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A VIDEO GAME CHARACTER CONTENT ANALYSIS**

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EDWARD PAUL DOWNS

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of the requirements for the

MA degree in Communication

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**KEEPING ABREAST OF HYPERSEXUALITY:
A VIDEO GAME CHARACTER CONTENT ANALYSIS**

By

Edward Paul Downs

A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
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ABSTRACT

KEEPING ABREAST OF HYPERSEXUALITY: A VIDEO GAME CHARACTER CONTENT ANALYSIS

By

Edward Paul Downs

This study examined hypersexuality in video game characters. Sixty of the top selling video games across three of the most popular consoles (Microsoft Xbox[®], Sony PlayStation[®] 2, and Nintendo GameCube[™]) were content analyzed. A total of 489 characters with an identifiable sex were used for analyses. Female characters (n=70) were underrepresented in comparison to their male counterparts (n=419). In comparison to male characters, females were significantly more likely to be partially nude, featured with an unrealistic body image and shown wearing sexually revealing clothing and inappropriate attire. Implications for these findings are discussed using Social Cognitive Theory as a theoretical anchor.

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Chapter 1: Background

Recently, video games have been put under the media microscope. Empirical studies focusing on violence dominate the research literature (for review, see Dill & Dill, 1998). However, as violent characters seemingly became standard fare in many videogames (Provenzo, 1991), sexual ones also have found a market in this medium. Lara Croft, from *Tomb Raider* and Helena, from the *Dead or Alive* series are examples of unrealistically proportioned female characters that fight and play in skin-tight, revealing outfits. Advocate group Children Now referred to these voluptuous, disproportionately sized characters as “hypersexualized” (Children Now, 2001, pg. 15).

Such sexuality is starting to concern some parents and legislators. The Protect Children from Video Game Sex and Violence Act of 2003 (Baca, 2003) proposes to penalize those who sell video games containing nudity, sexual content, and sexual violence. As Kari Peters, a parent from Sammamish, WA comments, “Occasionally, I don’t mind adult themes, as they bring up wonderful discussions if the child is mature, but the blatant sex and filthy language doesn’t show the best parts of adulthood, I feel” (Peters, 2004, p. E2).

Concerns from parents and others led to the development of the *Entertainment Software Review Board* (ESRB) in 1994. The ESRB rates video games for the appropriateness of different types of content for varying age groups. Sexual content is one feature that the ESRB regularly monitors. They focus on assessing mature humor, nudity, partial nudity, sexual themes, sexual violence, strong sexual content, and suggestive themes. The majority of these categories are character focused, revolving

around different levels of nudity and references to sex and sexuality. Clearly, sexuality seems to be a staple of video game content.

The use of sexual content may be a strategic attempt to lure the most avid game player, an adult male (Entertainment Software Association, 2004). Yet video games are growing increasingly popular with younger audiences who are just starting to develop ideas about sexuality. Indeed, the results from a national study funded by the Kaiser Family Foundation found that 16% of 4- to 6-year olds play video games daily. Typically, children spend an hour per day playing, with girls devoting an average of 53 minutes and boys 68 minutes (Kaiser Family Foundation, 2002). Another nationwide survey by the Kaiser Family Foundation (1999) found that 8- to 18-year olds play video games 27 minutes a day, with boys spending considerably more time gaming than girls (41 minutes vs. 12 minutes, respectively). Thus, children may likely be exposed to many sexualized portrayals very early in their socio-emotional development.

What impact does seeing such extreme portrayals of sexuality in video games have on youth? To date, there is little research in this area. There is a growing body of literature on the influence of television on sexual socialization and stereotyping. Studies have shown that children begin to develop attitudes toward body types between the ages of six and seven years, and as children get older, these attitudes become stronger (for review, see Spitzer, Henderson, & Zivian, 1999). Differences between female body sizes in the media and actual body sizes have been linked to eating disorders (Field, Cheung & Wolf, 1999), low self-esteem (Polce-Lynch, Myers, Klierer & Kilmartin, 2001), body dissatisfaction (Harrison & Cantor, 1997),

feelings of objectification (Frederickson & Roberts, 1997), and to the attitude that women's bodies are projects that need to be worked on (Brumberg, 1997, c.f. Murnen, Smolnak, Mills & Good, 2003). With effects such as these it should come as no surprise that one study noticed an inverse relationship between playing video/computer games and girls' self-esteem scores (Funk & Buchman, 1996).

Females are not the only ones affected by unrealistic body images in the media, however. Media portrayals of muscle-bound men may also set standards for male gamers. Such depictions may contribute to body dissatisfaction among some men, as well as such risky behaviors as steroid use (Labre, 2002). Sexualized portrayals of women in the media have been linked to objectification, leading some males to view women and their bodies as possessions (Frederickson & Roberts, 1997). Adolescent males learning to objectify women may lead to negative social, legal, and relational damage. Exposure to sexually explicit material such as pornography has been associated with poor evaluations of sexual partners and increased sexual aggression (Jansma, Linz, Mulac & Imrich, 1997).

Since hypersexualized video game characters may encourage or reinforce these negative effects, it is necessary to understand how this may occur. Social Cognitive Theory (SCT, Bandura, 2002) provides a theoretical framework to understand how children and adolescents can learn attitudes and beliefs from exposure to video game characters. Bandura's (2002) SCT indicates that we can intentionally and unintentionally learn from the models that we encounter in our environment. Bandura (2002) proposes that the processes of *attention*, *retention*,

production, and *motivation* are functions that govern our ability to learn through observation.

