

Rapid Communication

Good Clean Fun? A Content Analysis of Profanity in Video Games and Its Prevalence across Game Systems and Ratings

James D. Ivory, Ph.D.,¹ Dmitri Williams, Ph.D.,² Nicole Martins, Ph.D.,³ and Mia Consalvo, Ph.D.⁴

Abstract

Although violent video game content and its effects have been examined extensively by empirical research, verbal aggression in the form of profanity has received less attention. Building on preliminary findings from previous studies, an extensive content analysis of profanity in video games was conducted using a sample of the 150 top-selling video games across all popular game platforms (including home consoles, portable consoles, and personal computers). The frequency of profanity, both in general and across three profanity categories, was measured and compared to games' ratings, sales, and platforms. Generally, profanity was found in about one in five games and appeared primarily in games rated for teenagers or above. Games containing profanity, however, tended to contain it frequently. Profanity was not found to be related to games' sales or platforms.

Background and Rationale for Present Study

SCORES OF EMPIRICAL STUDIES have examined the potential negative effects of violent content in video games,¹ particularly effects on physical and verbal aggression measures. The prevalence and extent of the physical violence in video game content has been extensively catalogued.² Verbal aggression in video game content, meanwhile, has gone largely unexamined. This gap in the literature is especially notable considering that evidence for imitation of *both* physical and verbal aggression in media has been observed since the classic empirical studies dealing with imitation of media.³

As an expression of verbal aggression,⁴ profanity's presence in media prompts concern about its potential for eliciting imitative verbal aggression⁵ and inappropriate language in general.⁶ Classic studies on the imitation of media violence³ have found that, as with physical aggression, verbal aggression can be learned vicariously through observation of aggression committed by models, including those observed in the mass media. In fact, verbal aggression may be more easily imitated than physical aggression.⁵ Another concern is that frequent exposure to profanity may desensitize viewers, leading to greater general acceptance of profanity and verbal aggression in both media and real life.^{4,6} Although research

specifically focused on effects of profanity in media is limited, surveys indicate parental concern over such effects.⁷

Only one series of video game content analyses⁸⁻¹⁰ has addressed profanity. The three studies in the series included some profanity measures among measures of various other types of objectionable content (e.g., physical violence, sexual content), with each study focusing on games assigned a different age rating category by the Entertainment Software Ratings Board (ESRB). They found "mild language" in two games (3.64%) from a sample of 55 games rated E for everyone age 6 and older,⁹ profanity in 27.16% of a sample of 81 game titles rated T for teenagers age 13 and older,⁸ and profanity in 66.67% of a sample of 36 games rated M for mature persons ages 17 and older.¹⁰

These studies have advanced our understanding about profanity in video games, but to date there has not been a thorough content analytic investigation of the issue employing a representative sample from the many available types of popular video games. The existing research on profanity in video games has not consistently used systematic sampling, has excluded games from some popular video game platforms such as portable consoles, and has not accounted for variety in the popularity of game titles. This article reports a systematic content analysis designed to serve as a more

¹Department of Communication, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

²Annenberg School for Communication, University of Southern California, Los Angeles, California.

³Department of Telecommunications, Indiana University, Bloomington, Indiana.

⁴School of Telecommunications, Ohio University, Athens, Ohio.

definitive baseline measure of profanity in video games. This study, which measures the prevalence of profanity in a large sample of video games selected from the top-selling video games available for all popular game platforms, provides the most comprehensive analysis of profanity in video games to date as well as analyses assessing possible relationships between profanity prevalence and games' ratings, sales, and platforms.

Method

The NPD Group, a market research company, provided sales data for the 1-year period from March 2005 to February 2006, for 1,105 games sold on every video game platform used in the United States: personal computers (PC), Nintendo's Dual Screen (DS), Game Boy Advance (GBA), and GameCube; Microsoft's Xbox and Xbox 360; and Sony's PlayStation (PS), PlayStation 2 (PS2), and PlayStation Portable (PSP). From these data, the present study focused on the most popular titles, employing a sampling scheme that included at least the top 15 games for each platform and captured the top 150 games across all platforms. This sample accounted for the more than half (50.37%) of all game sales in the time period. Where the exact same game was produced for multiple platforms (e.g., both the PS2 and Xbox versions of Madden NFL 06 were on the top 150 list), the version for the platform with the most advanced graphics processor was retained. This procedure eliminated 17 redundant games, leaving 133 in the final sample. An experienced video game player who was otherwise uninvolved in the study played each game for 30 minutes on the default difficulty setting. These segments were recorded digitally to a computer hard drive, and coders entered a score for all study variables for each recorded game segment.

