, 1996)	Animated Violence	4000	64	67	No	0	0	Medium		RI	B, E, F, K, M, P
<i>Rise 2: Resurrection</i> (PS, 1996)	Animated Violence	4167	54	72	No	0	22		Medium	RI, RK	B, E, G, K, O, P
<i>The Simpsons Wrestling</i> (PS, 2001)	Mild Animated Violence, Comic Mischief, Suggestive Themes	3859	74	81	No	0	0	Medium	Medium	RI	B, E, F, G, O, P
<i>Street Fighter Collection 2</i> (PS, 1998)	Animated Violence	3930	49	70	Yes	0	0	Medium		RD, RI,	B, F, K, P
<i>Tekken Tag Tournament</i> (PS2, 2000)	Animated Violence	4300	73	75	No	4	4	Strong		RI	B, G, K, M, O
<i>Tobal No. 1</i> (PS, 1996)	Animated Violence	3927	72	79	No	0	2	Medium	Medium	RI, RK	B
<i>Ultimate Fighting Championship</i> (DC, 2000)	Animated Blood, Animated Violence	5111	32	34	Yes	0	0	Strong		RI	B
<i>WWF SmackDown!</i> (PS, 2000)	Animated Violence, Mature Sexual Themes, Mild Language	4102	69	70	No	0	0	Medium		RI	‡ B, O
<i>WWF Wrestlemania 2000</i> (N64, 1999)	Animated Violence, Mild Language, Suggestive Themes	4586	80	80	No	0	0	Medium		RI	B, O
Shooting											
<i>Confidential Mission</i> (DC, 2001)	Violence	4658	62	64	No	785	785	Medium		RD, RI, RK	‡ E, G, K, O, P, T
<i>Conflict: Desert Storm</i> (GCN, 2003)	Blood, Violence	4205	16	25	Yes	97	97	Strong		RD, RI, RK	‡ B, E, G, K, P
<i>Elemental Gearbolt</i> (PS, 1998)	Animated Violence	4613	58	62	No	12	1128	Medium	Medium	RD, RI, RK	B, E, F, G, M, P
<i>Future Cop: LAPD</i> (PS, 1998)	Animated Blood, Animated Violence	4091	47	47	Yes	209	224	Strong		RD, RI, RK	‡ E, F, G, P
<i>Kileak: The DNA Imperative</i> (PS, 1995)	Animated Violence	4142	8	8	No	3	60	Medium	Medium	RI, RK	‡ E, G, P
<i>Machine Hunter</i> (PS, 1997)	Animated Blood and Gore, Animated Violence	3709	32	49	Yes	272	315	Strong	Strong	RD, RI, RK	‡ E, G, P

Table 3. ESRB Content Descriptors Assigned to Game Titles Compared With Observed Violence and Blood