Attention. Attentional processes are those that determine which information and observed actions are extracted from a modeled, learning environment.

Attractiveness is one variable that affects attentional processing. If the game character is perceived as attractive, literature suggests that observers are more likely to find them socially acceptable and influential (Bandura, 2002). A recent quote from a game reviewer suggests: “There’s no arguing that sex sells. And with the typical gamer a young adult male, you can’t really blame the industry for catering to their target audience” (Morris, 2004, n.p.). Overtly sexual, provocatively dressed, or partially naked male or female characters may be very attractive, attention-getting attributes of video game play.

Retention. Getting a gamer’s attention is not enough to invoke learning. Without the ability to symbolically code and retain information, observational learning would not be possible. Retention processes involve restructuring modeled events into rules for memory (Bandura, 2002). In video games, a player has the ability to witness how characters present themselves and interact with other characters over and over again. Recalling that 8- to 18 year-old males typically play video games for 41 minutes per day (Kaiser Family Foundation, 2002), repeated exposure through extended play should make it very easy for a video game player to create, rehearse, and strengthen symbolic representations of events. In fact, gender schema theory suggests (Calvert & Huston, 1987) and research reveals that exposure to stereotyped, sexual interactions on television can provoke schema that categorize

women as sexual, submissive, and less intelligent than their male counterparts (Thompson & Pleck, 1986). Repeated exposure to attractive, scantily clad female characters may be problematic for young male gamers' sexual development.

Production. Production processes “guide the construction and execution of behavior patterns” (Bandura, 2002, p. 129) which can then be compared to the symbolic representations stored in memory for congruity. In using a symbolic representation of a modeled act, a person can adapt it for use in a variety of different situations. Not many children or adolescent players are likely to be as attractive, muscular, or sexy as the characters they control and play in video games. However, even though the physical attributes may not be accessible to the average player, verbal and attitudinal attributes may be replicated more easily. Gamers could learn attitudes and beliefs about sex roles and gender stereotyping and apply them to the real world situations they find themselves in every day. For example, if a video game player notices that males in video games are active, problem-solving heroes and women are incapable, and always needing help from men, sex-based stereotypes may manifest themselves in the home, school, or other social circles.

Motivation. Motivational processes revolve around a person's ability to create, change and modify their behavior within a social structure. In the context of SCT, if attitudes are shared by a peer group or reinforced, the schemata are likely to be strengthened. Studies generally support this rationale in the violence domain. Children and adults who are exposed to models that are rewarded or not punished for their violent actions are more likely to be aggressive immediately after viewing (Bandura, 1965; Lando & Donnerstein, 1978; Paik & Comstock, 1994). Video games

certainly contain reward mechanisms. Increases in scores, extra lives, or access to passwords or codes can serve as agents of reinforcement. In the game *BMX XXX*, players that successfully accomplish their missions are rewarded with codes to view real video clips of dancers performing a strip-tease.

To summarize, video game players through repeated exposure to attractive, hypersexualized characters may begin to develop scripts about gender stereotypes. When hypersexuality is used as a reward, players may assume that this type of activity is reinforced and sanctioned by society. Because of this, it is important to examine sexuality in video games.

Video Game Content

Several studies have examined stereotypical portrayals in video game content. In one of the earliest studies, Dietz (1998) examined gender stereotyping in 33 of the most popular Nintendo and Sega Genesis video games. The results revealed that almost half (41%) of the games were devoid of female characters. When human women were portrayed, 21% of the time they were depicted as “damsels in distress” or as “visions of beauty” (Dietz, 1998, p. 434). Importantly, 28% of the games coded with human characters showed women as sex objects.

A few years later, Children Now (2001) assessed 70 games for violence, gender, and racial diversity. The ten top selling games across 6 types of platforms (PCs, Sega Dreamcast, Sony PlayStation, PlayStation2, Nintendo 64, Game Boy Advance, and Game Boy Color) were unitized at both the game and character levels. The findings revealed that of the 874 characters coded, 73% were male and 12% were female. Video game players had more opportunities to select playing a non-human

character such as a robot or anthropomorphized being such as a hedgehog (i.e., *Sonic the Hedgehog*) than a female character. This analysis also found that women were often hypersexualized. Nearly 20% of the female characters in the sample were shown with unrealistic body sizes. In terms of clothing, 21% of female characters bared their breasts, 13% brandished their buttocks, and 20% modeled their midriffs. Finally, female characters were twice as likely as males to be coded as wearing seductive attire (Children Now, 2001).

Similar to Children Now's research (2001), Beasley and Standley (2002) examined clothing as an indicator of gender stereotyping in games rated E (i.e., for everyone), T (i.e., for teen audiences, 13 and older), and M (i.e., for mature audiences, 17 and older). Forty-seven Nintendo 64 and Sony PlayStation games were assessed. Consistent with Children Now's findings (2001), their results revealed that out of almost 600 characters, less than 14% were women. They also demonstrated that female characters wore clothing that exposed more skin than did male characters. Out of all female portrayals, nearly 41% were coded as "voluptuous." Also noteworthy was of those 41% of voluptuous women, 31% were featured in video games with an ESRB rating of "E" for everyone (Beasley & Standley, 2002).