To identify which games included profanity, three coded variables measured the presence or absence of profanity in *game dialogue*, *background music*, and *game text* for each game in the sample. Any game that was coded as including profanity in one or more of these elements was also coded as including profanity in general. Three other variables, adapted from previous research,^{4,6} were coded to assess the frequency of profanity during each 30-minute game session. *Frequency of the "seven dirty words" (shit, piss, fuck, cunt, cocksucker, motherfucker, and tits)*^{6(p568)} and their variants (e.g., *fucking*) was coded because of the attention historically given to these words by the United States' Federal Communication Commission as inappropriate for broadcast television.^{6(p558)} *Frequency of other strong profanity* was also recorded, with coders instructed to include excretory words (e.g., *asshole*), sexual words (e.g., *pecker*), and other words that evoke strong emotion and offense (e.g., *bitch*) in this category. *Frequency of mild profanity* was also recorded, with coders instructed to include words evocative of mild offense (e.g., *hell, damn*) in this category. These three profanity frequency variables were treated as both mutually exclusive (no word coded for one profanity variable could also be coded for another variable) and exhaustive (all profanity was represented by the categories), so the sum of scores for the three profanity frequency variables was coded as the *overall frequency of profanity* for each game session.

The *rating* assigned each game by the ESRB was recorded from game packaging and the ESRB's site (www.esrb.org/ ratings), and the total number of individual game *units sold*

was recorded from the NPD Group data. For games released across multiple platforms, the *units-sold* variable included the total number of units of that game sold across all platforms to best represent total audience exposure to game content. The video game *platform* for which each coded game was manufactured was also recorded (though this was not always the only platform for which a game was manufactured).

Three coders (two undergraduate students and a doctoral student) coded the sample, each randomly assigned to code approximately 58% of the games. These assignments included a randomly determined overlap of 37.59% of the sample (50 cases) that was coded by all three coders to allow an assessment of intercoder reliability. For these cases, the doctoral student coder's decisions were used in the final analyses. To assess intercoder reliability, the Scott's pi coefficient was calculated for nominal-level coded variables and Lin's concordance coefficient was used for ratio-level variables. Intercoder reliability (average coefficient across all three coder pairs) was high for all coded variables: presence in game dialogue ($\pi=0.97$), presence in game background music ($\pi=0.86$), presence in game text ($\pi=1.00$), frequency of seven dirty words ($\rho_c=0.98$), frequency of other strong profanity ($\rho_c=0.84$), frequency of mild profanity ($\rho_c=0.98$), and overall frequency of profanity ($\rho_c=0.98$).

Results

About half the games in the sample (51.13%, $n=68$) were rated E for everyone age 5 and older by the ESRB. The next most common rating was T for teenagers age 13 and older (28.57%, $n=38$), followed by M for mature persons age 17 and older (14.29%, $n=19$) and E10+ for everyone age 10 and older (6.02%, $n=8$). Units sold varied from 6,061,241 (Madden NFL 06) to 16,261 (BeyBlade). The sales distribution was positively skewed ($g_1=4.79$, $SE=0.21$), with the mean for units sold ($M=584,516.73$, $SD=665,659.39$) almost 1.5 times the median (423,426).

The majority of the games in the sample (78.95%, $n=104$, 95% confidence interval [CI]=71.93%–85.30%) did not contain any profanity in the coded segments. Among those that did (21.09%, $n=29$, 95% CI=14.70%–28.91%), all contained profanity in game dialog. Only 5.26% ($n=7$, 95% CI=1.42%–9.11%) of the games contained profanity in background music, and only 3.01% ($n=4$, 95% CI=0.07%–5.95%) contained profanity in game text. Only 1.50% ($n=2$, 95% CI=0.00%–3.60%) of the games contained profanity in all three of the coded game elements (dialog, background music, and text).