Game Title (Console, Year)	ESRB Content Descriptors	Length, sec.	Violence, %			Deaths per Hour		Depiction of Injuries from Violence		Rewards and Requirements*	Weapons†
			Acts	All	Blood	Human	All	Human	Nonhuman		
<i>Nuclear Strike</i> (PS, 1997)	Animated Violence, Realistic Violence	3985	39	40	Yes	192	192	Strong		RD, RI, RK	‡ B, E, G, P
<i>Point Blank 2</i> (PS, 1999)	Animated Violence	3912	1	1	No	0	0	Mild	Mild	RD	‡ E, G
<i>Soviet Strike</i> (PS, 1996)	Animated Violence, Realistic Violence	3973	29	29	Yes	151	201	Medium		RD, RI, RK	‡ E, G, P
<i>Time Crisis: Project Titan</i> (PS, 2001)	Animated Violence	4027	65	68	Yes	1291	1291	Medium		RD, RI, RK	E, G, K, O, P
<i>Tiny Tank: Up Your Arsenal</i> (PS, 1999)	Animated Violence, Comic Mischief, Mild Language	3721	30	31	No	0	81		Medium	RD, RI, RK	‡ B, E, G, P
<i>Tom Clancy's Rainbow Six</i> (DC, 2000)	Animated Blood and Gore, Animated Violence	4251	3	17	Yes	54	54	Medium		RI, RK	‡ E, G, P
Role-Playing											
<i>Alundra 2</i> (PS, 2000)	Mild Animated Violence	4318	17	17	No	2	23	Medium	Medium	RD, RI, RK	‡ B, F, K, M, O, P
<i>Baldur's Gate: Dark Alliance</i> (GCN, 2002)	Blood, Use of Alcohol, Violence	3938	21	39	Yes	4	185	Medium	Strong	RD, RI, RK	‡ B, E, F, K, M, O, P
<i>Breath of Fire IV</i> (PS, 2000)	Mild Animated Violence, Suggestive Themes	4813	23	25	No	2	34	Mild	Mild	RI, RK	‡ B, F, K, M, P
<i>The Elder Scrolls III: Morrowind</i> (Xbox, 2002)	Blood, Violence	4447	11	15	Yes	4	7	Medium	Medium	RI, RK	‡ B, F, K, M, O, P, T
<i>Final Fantasy Anthology</i> (PS, 1999)	Comic Mischief, Mild Animated Violence										
<i>Final Fantasy V</i>		4657	10	11	No	0	34	Mild	Mild	RI, RK	‡ B, F, K, M, O, P, T
<i>Final Fantasy VI</i>		5663	22	24	No	7	48	Mild	Mild	RD, RI, RK	‡ B, F, K, M, O, P, T
<i>Final Fantasy VIII</i> (PS, 1999)	Animated Violence, Mild Language, Suggestive Themes	5664	18	20	Yes	12	18	Strong	Medium	RI, RK	‡ B, E, F, G, K, M, O, P
<i>Lunar 2: Eternal Blue</i> (PS, 2000)	Mild Animated Violence, Mild Language, Suggestive Themes	4559	23	32	No	6	111	Mild	Mild	RI, RK	‡ B, E, F, G, K, M, O, P, T
<i>Orphen: Scion of Sorcery</i> (PS2, 2000)	Animated Violence	4384	17	18	No	0	45	Medium	Medium	RI, RK	‡ B, E, F, K, M, P, T
<i>Shadow Madness</i> (PS, 1999)	Animated Blood, Comic Mischief, Use of Tobacco and Alcohol	4033	13	23	Yes	5	51	Medium	Medium	RI, RK	‡ B, K, M, O, P
<i>Thousand Arms</i> (PS, 1999)	Mild Animated Violence, Mild Language, Suggestive Themes	4993	8	10	No	2	17	Mild	Mild	RI, RK	‡ B, E, K, O, P
<i>Xenogears</i> (PS, 1998)	Animated Blood, Mild Language, Suggestive Themes	5004	15	18	Yes	4	27	Strong	Mild	RD, RI, RK	‡ B, E, G, M, P

Table 3. ESRB Content Descriptors Assigned to Game Titles Compared With Observed Violence and Blood