Most recently, Haninger and Thompson (2004) assessed 81 "T" rated games for Nintendo 64, Sega Dreamcast, Sony PlayStation, and Sony PlayStation2 consoles. The results revealed that 27% of their 81 game sample depicted sexual themes and profanity. They also noted that their sample was significantly more likely to depict women as compared to men as partially nude and/or engaged in sexual behaviors.

To summarize, previous content analyses demonstrate that women are far less likely to appear in video games than are male characters. When women are present, they are often depicted as helpless and in need of saving. Women are also more likely than men to be portrayed as sex objects, with unrealistic body proportions and considerable amounts of exposed skin.

Although the previous content analyses have provided insight as to what is being portrayed in video games, they are not without limitation. The primary problem across all of the previous research is that it is simply outdated. The samples feature games played on antiquated platforms such as Nintendo 64, Sega Dreamcast, and Sony PlayStation. Faster graphic engines and more realistic looking characters have evolved, which calls for more recent research on games played on consoles such as Microsoft Xbox, Nintendo GameCube, and Sony PlayStation 2.

Perhaps the most information about hypersexual characters comes from Beasley and Standley's study (2002). However, these researchers coded attributes of all characters, rather than those that are primary or secondary to game play. As these scholars point out, "in future studies, characters should be coded as to their importance in the video game" (Beasley & Standley, 2002, p. 290). It is important to look at primary and secondary characters, as they are the ones that probably receive the most attention from those playing the games.

The Present Study

The purpose of this study is to analyze primary and secondary characters in the most popular console games for Nintendo GameCube, Sony Playstation 2, and Microsoft Xbox. Previous media research has demonstrated pronounced gender

differences in portrayals (Beasley & Standley, 2002; Children Now, 2001; Dietz, 1998). Women are not only presented less frequently than men, but when they are featured they are more likely to be shown in a hypersexualized (i.e., seductive clothing, nudity, unrealistic body proportions) light. Therefore, the first two hypotheses are advanced:

H₁: Female video game characters will appear less frequently than will male characters.

H₂: Female video game characters will appear more hypersexualized than male characters.

I was also interested in how ESRB rating may influence the presentation of hypersexual portrayals. According to the ESRB rating system, E games (i.e., for everyone) should not contain any of the variables associated with hypersexuality, including partial or full nudity, references to sex, mature humor or sexual content. T games (i.e., for teens) should contain only suggestive themes and M games (i.e., for mature players) may contain any or all of the variables associated with hypersexuality, excluding graphic depictions of sex. Yet previous research suggests that ESRB does not always rate objectionable content consistently (Haninger & Thompson, 2004). For example, Thompson and Haninger (2001) found that 14 E-games featuring violence in their sample did not receive a content label from the ESRB. To assess the dependability of the ESRB's rating system with regards to hypersexuality, the first research question asks:

RQ₁: Does game rating influence hypersexualized portrayals in video games?

In addition to ESRB rating, another feature that may influence hypersexuality is the console. Web site reviews about game consoles do not identify any one console

as providing more racy content than another, although all three manufacturers in this study (Nintendo, Sony, and Microsoft) provide game titles containing sexual content (Loftus, 2004; Parents Television Council, 2004). Given this lack of information empirically or in the popular press, the second research question asks:

RQ₂: Does console influence hypersexualized portrayals in video games?

Method

Sample

A total of 60 top-rated games in Q2 of 2003, for the Nintendo GameCube ($n=20$), Sony PlayStation 2 ($n=20$), and Microsoft Xbox ($n=20$) were analyzed (a complete list of games can be found in Table 1). Within each platform, the sample included the top-selling games based on available sales figures from the NPD Group for 2003. The sample of games included 22 E-rated games, 23 T-rated games, and 15 M-rated games. Three undergraduates with considerable gaming experience played each game for 20-minutes. Game play was captured on VHS tapes via a videocassette recorder. Coders then coded the tapes containing these 20-minute segments for various character attributes.

Unit of Analysis

There are two units of analysis: game segment and character. Game segment consists of the 20-minute pre-recorded sample of each video game. The variables coded at the game level are ESRB rating (e.g., E, T, M) and the brand of console (e.g., Microsoft Xbox, Nintendo GameCube, and Sony PlayStation 2).

Characters are defined as human, animal, robotic, or anthropomorphized entities that are involved in game play. Only attributes of primary and secondary

characters will be assessed. *Primary characters* are those that a video game player actively manipulates and controls onscreen. In almost all cases, the primary character is the protagonist or the person around which the plot and successful completion or failure of the game's objective centers. *Secondary characters* are those that are immediately tied to or related to the primary character (i.e., they aid or deter the primary character from fulfilling their quest). Based on the review of literature and social cognitive theory outlined above, three types of character measures will be analyzed: demographic, hypersexual qualities, and reinforcements for sexuality. The following variable definitions were developed for the present study (unless otherwise referenced).

