Beauty in the Background: A Content Analysis of Females in Interactive Digital Games

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ABSTRACT

This content analysis examined the representation of females in top-selling console video games. Based on prior content analyses, the study hypothesized that female characters would be more likely to appear in supporting roles and would be represented as suggestively dressed with sexualized portions of their bodies exposed. It was predicted that female characters would be less likely to engage in violence relative to male characters. The results of the analysis of 538 characters from 13 interactive video game systems supported these predictions and suggest that video games portray stereotypic depictions of women consistent with traditional gender roles. The implications of these findings are presented in the context of social learning theory. Furthermore, the unique features of video game play that may heighten their socializing impact are discussed.

Keywords: Gender, Sexuality, Social Learning Theory, Stereotypes, Video Games

INTRODUCTION

The video game industry is relatively new; yet in the span of a few decades, it now rivals the almost century-old film industry in both popularity and revenue (Hewitt, 2005). As a result of this increasing popularity, researchers have become interested in the influence of interactive video games on player’s later attitudes and behaviors (e.g., Anderson & Dill, 2000; Beasley & Standley, 2002; Lachlan, Smith, & Tamborini, 2005; Thompson & Hanigar, 2001). A primary focus of video game research has been the relationship between video game violence and players’ aggressive thoughts, feelings, and behaviors (American Psychological Association, 2005; Anderson & Dill, 2000). Other topics, for instance the influence of video game play on player’s self-concept, or the effect video games have on perpetuating negative stereotypes, have received less attention in the scholarly literature.

While video games are unlikely to be the only source or even the primary source of information about gender roles, it is nonetheless important to acknowledge that video games allow players to actively engage and take part in scenarios. Furthermore, common stereotypical
depictions in video games are not often countered with other messages. Even more so, the same stereotypic messages are often presented in other forms of media as well. It may be reasonable to assume that if the messages individuals see about gender roles are consistently uniform and come from a variety of sources, they are more likely to be internalized. For instance, research has repeatedly found that media can influence gender role conceptions (Ashton, 1978; Geis, Brown, Waslstedt, & Porter, 1984; Gunter, 2002; Perse, 2000; Schau & Scott, 1984; Williams, Larose, & Frost, 1981).

Unlike other media, digital video games require individuals to take an active role-playing position. That is, the character on the screen represents the player, and the player controls the avatar’s actions and decision-making processes within the game (see Vorderer & Bryant, 2006). Thus, there is an interactive nature to video games that is not present in other forms of media. This paper presents an investigation of the portrayals of females in top selling console video games, focusing on the extent to which their appearance and purpose in the game continue to promulgate stereotypical portrayals of women.

**SOCIAL LEARNING THEORY**

It is well documented that the media influences the socialization process by providing models for individuals to emulate (American Psychological Association, 2005; Anderson, 2003; Bandura, 1973; Bandura, 1986; Berger, 2005; Murray, 1980; Stein & Frederic, 1975). With the predominance of media in most people’s lives, it is important to examine the content of the messages the media are presenting to viewers. According to social learning theory, individuals will assimilate to their culture partially based on observations of the events and behaviors around them (Bandura, 1986). Learning can occur by observing others’ (i.e., models) behaviors, cognitions, and beliefs and observing the consequences of these actions, thoughts, and beliefs. Modeled actions that are rewarded are more likely to be repeated by the observer, while behaviors that are punished are not. Relevant to digital video games, exposure to virtual models can also influence subsequent behavior (Bandura, 1965; Bandura, Ross, & Ross, 1961, 1963; Meltzoff, 1988). Individuals who play video games are particularly likely to model the behavior of characters in the game that they identify with and observe being rewarded for their actions. Thus, the role of socialization in video games is both a pertinent issue and a potential concern given the literature reviewed in this manuscript.

**Observer-model identification.** Identification with a model increases attention to the model and subsequently the imitation of the modeled actions. Furthermore, past research shows that similarity to the model on a variety of traits (i.e., demographic characteristics) increases identification (Lachlan, Smith, & Tamborini, 2005; Schunk, 2004). Relevant to the current content analysis, other studies reveal that similarity in gender shows an increase in identification and modeling (Bandura, Ross, & Ross 1961, 1963; Madsen, 1968; Schunk, 2004).