The mean overall frequency of profanity per game for the entire sample was 2.99 ($SD=20.70$) instances per segment. Among the 29 games that included occurrences of profanity, the mean occurrences per game was 13.69 ($SD=43.22$, 95% CI=0.00–30.13). The seven dirty words were found in 11 games (8.27%, 95% CI=3.53%–13.01%). The entire sample's mean seven dirty words occurrences per game segment was 1.54 ($SD=13.61$, 95% CI=0.00–3.88). Among games that contained seven dirty words occurrences, the mean occurrences per game was 18.64 ($SD=45.75$, 95% CI=0.00–49.37). Other strong profanity was found in 14 games (10.53%, 95% CI=5.24%–15.81%). The entire sample's mean occurrences of other strong profanity per game segment was 0.95 ($SD=7.05$, 95% CI=0.00–2.16). Among games that contained other strong profanity, the mean occurrences per game was 9.00 ($SD=20.65$, 95% CI=0.00–20.92). Mild profanity was found

TABLE 1. FREQUENCY OF PROFANITY IN GAMES BY ENTERTAINMENT SOFTWARE RATINGS BOARD CATEGORY

	ESRB rating			
	E	E10+	T	M
<i>Mean profanity frequency in recorded 30-minute game segments</i>				
Overall	0.00	1.63	1.16	17.90
Seven dirty words	0.00	0.00	0.18	10.42
Other strong profanity	0.00	0.00	0.34	5.95
Mild profanity	0.00	1.63	0.63	1.53

in 22 games (16.54%, 95% CI = 10.14%–22.94%). The entire sample’s mean occurrences of mild profanity per game segment was 0.50 (SD = 1.53, 95% CI = .24–0.76). Among games that contained mild profanity, the mean occurrences per game was 3.00 (SD = 2.60, 95% CI = 1.84–4.15).

A series of univariate analysis of variance (ANOVA) tests using ESRB rating as a predictor of the profanity frequency variables indicated that ESRB rating was significantly related to overall frequency of profanity, $F(1, 129) = 4.14, p < 0.01, \eta_p^2 = 0.09$; frequency of seven dirty words, $F(1, 129) = 3.31, p < 0.05, \eta_p^2 = 0.07$; frequency of other strong profanity, $F(1, 129) = 3.99, p < 0.01, \eta_p^2 = 0.09$; and frequency of mild profanity, $F(1, 129) = 7.92, p < .001, \eta_p^2 = 0.16$. Comparing scores for each profanity frequency variable across rating categories (Table 1) indicated the general trend of profanity increasing with age rating. Trend analyses using polynomial contrast tests indicated that this trend was significant for all profanity categories (all $ps < 0.05$). The relationship between rating and frequency of profanity is mirrored by the proportion of games in each rating category that contained profanity (Table 2). None of the games rated E contained any of the profanity categories. Only one quarter of the games rated E10+ contained profanity, and these contained only mild profanity. More than a third of the games rated T contained profanity, usually mild profanity. The majority of the games rated M contained profanity, with the profanity categories of seven dirty words, other strong profanity, and mild profanity each represented in about half of the games.

A series of separate linear regression tests employing unit sales as a predictor of each of the profanity variables indicated that the unit sales variable was not significantly related to any of the profanity frequency variables (all p 's ≥ 0.67), and a series of univariate ANOVA tests using game platform

as a predictor of each of the profanity frequency variables indicated that the game platform variable was not significantly related to any of the profanity frequency variables (all p 's ≥ 0.26).

Discussion

This study’s results indicate that profanity is absent from the majority of game content, though it is frequent in the minority of games that do contain profanity. Profanity was not found in games rated E, and strong profanity was not found in game rated E10+ or E. All types of profanity were present in at least some games rated T and were relatively abundant among games rated M. No particular link was found between profanity and games’ sales or platform.