Demographic variables. Five different variables were coded for character demographics.¹ The first demographic variable is *species*. *Species* are comprised of related organisms or populations potentially capable of interbreeding. *Species* will be coded as human, animal, robot, supernatural creature, anthropomorphized animal, anthropomorphized supernatural creature, or cannot tell. The second demographic quality is biological sex. It will be coded as male, female, no sex, or cannot tell. The third demographic quality is *ethnicity*. *Ethnicity* refers to large groups of people that are categorized together, sharing one or more of the following qualities such as racial, tribal, religious, linguistic, or cultural origins. *Ethnicity* will be coded as Caucasian, African, Hispanic, Asian/Pacific Islander, Native American, other, not applicable, or cannot tell. The fourth variable is *age*. Since the actual ages of video game characters are rarely provided, character ages in approximate years will be assessed. The age groups were broken down such that character cues and associated age stereotypes (ex.

grey hair and use of a staff or cane to walk would be associated with an elderly character) should fall neatly into mutually exclusive categories. Other studies have used a roughly similar age break down and have achieved high levels of reliability (Smith et. al. 1998 and Wilson et al, 1997). Character ages are divided into child (0-12 years), teen (13-19), adult (20-64), elderly (65+), not applicable, or cannot tell.

The fifth variable is *resolution*. *Resolution* refers to the image quality (i.e., sharpness, clarity) of the onscreen graphics and is coded low (i.e., pixilated graphics with irregular boundaries, choppy motion sequencing, little or no shadowing), medium (i.e., fairly seamless motion sequencing, some shadowing), and high (i.e., 3-D animation, character shadowing, fluid motion).

Attributes of hypersexuality. Hypersexuality is defined as excessive concern with, or indulgence in, a sexualized appearance or activity. Eight different variables assess aspects of hypersexuality.² The first is *sexually revealing clothing*, which refers to any garment that is worn in order to enhance, exaggerate, call attention to, or accentuate the curves or angles of any part of the body (from the neck to above the knee) and which by design, would arouse interest of physical intimacy from others. The presence of sexually revealing clothing will be coded as yes, no, not applicable, or cannot tell. The second variable is *nudity*. *Nudity* refers to the amount of exposed skin a character shows. The levels are none (i.e., body is covered in such a way that there is no visible skin from the knees to the neck line about the shoulders as by an unaltered crew-neck, t-shirt, or tank top), partial (i.e., exposed midriffs for women, shirtless males, exposed cleavage, thighs, and/or buttocks), full (i.e., human character's body does not appear to be covered by any clothing, save shoes or a hat,

or if a covering of any sort as by a towel or such is transparent in nature), not applicable, or cannot tell.

The third variable is *character body proportion*.³ Character body proportion is defined as the harmonious relation of parts to each other or to the whole as it applies to a human body. This variable will be gauged by the propensity of characters to resemble an average male or female human. Therefore, by definition, any woman or man with an overly exaggerated chest-size, extremely long arms or legs, and/or a disproportionately small waist would be coded as having an unrealistic image. The codes for this variable will be realistic, unrealistic, not applicable, or cannot tell.

The fourth variable is *sex talk*. Consistent with previous research (Kunkel & Cope, 1999), sex talk refers to any verbal reference or dialogue regarding sex or sexual issues. For each character, sex talk will be coded as present or absent. The fifth variable is *sexual behavior* and is coded independent from sex talk. Based on the Kaiser Family Foundation's (2003) definition, sexual behavior is defined as a character's actions that imply a sense of likely sexual intimacy. Sexual behavior will be coded as yes or no.

The sixth variable is *appropriateness of attire*. Appropriateness of attire is defined as those garments worn by a character that are suitable and functional in consideration of the task at hand. For example, if a woman beside a pool wears a swimsuit, this would be considered appropriate. If the same woman wears a swimsuit while competing in a dirt bike race, then the swimsuit would be considered inappropriate. This variable will be coded as appropriate, inappropriate, not applicable, and cannot tell.

The seventh variable is *breast size*. For female characters only, breast size will be coded as flat, average, voluptuous (Beasley & Standley, 2002) or cannot tell. The eighth variable is *waist size*. This code will examine the waist-line of characters in proportion to the rest of the body. The codes for this variable will be disproportionately small, average, disproportionately large, or cannot tell.

Reinforcements for sexuality. Consistent with a social cognitive approach, the last two variables tap reinforcements for sexuality. *Verbal reward for sexuality* is defined as any verbal praise (e.g., “Hey, good looking”, “Nice legs”) that is given to a character as a result of their own sexuality. The codes for this variable will be present or absent. In addition, *nonverbal reward for sexuality* will be coded. This variable is defined as any nonverbal offering (e.g., suggestive licking of lips, winking, blowing a kiss) that is given to a character as a result of their own sexuality. This variable is coded present or absent.

Coder Training and Reliability

A total of 3 undergraduate coders from a large west-coast university coded all of the 20-minute, pre-recorded video game segments. The coders received weeks of extensive classroom and lab training prior to coding the sampled games. Some training sessions were conducted in person with coders and trainers in the same room, and other sessions were conducted via phone with PowerPoint presentations when both authors could not be physically present. Scott’s Pi (π) with the Potter and Levine-Donnerstein (1999) correction formula was used to calculate coder reliability. Coders did not begin assessing game segments until they reached a reliability of .80 or better for every code. The following are the Scott’s Pi estimates for each variable:

character type (1.0), point of view (1.0), resolution (1.0), sex (.99), species (1.0), ethnicity (.88), age (.95), sexually revealing clothing (.87), nudity (.90), body proportion (.82), sex talk (.99), sexual behavior (1.0), appropriate attire (.90), breast size (.98), waist size (.88), verbal sex as a reward for character (1.0), and nonverbal sex as a reward for the character (1.0).