**Effect of rewards on imitation.** When a model’s behavior is rewarded, individuals are more likely to attend to the behavior and subsequently imitate models’ behaviors (Bandura, 1965; Schunk, 2004). Relevant to the current content analysis, rewards within video games have been shown to increase imitation of characters’ actions. For example, rewarding video game violence increased hostile emotion, aggressive thinking, and aggressive behaviors (Carnagey & Anderson, 2005). Moreover, diabetic children who played a video game that rewarded good diabetes maintenance drastically increased their diabetes related maintenance behaviors and subsequently reduced hospital visits (Lieberman, 2001). Both of these individual studies suggest that behavior that is rewarded in a video game may subsequently translate into player actions and thoughts.
REVIEW OF LITERATURE

Video Games and Social Learning

The content of video games, in particular, is important to examine because video games have unique qualities that may be particularly important for the social learning process. New technologies make video games appear more realistic and more personalized to the individual player, which may increase individual’s identification with the characters in the game and sense of presence while playing. Furthermore, video games require repeated exposure of stimuli, which has been shown to increase retention of the content (Gentile, 2003).

For instance, the appearance of avatars -- the characters controlled by the player -- has become more realistic (Brand, Knight, & Majewski, 2003). Perhaps more influential than the improved appearance of avatars is that some video games and console systems now offer players the option to customize their own avatar. Personalization of avatars has been shown to increase identification as players view the avatars as reflections of themselves (Bailenson, Blascovich, & Guadagno, 2008). Furthermore, the avatars are created with characteristics that are deemed desirable by the player, which may increase identification with (Lachlan, Smith, & Tamborini, 2005) and imitation of (Chartier & Ainley, 1979) individuals’ video game avatars.

Research on the role-playing aspect of digital video games suggests that the act of role-playing increases players’ expectations that they will play a similar role in their real lives (Ahn, Guadagno, & Ewell, 2013). Furthermore, many video games offer a first-person perspective in which the player views the virtual video game world from the character’s visual perspective. This unique perspective is likely to increase identification with the avatar. Similar to the advancement in the visual representation of the game, technological advances to the equipment (e.g., controllers vibrating in response to behaviors within the game) are also increasing the realism in the games, which increases the effects of modeled behavior (Barlett & Rodeheffer, 2009). Taken together, all of these characteristics of game play – realistic representation of characters, role-playing of characters, and active participation in the game—may influence social learning by increasing identification with video game characters and imitation of those characters by players.

Gender and Sexuality in Video Games

Existing research suggests that video games depict male and female characters in a stereotypical manner (Beasley & Standley, 2002; Dietz, 1998; Dill, 2006; Dill, Gentile, Richter, & Dill, 2005; Downs & Smith, 2010; Glaubke, Miller, Parker, & Espejo, 2001; Provenzo, 1991). These stereotypical representations may have implications for the social learning processes of the many individuals that are exposed to them. For example, exposure to media can increase acceptance of traditional gender roles (Geis, Brown, Waslstedt, & Porter, 1984) and idealistic expectations of female beauty and body image (American Psychological Association, 2007; Hargreaves & Tiggesmann, 2003; Kendrick & Gutierrezes, 1980; Tan, 1979; Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997; Weaver, Masland, & Zillmann, 1984). Furthermore, studies reported by the American Psychological Association (2005) reveal a link between sexualized violence in media and increases in violence towards women, rape myth acceptance, and anti-women attitudes. Given the documented influence of traditional gender roles in the media on attitudes about women, it is important for researchers to have a clear understanding of the way that gender and violence toward women are portrayed in video games.

Prior Content Analysis

Prior content analyses of video games have consistently shown that female characters are underrepresented and account for 30% percent or less of characters and player controlled-avatars in video games. (Beasley & Standley,
2002; Dietz, 1998; Dill et al., 2005; Downs & Smith; 2010; Glaubke et al., 2001, Jansz & Martis, 2007; Williams, Martins, Consalvo, & Ivory, 2009). Female characters tend to hold mostly secondary or supportive roles rather than central roles (roles that are controlled by the player), which are typically held by male characters (Dietz, 1998; Dill et al., 2005; Glaubke et al., 2001; Williams et al., 2009).