Game Title (Console, Year)	ESRB Content Descriptors	Length, sec.	Violence, %			Deaths per Hour		Depiction of Injuries from Violence		Rewards and Requirements*	Weapons†
			Acts	All	Blood	Human	All	Human	Nonhuman		
Adventure											
<i>MediEvil</i> (PS, 1998)	Animated Blood, Animated Violence	4815	21	28	Yes [§]	7	132	Medium	Medium	RD, RI, RK	‡ B, K, M, O, P
<i>Oddworld: Abe's Exoddus</i> (PS, 1998)	Animated Blood, Animated Violence, Comic Mischief	4823	4	4	Yes	0	13		Medium	RD, RI, RK	B, E, G, O
<i>Overblood</i> (PS, 1997)	Animated Violence	4355	0	0.5	Yes	0	0	Strong			
<i>Shadow of Destiny</i> (PS2, 2001)	Animated Violence	4334	0.2	1	Yes	2	2	Medium			G, K, O
<i>Time Commando</i> (PS, 1996)	Animated Violence	4187	42	43	No	63	79	Medium	Medium	RI, RK	‡ B, K, O, P
<i>Tom Clancy's Splinter Cell</i> (Xbox, 2002)	Blood and Gore, Violence	4050	9	25	Yes	21	23	Medium	Medium	RD, RI, RK	‡ B, G, P, T
<i>Tomb Raider III: Adventures of Lara Croft</i> (PS, 1998)	Animated Blood, Animated Violence	4478	1	2	Yes	1	6	Medium	Medium	RI, RK	‡ B, G
<i>X-Files: The Game</i> (PS, 1999)	Mild Language, Realistic Violence	4317	0.1	2	Yes	1	1	Medium			‡ G
Strategy											
<i>Blast Chamber</i> (PS, 1996)	Animated Violence	4001	1	1	No	34	34	Mild		RI, RK	B, E
<i>Dragon Seeds</i> (PS, 1998)	Animated Blood, Animated Violence	4211	42	46	Yes	0	7		Medium	RI, RK	‡ B, F, K, M, P
<i>Hogs of War</i> (PS, 2000)	Animated Blood, Comic Mischief, Mild Language	4341	7	33	Yes	0	14		Medium	RD, RI, RK	‡ E, G, K, P, T
<i>Ogre Battle 64: Person of Lordly Caliber</i> (N64, 2000)	Mild Animated Violence, Mild Language	4944	13	18	No	17	22	Mild	Mild	RI, RK	‡ B, F, K, M, O, P, T
<i>Populous: The Beginning</i> (PS, 1999)	Animated Violence	4217	13	14	No	143	143	Medium		RD, RI, RK	‡ B, M, O
Racing											
<i>Midnight Club: Street Racing</i> (PS2, 2000)	Animated Violence	3949	5	5	No	15	15	Medium		RD	‡ O
<i>Midnight Club II</i> (Xbox, 2003)	Mild Language, Violence	3993	4	4	No	31	31	Medium			‡ O
<i>Road Rash 3D</i> (PS, 1998)	Realistic Violence, Strong Language, Suggestive Themes	4103	5	5	No	6	6	Medium		RI	‡ B, G, O
<i>Runabout 2</i> (PS, 2000)	Animated Violence	3979	2	2	No	1	1	Medium		RD	‡ E, G, O
Sports											
<i>Dead Ball Zone</i> (PS, 1998)	Animated Blood, Animated Violence	3852	6	6	Yes	26	26	Strong		RI, RK	B
<i>Knockout Kings 2000</i> (PS, 1999)	Animated Violence	3974	47	62	Yes	0	0	Medium		RI	B
<i>Kurt Warner's Arena Football Unleashed</i> (PS, 2000)	Mild Animated Violence	4172	10	12	No	0	0	Medium			B
<i>Tony Hawk's Pro Skater 4</i> (GCN, 2002)	Blood, Comic Mischief, Mild Lyrics, Suggestive Themes	4624	3	4	Yes	2	2	Medium		RD, RI	‡ B, O

Table 3. ESRB Content Descriptors Assigned to Game Titles Compared With Observed Violence and Blood

Game Title (Console, Year)	ESRB Content Descriptors	Length, sec.	Violence, %			Deaths per Hour		Depiction of Injuries from Violence		Rewards and Requirements*	Weapons [†]
			Acts	All	Blood	Human	All	Human	Nonhuman		
Simulation											
<i>The Sims</i> (GCN, 2003)	Comic Mischief, Mature Sexual Themes, Mild Violence	4043	0	0	No	0	0				
<i>Starlancer</i> (DC, 2000)	Animated Violence	4115	42	43	No	52	52	Medium		RD, RI, RK	[‡] E, G, P
Trivia											
<i>You Don't Know Jack, Mock 2</i> (PS, 2000)	Comic Mischief, Strong Language, Suggestive Themes	4028	0	0	No	0	0				

*Rewards and requirements: RD = game rewards or requires destruction of objects; RI = game rewards or requires injuring characters; RK = game rewards or requires killing characters.

[†]Weapons: B = body; E = explosive; F = fire; G = gun; K = knife or sword; M = magic; P = projectile; T = toxic substance; O = other.