Results

Analysis Plan

Prior to the execution of the analyses, hypersexuality had to be defined. From the most liberal standpoint, any one of the eight variables outlined above (i.e., sexually revealing clothing, appropriate attire, nudity, breast size, waist size, body proportion, sex talk, sex behavior) could constitute a hypersexual portrayal. Because of this, each of these attributes will be examined in isolation to test the relevant hypotheses and answer the research questions. To this end, chi-square analyses were executed on each hypersexual variable blocking by gender, rating, or console. Two criteria were used to determine the significance of any finding. First, only chi-squares that were statistically significant at the $p < .05$ level were reported. Second, only those percentages that differ by 10% or more were delineated. In this way, the findings will reflect both statistical and practical differences in the patterns of hypersexuality in video games. The sample size for some analyses may vary, as items coded as “cannot tell” or “not applicable” will be excluded. Below, descriptive statistics are provided across the entire sample followed by specific tests of the hypotheses and research questions.

Descriptive Statistics

Of the top 20 games played on each platform (Microsoft Xbox, Nintendo GameCube, and Sony PlayStation 2) coders distinguished 576 different primary and secondary characters for analysis.⁴ Since we are interested in portrayals of sexuality, only those characters that could be identified as male or female remained in the sample. As such, a total of 87 characters had to be excluded from analysis. Of the remaining 489 characters, 40% of characters appeared in E-rated games ($n=196$), 26% appeared in T-rated games ($n=128$), and 34% appeared in M-rated games ($n=165$). Most of the characters were classified as secondary (76%, $n=371$) and just under a quarter (24%, $n=118$) were primary. Almost all primary characters were played in the third person (99%) perspective and almost all characters (99%, $n=486$) were viewed in high resolution.

In terms of ethnicity, half of the 489 characters were Caucasian (50%, $n=246$), followed by African (21%, $n=101$), Asian/Pacific Islander (7%, $n=36$), and Hispanic (3%, $n=14$). A total of 19% ($n=92$) of the characters had an unidentifiable ethnicity or were coded as not applicable.

Looking at ethnicity by sex, 465 characters had available codes for both variables. These characters break down into the following groups: Out of 246 Caucasian characters, (13%, $n=32$) were female. Out of the 101 African characters, (9%, $n=9$) were female. For the 14 Hispanic characters, (14%, $n=2$) were female. For the 36 Asian/Pacific Islanders, (25%, $n=9$) were female. The other three categories, other, cannot tell and mixed, combined for 68 instances with (22%, $n=15$) being female.

Almost all of the characters were adults (94%, elderly = 2%, children = 1%, unidentifiable = 3%). Most characters in the sample were human (88%), followed by anthropomorphized characters (10%), supernatural creatures (1.6%), robots (.2%), and animals (.2%).

Hypothesis One

It was expected in Hypothesis 1 that female characters would appear less frequently than would male characters. A one-way chi-square yielded a significant effect for character sex, $X^2(1, N = 489) = 249.08, p < .01$. As shown in Table 2, a substantially higher proportion of male characters (86%, $n=419$) than female characters (14%, $n=70$) were featured in the games. A similar pattern held when examining sex of primary characters, $X^2(1, N = 118) = 68.60, p < .01$. Substantially more males (88%) were primary characters than were females (12%). A one-way chi-square also revealed a significant effect for secondary characters, $X^2(1, N = 371) = 180.80, p < .01$. Secondary characters were more likely to be males (85%) than females (15%). Thus, the data are highly consistent with Hypothesis 1.

Hypothesis Two

Hypothesis 2 predicted that female characters would be hypersexualized more often than would male characters. To test this hypothesis, each hypersexuality variable relevant to both sexes (sexually revealing clothing, appropriate attire, nudity, body image, waist size, sex talk, sex behavior) was assessed by biological sex. All primary and secondary characters coded as male or female were included in the analyses. In terms of sexually revealing clothing, a significant chi-square was observed by sex, $X^2(1, N = 469) = 39.70, p < .001, \Phi = .29$. A higher proportion of

female characters (41%) than male characters (11%) were portrayed in sexually revealing clothing (see Table 3).

The impact of character sex on nudity also was explored. Prior to executing the analysis, the nudity variable was collapsed into two levels: no nudity (none) vs. some nudity (partial, full). A chi-square analysis revealed a statistically significant effect, $X^2(1, N = 468) = 99.88, p < .001, \Phi = .46$. When compared to male characters (4%), a substantially higher proportion of female characters (43%) were depicted nude (partial or full). See Table 3.

Next, body type was examined. This variable was collapsed into two categories: realistic vs. unrealistic body image. A chi-square revealed a significant difference in body type by sex, $X^2(1, N = 464) = 67.15, p < .001, \Phi = .38$. Female characters were more likely to be shown with an unrealistic body type (25%) than were male characters (2%).

The waist size of characters also was examined. Due to an interest in uncharacteristically small waists, this variable was collapsed into two categories: small waist vs. not small waist (average, large). A chi-square analysis revealed a significant difference by sex, $X^2(1, N = 461) = 140.88, p < .001, \Phi = .55$. When compared to males (1%), female characters were substantially more likely to be displayed with small waists (40%).

The appropriateness of the character's attire also was examined. A significant chi-square was observed for this variable by sex, $X^2(1, N = 472) = 36.94, p < .001, \Phi = .28$. As noted in Table 3, a higher proportion of female characters (16%) than male

characters (2%) were shown wearing clothing that would not be appropriate for completing the task at hand.