Although the present study found no instances of profanity in games rated E, while a previous study⁹ found two instances of mild language” in such games, the present study found profanity to be slightly more prevalent in games rated T and M than have previous studies.^{8,10} (No previous studies examined profanity in games rated E10+.) This may represent a trend toward increasing profanity in games over time, though evidence is inconclusive given that this study employed different sampling and measurement methods than used in previous research. Future research should replicate this study to track changes in the prevalence of profanity over time as new games and platforms are developed and should also consider a narrower focus to explore its context and association with other game content such as violence. Although our finding that games with profanity tended to use it frequently seems to suggest that the 30-minute game sessions used here were adequate to uncover profanity in the games that contained it, other session lengths may also be used in future research for comparison. Additionally, even though this sample contained one popular online multiplayer game (World of Warcraft), the increasing popularity of multiplayer games and optional multiplayer game modes featuring voice interaction between players suggests that future studies should also examine the prevalence of profanity in online voice chat sessions.

Most important, though, is the need for further research on the effects of profanity on media users, including video game players. Although research on the effects of profanity is limited,⁷ classic empirical evidence for imitation of verbal aggression³ suggests at least some potential for profanity-laced games to increase verbal aggression and general use of profanity among players. While this study found that the majority

TABLE 2. PROPORTION OF GAMES CONTAINING PROFANITY BY ENTERTAINMENT SOFTWARE RATINGS BOARD CATEGORY

	ESRB rating			
	E	E10+	T	M
<i>Number of games containing profanity</i>				
Seven dirty words	0 (0%)	0 (0.00%)	2 (5.26%)	9 (47.37%)
Other strong profanity	0 (0%)	0 (0.00%)	5 (13.16%)	9 (47.37%)
Mild profanity	0 (0%)	2 (25.00%)	10 (26.32%)	10 (52.63%)
Overall total	0 (0%)	2 (25.00%)	13 (34.21%)	14 (73.68%)
<i>Number of games in rating category</i>				
	68 (100%)	8 (100%)	38 (100%)	19 (100%)

of games lack profanity, the games containing profanity tend to use it with substantial enough frequency that they may merit concerns about potential effects of such content. To clarify whether concern over effects of profanity on verbal aggression and general use of coarse language is warranted, though, further research on the effects of profanity is needed. The present study provides a clear picture of how often profanity appears in games. Now it is time for further study to use this understanding of content to examine what effects profanity may have on players and how often such effects may occur.

Acknowledgments

The authors would like to thank the University of Illinois at Urbana-Champaign for funding the project, as well as Li Xiong, Sarah Pica, and Andrew Beharelle for their assistance.

Disclosure Statement

No competing financial interests exist.

References

1. Anderson CA. An update on the effects of playing violent video games. *Journal of Adolescence* 2004; 27:113–22.
2. Smith SL, Lachlan K, Tamborini R. Popular video games: quantifying the presentation of violence and its context. *Journal of Broadcasting & Electronic Media* 2003; 47:58–76.
3. Bandura A, Ross D, Ross SA. Transmission of aggression through imitation of aggressive models. *Journal of Abnormal Social Psychology* 1961; 63:575–82.
4. Kaye BK, Sapolsky BS. Talking a “blue” streak: context and offensive language in prime time network television programs. *Journalism & Mass Communication Quarterly* 2004; 81:911–27.
5. Potter WJ. (2003) *The 11 myths of media violence*. Thousand Oaks, CA: Sage.
6. Kaye BK, Sapolsky BS. Offensive language in prime-time television: four years after television age and content ratings. *Journal of Broadcasting & Electronic Media* 2004; 48:554–69.
7. Bushman BJ, Cantor J. Media ratings for violence and sex: implications for policymakers and parents. *American Psychologist* 2003; 58:130–41.
8. Haninger K, Thompson KM. Content and ratings of teen-rated video games. *Journal of the American Medical Association* 2004; 291:856–65.
9. Thompson KM, Haninger K. Violence in E-rated video games. *Journal of the American Medical Association* 2001; 286:591–98.
10. Thompson KM, Tepichin K, Haninger K. Content and ratings of mature-rated video games. *Archives of Pediatrics & Adolescent Medicine* 2006; 160:402–10.

Address reprint requests to:

Dr. James D. Ivory

Department of Communication

Virginia Polytechnic Institute and State University

111 Shanks Hall (Mail Code: 0311)

Blacksburg, VA 24061

E-mail: jivory@vt.edu