[‡]Player can select weapons.

[§]Game contains green blood.

Table 4. Observed Violence and Blood by Game Genre

Genre	Violence, %		Blood, %	Deaths per Hour		Select Weapons, %	Percentage of Games Depicting Each Type of Weapon									
	Acts	All		Human	All		Body	Explosive	Fire	Gun	Knife or Sword	Magic	Projectile	Toxic Substance	Other	
Action (n=20)	41	45	40	75	221	80	70	80	35	90	30	10	90	20	60	
Fighting (n=20)	60	68	35	3	7	5	100	35	45	30	65	40	60	0	70	
Shooting (n=11)	34	38	55	270	394	82	27	100	18	100	18	9	91	9	18	
Role-Playing (n=10)	16	20	30	4	41	100	100	50	70	30	90	90	100	40	70	
Adventure (n=7)	10	12	86	11	33	57	57	14	0	57	43	14	29	0	57	
Strategy (n=5)	15	22	40	39	44	80	80	40	40	20	60	60	60	40	40	
Racing (n=3)	4	4	0	8	8	100	33	33	0	67	0	0	0	0	100	
Sports (n=3)	21	27	67	9	9	0	100	0	0	0	0	0	0	0	0	
Simulation (n=1)	42	43	0	52	52	100	0	100	0	100	0	0	100	0	0	
Trivia (n=1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total (n=81)	35	39	42	61	122	59	73	54	33	57	44	30	69	14	54	

Table 5. Observed Sexual Themes, Profanity, and Substances in the 9 Additional Video Games Played on Microsoft Xbox and Nintendo GameCube

Game Title (Console, Year)	ESRB Content Descriptors	Observed Sexual Themes, by Gender*			Number of Observed Uses of Profanity per Hour			Percentage of Game Play Depicting Each Type of Substance				
		Sexual Remark	Sexual Behavior	Nudity	Total	Dialogue or Writing	Song Lyrics	Obscene Gestures	Total	Alcohol	Tobacco	Drugs
Action												
<i>Enter the Matrix</i> (Xbox, 2003)	Mild Language, Suggestive Themes, Violence				4	4	0	0	0	0	0	0
Fighting												
<i>Dead or Alive 3</i> (Xbox, 2001)	Mature Sexual Themes, Violence			F	5	5	0	0	14.3	14.2	0.2	0
Shooting												
<i>Conflict: Desert Storm</i> (GCN, 2003)	Blood, Violence				3	3	0	0	0	0	0	0
Role-Playing												
<i>Baldur's Gate: Dark Alliance</i> (GCN, 2002)	Blood, Use of Alcohol, Violence			F	0	0	0	0	14.0	12.0	2.1	0
<i>The Elder Scrolls III: Morrowind</i> (Xbox, 2002)	Blood, Violence	F	F		0	0	0	0	6.8	4.6	0	4.5
Adventure												
<i>Tom Clancy's Splinter Cell</i> (Xbox, 2002)	Blood and Gore, Violence				11	11	0	0	5.0	4.4	0.6	0
Racing												
<i>Midnight Club II</i> (Xbox, 2003)	Mild Language, Violence				28	27	1	0	0	0	0	0
Sports												
<i>Tony Hawk's Pro Skater 4</i> (GCN, 2002)	Blood, Comic Mischief, Mild Lyrics, Suggestive Themes	F,M	F,M	F	16	5	11	0	3.7	3.6	0.1	0
Simulation												
<i>The Sims</i> (GCN, 2003)	Comic Mischief, Mature Sexual Themes, Mild Violence		F,M		0	0	0	0	1.6	1.6	0	0

* F for female, M for male.