The last two hypersexuality variables, talk about sex and sexual behavior, occurred infrequently in the data set. Across the entire sample of characters, only 1 instance of sex talk and 5 instances of sexual behavior were observed. Due to this low observed n , chi-square analyses could not be executed. The verbal and nonverbal reinforcements delivered to characters for their sexuality were also assessed. However, no instances of these variables were observed across all of the characters in the sample.

Overall, differences were observed across five of the seven variables measuring attributes of hypersexuality that applied to both males and females. This pattern of results seems to be consistent with Hypothesis 2.

Research Question One

Research question one asked if game rating influenced hypersexualized portrayals in video games. These results are displayed in Table 4. Across the hypersexuality variables, (sexually revealing clothing, appropriate attire, nudity, body image, waist size) only one analysis including males and females in the sample met the criteria for statistical ($p < .05$) and practical significance (10% difference). A significant chi-square was observed for nudity by ESRB rating, $\chi^2 (2, N = 468) = 19.52, p < .001, V^* = .20$. Characters were more likely to appear nude in games rated T (15%) or M (14%) than were those in games rated E (2%).

Looking at the distribution of hypersexuality variables by ESRB within sex, a slightly different picture emerges. Because the analyses would have many cells with

sexually revealing clothing in Nintendo GameCube games (31%) than in Microsoft Xbox (12%) or Sony PlayStation 2 games (10%).

The distribution of hypersexuality variables by console within sex presents a slightly different set of results. Again, because a majority of the cells contain less than five observations, the pattern of results is described. For women (see Table 6), Microsoft Xbox has the highest frequency of unrealistic proportions, sexually revealing clothing, partial nudity and voluptuous breasts. Also noteworthy is that Nintendo GameCube is most likely to show men wearing sexually revealing clothing.

Discussion

The purpose of this study was to examine hypersexuality in video game characters. Overall, the results show marked differences in the way males and females are presented in video games both in terms of sheer amount of appearance in games as well as the way in which their sexuality is represented. In short, females occur far less frequently in video games and are more likely to be shown in a hypersexual light than are males.

Hypothesis 1 received empirical support for the prediction that female characters would appear less frequently than would male characters (14%, $n=70$, 86%, $n=419$, respectively). The proportion of females to males observed here is similar to Beasley and Standley's (2002) findings. Of the characters in their sample, 14% were female and 72% were male. The results are also congruent with the Children Now (2001) study, which found that 73% of video game characters are male and 12% are female. While these numbers are not too terribly different from gender representation on television (Gerbner,

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Not only are women underrepresented, but when they are shown it is often in a hypersexual context, which supports hypothesis 2. Significant findings were found for 5 of the 7 hypersexuality variables that were applicable to both males and females, including sexually revealing clothing, nudity, body image, waist size, and appropriateness of attire. To recap, 41% of all female characters were shown wearing sexually revealing clothing compared to 11% of males. Further, 28% of all females, compared to 2% of all males, were depicted with inappropriate clothing for the task at

hand, ostensibly to help accent the feminine form. One quarter of the women in this study (25%) were shown with an unrealistic body image. This is consistent with Children Now's findings which revealed that nearly 20% of female characters are shown with an unrealistic body image. Nudity had the greatest disparity between females and males. Women (43%) were ten times more likely to be shown nude (partial or full) than males (4%).

As long as game developers design games for a male audience, hypersexualized female characters will continue to hold their attention for hours of game play. Although this may seem harmless, theory suggests otherwise. The repetition of seeing women as hypersexualized beings can reinforce the belief that women are to be regarded as sex objects. The disproportionately small waists and voluptuous breasts for female characters may contribute to body dissatisfaction for female gamers and unrealistic expectations of women for impressionable male gamers. This has two major implications.

First, this medium may be reinforcing to some that women are supposed to have unrealistic body proportions. When these proportions are unattainable, it can lead to low self-esteem and body dissatisfaction for female gamers. Taking that a step further, low self-esteem and body dissatisfaction may prompt some to adopt unhealthy eating habits trying to attain an idealized image. Second, it also sends a message to male gamers of what women should look like. Since very few women can achieve video game character proportions naturally, males may have unrealistic expectations of the feminine body image. If males are disappointed that women cannot achieve these proportions, this may hinder relational development. Because

these assertions are speculative at best, future research is needed to assess the impact of repeated exposure to such portrayals on male and female gamers.

Research question 1 asked if game rating influenced the nature of hypersexualized portrayals in video games. Across sex, the findings indicate that there is a significant difference between E, T, and M rated games on nudity. At first glance, it appears that the ESRB ratings do a fairly good job of filtering out this one hypersexuality variable. However, sexually revealing clothing, disproportionately small waists, unrealistic body proportions and appropriate attire did not differ across game ratings. This indicates that variables of hypersexuality as defined by this study are prevalent throughout E, T, and M rated video games instead of just T or M as may be expected. If parents choose to screen video games by ESRB rating it is important that they understand that the portrayals of video game characters wearing sexually revealing clothing with small waist sizes and unrealistic body proportions can still have an impact on young gamers. Repeated exposure to video game characters with unrealistic proportions in combination with similar “thin ideal” reinforcement from other media may explain why as many as 10 in 100 young women in the US suffer from eating disorders (AACAP, 2004).

When ESRB is broken down by sex, women are represented the least in E rated games ($n=11$). It is also important to note that the highest proportion of unrealistic body images and small waist sizes for women appear in E-rated games. Thus, if video games were screened for young gamers by ESRB rating, women would be virtually nonexistent. When they were shown, impressionable video game players would be exposed to women with unrealistic body shapes.

Research question 2 asked if brand of console influenced the amount and the type of hypersexualized portrayals in video games. The findings indicate that there was a significant difference for sexually revealing clothing but not for nudity, appropriateness of attire, unrealistic body image, or small waist size. Characters wearing sexually revealing clothing are more prevalent in games for the Nintendo GameCube. On paper, it appears that Sony PlayStation 2 contains less hypersexuality than the Nintendo GameCube or the Microsoft Xbox. However, these results need to be interpreted with caution. First, the variables that compose hypersexuality still appear in Sony PlayStation 2 games. Second, when one hypersexuality variable appears, it is likely that another one or multiple others will also appear. This phenomenon was just as likely to occur on the Sony PlayStation 2 as on the Microsoft Xbox console. It is apparent then, that the best way to screen for hypersexuality would be to look at ESRB rating and not simply the brand of game console.

When hypersexuality variables were examined across sex by console, differences appeared. Three out of the seven variables applicable to both sexes (i.e., unrealistic proportions, sexually revealing clothing, nudity) appeared in the greatest frequency for women versus men on the Microsoft Xbox console. Although it would seem that parents would want to avoid the Microsoft Xbox, in favor of the Sony Playstation 2 or Nintendo GameCube, this may not be the case. Even though the Microsoft Xbox has the highest frequency for three of the seven hypersexuality variables tested, at the time of this writing, it was also the only game console that included a parental control.

Overall, this content analysis was designed to examine hypersexuality in video game characters. Since hypersexuality as a variable has received considerably less attention than violence in terms of its effects, this study serves as a platform from which to further examine hypersexuality in video games. Follow-up studies are recommended to test the validity of the variables used to determine hypersexuality in video game characters.

One limitation of this study is its focus exclusively on game play. The pre-recorded video games segments that were coded did not include the introduction section. Nor did they include the grand finales where sexual behaviors or sex talk may occur. Future studies should be conducted to see if game introductions or game finales contain hypersexuality codes such as sexual talk or sexual behavior. Since the finales are a form of reward for the player, future studies should examine whether or not sex talk and sexual behaviors are present. If they are, it is important to know which types of behaviors are depicted.

In sum, the findings show that there are pronounced differences in the amount of males and females in video games as well as the way in which they are depicted. Females are more likely in games than males to be presented in a hypersexual light. Such portrayals, from a social cognitive approach, may have negative effects on young gamers' socio-emotional development.

FOOTNOTES

¹ *Character role* was originally coded as a demographic variable. However, it was dropped from the study as it did not meet the predetermined minimum level of .80 for inter coder reliability.

² *Physical attractiveness* was originally coded as a hypersexuality variable. However, it was dropped from the study as it did not meet the predetermined minimum level of .80 for inter coder reliability.

³ The variable *character body proportion* examines all aspects of the body including feet, legs, waist, hips, breasts, head size, etc. Breast size and waist size are not mutually exclusive of this variable but do contribute to overall body proportioning. The decision was made to code breast size and waist size individually as previous studies have placed importance on the import of looking at them in isolation.

⁴ Since many video games contain multiples of certain characters that are indistinguishable from one another, only single images were coded and frequency was noted. For example, in the *Incredible Hulk* video game, many Army characters were observed that were indistinguishable from one another. When this occurred, the coder completed the codes for the character and then tallied the frequency for which that character occurred in the video game. A total of 56 characters in the sample (11%) featured replicates. Of those characters that featured replicates, a total of 38% featured 1-5 replicates, 30% featured 6-15 replicates, 23% featured 16-42 replicates and 7% featured 74-361 replicates.

Table 1

Top Twenty Video Games by Game Platform Included in Analyses

Nintendo GameCube

1. *Godzilla: Destroy All Monsters Melee*
2. *Animal Crossing*
3. *Super Mario Sunshine*
4. *Luigi's Mansion*
5. *Sonic DX Adventure*
6. *NBA Street Vol 2*
7. *Enter the Matrix*
8. *Def Jam Vendetta*
9. *Super Smash Bros Melee*
10. *Social Mega Collection*
11. *Sonic Adventure 2*
12. *James Bond, 007: Nightfire*
13. *Star Fox Adventures*
14. *Lord of the Rings: Two Towers*
15. *Mario Party 4*
16. *Metroid Prime*
17. *Resident Evil: Zero*
18. *Legend of Zelda: Wind Walker*
19. *Wario World*
20. *The Sims*

Sony PlayStation 2

1. *Grand Theft Auto III*
2. *Midnight Club II*
3. *Hack: Infection*
4. *Grand Theft Auto: Vice City*
5. *Dragonball-Z: Budokan*

6. *Def Jam Vendetta*
7. *Enter the Matrix*
8. *NBA Street Vol. 2*
9. *NBA Live 2003*
10. *Tiger Woods PGA 2003*
11. *Tom Clancy's Splinter Cell*
12. *Xenosaga Episode J*
13. *Tenchu 3: Wrath of Heaven*
14. *ATV Offroad Fury 2*
15. *MVP Baseball 2003*
16. *SOCOM: US Navy seals*
17. *Dynasty Warriors 4*
18. *Tom Clancy's Ghost Recon*
19. *Yu Gi Oh!*
20. *The Getaway*