Table 6. Notable Examples of Observed Sexual Themes, Profanity, and Substances in the 9 Additional Video Games Played on Microsoft Xbox and Nintendo GameCube

Sexual Themes

- *Tony Hawk's Pro Skater 4* features adult film star Jenna Jameson, who provided the voice and model for Daisy (1 of 2 playable female skaters in the game). Daisy performs provocative tricks on her skateboard and suggestively says, "Oh yeah, now it's time for some X-X-X-treme action!" Behind-the-scenes film clips in the game show Jenna Jameson fully clothed, although they include shots of her raising and lowering her skirt very quickly, posing provocatively with a skateboard, and lifting her shirt to the camera operator, who exclaims, "Damn, they're bigger than I thought they were!"
- *The Elder Scrolls III: Morrowind* contains a brothel named "Desele's House of Earthly Delights" that features a stage with three females dancing in underwear, one of whom asks the player if he is "looking for a good time."
- *WWF SmackDown!* contains a 21-second film clip of wrestler Val Venis with 2 women in a hot tub in a scene that depicts sexual images and an ecstatic expression on Val Venis's face that is suggestive of oral sex.

Profanity

- *Tom Clancy's Splinter Cell*, which did not receive a content descriptor for profanity, contained 11 uses of profanity per hour of game play and music from an album that received a Parental Advisory Label for Explicit Content from the Recording Industry Association of America.^[20]

Substances

- *Breath of Fire IV* requires the player to buy beer and wine for characters so that they will speak.
 - *Tony Hawk's Pro Skater 4* depicts college "frat boys" who stand on beer kegs and drink beer, film clips of professional skaters smoking cigarettes and drinking beer, and film clips of the game developers drinking beer at a party.
 - *The Elder Scrolls III: Morrowind* depicts various types of wine, liquor, and drugs that the player can buy, sell, or consume. Most notable is the presence of "moon sugar," an "illegal narcotic" described as "a grainy powder of small white crystals," and its derivative "skooma," which is smoked in a water pipe. Trade in "moon sugar" and "skooma" is illegal, with several merchants refusing to buy it, but early in the game a friendly character gives the player several doses of "moon sugar" with instructions to "Sell the sugar, and start saving for training." When consumed, "moon sugar" and "skooma" increase a character's speed but drain endurance and luck.
-

References

1. American Academy of Pediatrics, American Medical Association, American Academy of Child & Adolescent Psychiatry, American Psychological Association, American Academy of Family Physicians, and the American Psychiatric Association. Joint Statement on the Impact of Entertainment Violence on Children, Congressional Public Health Summit, July 26, 2000. Available at: <http://www.aap.org/advocacy/releases/jstmtevc.htm>. Accessed August 1, 2003.
2. American Academy of Pediatrics, Committee on Public Education. Media violence. *Pediatrics*. 2001;108:1222-1226. [Abstract](#)
3. Federal Trade Commission. Marketing Violent Entertainment to Children: A Review of Self-Regulation and Industry Practices in the Motion Picture, Music Recording, & Electronic Game Industries. Available at: <http://www.ftc.gov/opa/2000/09/youthviol.htm>. Accessed August 1, 2003.
4. Federal Trade Commission. Marketing Violent Entertainment to Children: A Twenty-One Month Follow-Up Review of Industry Practices in the Motion Picture, Music Recording, & Electronic Game Industries. Available at: <http://www.ftc.gov/reports/violence/mvecrpt0206.pdf>. Accessed August 1, 2003.
5. Robinson TN, Wilde ML, Navracruz LC, et al. Effects of reducing children's television and video game use on aggressive behavior: a randomized controlled trial. *Arch Pediatr Adolesc Med*. 2001;155:17-23. [Abstract](#)
6. Anderson CA, Dill KE. Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *J Personal Social Psychology*. 2000;78:772-790.
7. Dill KE, Dill JC. Video game violence: a review of the empirical literature. *Aggress Violent Behav*. 1998;3:407-428.
8. Anderson CA, Bushman BJ. 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. *Psychol Sci*. 2001;12:353-359. [Abstract](#)
9. Anderson CA. An update on the effects of playing violent video games. *J Adolesc*. 2004;27:113-122.
10. Green CS, Bavelier D. Action video game modifies visual selective attention. *Nature*. 2003;423:534-537. [Abstract](#)
11. Roberts DF, Foehr UG, Rideout VJ, Brodie M. *Kids & Media @ the New Millennium: A Comprehensive Analysis of Children's Media Use*. Menlo Park, Calif: Kaiser Family Foundation; 1999.
12. Entertainment Software Rating Board. Available at: <http://www.esrb.org>. Accessed April 1, 2001.
13. Thompson KM, Haninger K. Violence in E-rated video games. *JAMA*. 2001;286:591-598. [Abstract](#)
14. Haninger K, Thompson KM. Content and ratings of teen-rated video games. *JAMA*. 2004;291:856-865. [Abstract](#)
15. IGN Games. Available at: <http://games.ign.com>. Accessed April 1, 2001.
16. CNET Networks GameSpot. Available at: <http://www.gamespot.com>. Accessed April 1, 2001.
17. GameFAQs. Available at: <http://www.gamefaqs.com>. Accessed April 1, 2001.
18. Cohen J. A coefficient of agreement for nominal scales. *Educ Psychol Measurement*. 1960;20:37-36.
19. New "Matrix" game like a third movie. CNN. May 15, 2003. Available at: <http://www.cnn.com/2003/TECH/fun.games/05/15/cnna.matrix.game/index.html>. Accessed May 15, 2003.
20. The Crystal Method. *Name of the Game*. Tweekend. Universal Music Group; 2001.
21. Morison P, Gardner G. Dragons & dinosaurs: the child's capacity to differentiate fantasy from reality. *Child Dev*. 1978;49:642-648.
22. Morison P, Kelly H, Gardner G. Reasoning about the realities on television: a developmental study. *J Broadcasting Electronic Media*. 1981;25:229-241.
23. Johnson JG, Cohen P, Smailes EM, Kasen S, Brook JS. Television viewing and aggressive behavior during adolescence and adulthood. *Science*. 2002;295:2468-2471. [Abstract](#)
24. Huesmann LR, Moise-Titus J, Podolski C-L, Eron LD. Longitudinal relations between children's exposure to TV violence and their aggressive and violent behavior in young adulthood: 1977-1992. *Dev Psychol*. 2003;39:201-221. [Abstract](#)
25. Lemish D. The school as a wrestling arena: the modeling of television series. *Communication*. 1997;22:395-418.
26. Enter the Matrix. Available at: http://www.enterthematrixgame.com/html/game_FAQ_Nov.html. Accessed December 1, 2003.
27. Terminator 3: Rise of the Machines. Available at: <http://www.terminator3.com>. Accessed December 1, 2003.
28. Terminator 3: Rise of the Machines. Available at: <http://www.t3game.com>. Accessed December 1, 2003.
29. The Haunted Mansion. Available at: <http://disney.go.com/disneypictures/hauntedmansion/main.html>. Accessed December 1, 2003.

30. The Haunted Mansion. Available at: <http://www.hauntedmansiongame.com/>. Accessed December 1, 2003.
31. Woodard EH, Gridina N. Media in the Home: The Fifth Annual Survey of Parents and Children. Philadelphia, Pa: Annenberg Public Policy Center; 2000.

Acknowledgements

This research received support from unrestricted gifts to the Center on Media and Child Health, Children's Hospital Boston, and gifts to the Kids Risk Project, Harvard School of Public Health. We thank Karen Gondro for independently coding a subset of the games for purposes of our comparison between coders.

Kevin Haninger, Center on Media and Child Health, Children's Hospital Boston and Kids Risk Project, Harvard School of Public Health, Harvard University, Boston, Massachusetts

M. Seamus Ryan, Center on Media and Child Health, Children's Hospital Boston and Kids Risk Project, Harvard School of Public Health, Harvard University, Boston, Massachusetts

Kimberly M. Thompson, MS, ScD, Center on Media and Child Health, Children's Hospital Boston and Kids Risk Project, Harvard School of Public Health, Harvard University, Boston, Massachusetts; email: kimt@hsph.harvard.edu

Disclosure: Kevin Haninger, M. Seamus Ryan and Kimberly M. Thompson, MS, ScD disclose that this research was supported by unrestricted donations to the Center on Media and Child Health, Children's Hospital Boston, and the Kids Risk Project, Harvard School of Public Health.