Microsoft Xbox

1. *World Series Baseball 2K3*
2. *MVP Baseball 2K3*
3. *Midnight Club II*
4. *Project Gotham Racing*
5. *Tom Clancy's Ghost Recon*
6. *NBA Street Vol. 2*
7. *The Sims*
8. *Wolfenstein: Tides of War*
9. *Dead or Alive Extreme Beach Volleyball*
10. *Enter the Matrix*
11. *Tiger Woods PGA Tour 2003*
12. *Tao Feng: Fist of the Lotus*
13. *Max Payne*
14. *Halo*

- 15. Unreal Championship*
- 16. Brute Force*
- 17. Tom Clancy's Splinter Cell*
- 18. X2: Wolverine's Revenge*
- 19. ATV 2: Quad Power Racing*
- 20. Hulk*

Table 2

Frequency of Characters by ESRB Rating, Platform, and Sex

	Microsoft Xbox	Sony PlayStation 2	Nintendo GameCube	Total
Everyone				
Men	n=44	n=72	n=69	185
Women	n=1	n=2	n=8	11
Teen				
Men	n=29	n=35	n=37	101
Women	n=10	n=11	n=6	27
Mature				
Men	n=72	n=51	n=10	133
Women	n=12	n=19	n=1	32
Total	168	190	131	489

Table 3

Percentage of Characters Showing Hypersexuality Indicators by ESRB Rating and Sex

	Everyone	Teen	Mature	Total
		Women 70		
Sexually Revealing Clothing	33% n=3	30% n=8	53% n=17	41% n=28/70
Partially or Totally Nude	22% n=2	41% n=11	50% n=16	43% n=29
Unrealistic body image	44% n=4	8% n=2	34% n=11	25% n=17
Small waist	56% n=5	39% n=10	38% n=12	40% n=27
Breast size (voluptuous)	11% n=1	12% n=3	43% n=13	26% n=17
Inappropriate attire	9% n=1	19% n=5	17% n=5	16% n=11
		Men 49		
Sexually Revealing Clothing	18% n=32	6% n=6	6% n=7	11% n=45/400
Partially or Totally Nude	1% n=2	8% n=8	5% n=6	4% n=16
Unrealistic body image	1% n=1	6% n=6	0% n=0	2% n=7
Small waist	0% n=0	3% n=3	1% n=1	1% n=4
Breast size (voluptuous)	na	na	na	na
Inappropriate attire	0% n=0	6% n=6	0% n=0	2% n=6

Note: All percentages are rounded in the table and not carried out to the first decimal point.

Table 4

Frequency and Percentage of Characters Showing Hypersexuality Indicators by ESRB Rating

	Everyone	Teen	Mature	Total
Sexually Revealing Clothing	n=35 (19%)	n=14 (11%)	n=24 (15%)	n=73 (16%)
Partially or Totally Nude	n=4 (2%)	n=19 (15%)	n=22 (14%)	n=45 (10%)
Unrealistic body image	n=5 (3%)	n=8 (7%)	n=11 (7%)	n=24 (5%)
Small waist	n=5 (3%)	n=13 (11%)	n=13 (8%)	n=31 (7%)
Breast size (voluptuous)	n=1 (11%)	n=3 (12%)	n=13 (43%)	n=17 (26%)
Inappropriate attire	n=1 (.5%)	n=11 (9%)	n=5 (3%)	n=17 (4%)

Table 5

Percentage of Characters Showing Hypersexuality Indicators by Platform

	Microsoft Xbox	Sony PlayStation 2	Nintendo GameCube	Total
Sexually revealing clothing	n=19 (12%)	n=18 (10%)	n=36 (31%)	n=73 (16%)
Partially or Totally nude	n=22 (13%)	n=16 (9%)	n=7 (6%)	n=45 (10%)
Unrealistic body image	n=14 (9%)	n=6 (3%)	n=4 (4%)	n=24 (5%)
Small waist	n=16 (10%)	n=11 (6%)	n=4 (4%)	n=31 (7%)
Breast size (voluptuous)	n=13 (59%)	n=3 (10%)	n=1 (8%)	n=17 (26%)
Inappropriate attire	n=9 (6%)	n=3 (2%)	n=5 (4%)	n=17 (4%)

Table 6

Percentage of Characters Showing Hypersexuality Indicators by Platform and Sex

	Microsoft Xbox	Sony PlayStation 2	Nintendo GameCube	Total
Women				
Sexually Revealing Clothing	61% n=14	34% n=11	23% n=3	41% n=28
Partially or Totally Nude	70% n=16	28% n=9	31% n=4	43% n=29
Unrealistic body image	55% n=12	13% n=4	8% n=1	25% n=17
Small waist	59% n=13	31% n=10	31% n=4	40% n=27
Breast size (voluptuous)	59% n=13	10% n=3	8% n=1	26% n=17
Inappropriate attire	30% n=6	6% n=2	20% n=3	16% n=11
Men				
Sexually Revealing Clothing	4% n=5	5% n=7	32% n=33	11% n=45
Partially or Totally Nude	4% n=6	5% n=7	3% n=3	4% n=16
Unrealistic body image	1% n=2	1% n=2	3% n=3	2% n=7
Small waist	2% n=3	1% n=1	0% n=0	1% n=4
Breast size (voluptuous)	na	na	na	na
Inappropriate attire	2% n=3	1% n=1	2% n=2	2% n=6

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