Research shows that female characters in video games are typically portrayed in stereotypical ways. Previous investigations have shown that female characters show more skin than male characters (Beasley & Standley, 2002; Dill, 2006; Downs & Smith, 2010; Glaubke, et al., 2001; Jansz & Martinis, 2007) and often had large busts (Dietz, 1998, Glaubke et al., 2001, Beasley & Standley, 2002). Moreover, research has shown that violence in video games reflects a stereotypic representation of violence such that male characters engage in more physical violence and female characters engage in more verbal violence (Glaubke et al., 2001; Lachlan, Smith & Tamborini, 2005). One content analysis documented that 20% of games showed violence against female characters (Dietz, 1998). Finally, some evidence suggests that female characters in video games are portrayed as needing rescue or as the so-called “damsels in distress” (Dietz, 1998). All of these content analyses provide some evidence to suggest that males and females in video games are presented with a sexualized appearance and fill traditional gender roles.

**The Current Content Analysis**

The goal of this content analysis was to build on the results of the prior content analyses to provide a more contemporary, comprehensive examination of the representation of females specifically in console video games. In addition, the analysis included characters with unidentified gender, a comparison group that is absent from most other content analysis. Based on the literature reviewed, it was hypothesized that this contemporary content analysis would show a stereotypic representation of females in the sampled games.

First, the study hypothesized that overall more video game characters would be male than female. Second, it was predicted that female characters would play roles tangential to the game (i.e., supporting or background role), while male characters would be more likely to play a central role in the game (i.e., lead). Third, the researchers hypothesized that female characters would show more body exposure overall. Fourth, the study predicted that males would be more likely to be the perpetrators of physical violence and that females would be more likely to be the recipients of physical violence. Finally, it was hypothesized that females would be more likely to be portrayed as in need of rescue, whereas males would be more likely to serve as the rescuers.

**METHOD**

**Sample of Video Games**

The sample consisted of console-based video games that were in the top four most rented games as determined by the Renttrak Corporation (2010) sales data in four genres: action/adventure, fighting, shooter, and sports. The most rented games were chosen because they should provide an accurate depiction of content of the typical games video game players might play. The game genres were chosen because they are among the top-selling type of console games genres (Entertainment Software Association, 2006). The sample included a time span of three years: 2004, 2005, and 2006. A total of 48 video games were analyzed (see Table 1 for a complete listing). The overall sample included 538 characters from the 48 games.

Five volunteers including the first author played the video games. Games were played devoid of cheat codes or other modifications that would change the form of the game as intended by the creators in order to examine the games in their simplest form. For each video game, one session of game play was recorded by video. Each session lasted approximately 45 minutes. This duration was selected because prior research suggests 45
Table 1. Games included based on selection criteria for content analysis

<table>
<thead>
<tr>
<th>Genre</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
</table>
| Sports  | Need for Speed: Underground  
Madden NFL 2005  
Mario Kart: Double Dash  
NCAA Football 2005 | Midnight Club 3: DUB Edition  
Madden NFL 06  
Need for Speed: Underground 2  
NCAA Football 06 | Madden NFL 07  
Need for Speed: Carbon  
Need for Speed: Most Wanted  
NCAA Football 07 |
| Fighting| Dragon Ball Z: Budokai 2  
Mortal Kombat: Deception  
Pokemon Coliseum  
Backyard Wrestling: Don’t Try This At Home | Dragon Ball Z: Budokai 3  
Def Jam: Fight for New York  
Fight Night Round 2  
Tekken 5 | WWE SmackDown Vs. Raw 2007  
Dragon Ball Z: Budokai: Tenkaichi  
Mortal Kombat: Armageddon  
Soul Caliber III |
| Shooter | SOCOM II: U.S. Navy SEALs  
Ghost Recon: Jungle Storm  
Rainbow Six 3  
Halo: Combat Evolved | Medal of Honor: Rising Sun  
SOCOM 3: U.S. Navy SEALs  
Ghost Recon 2: Summit Strike  
Killzone | Black  
Halo 2  
Medal of Honor: European Assault  
Doom 3 |
| Adventure| Spiderman 2  
True Crime: Streets of LA  
Red Dead Revolver  
James Bond: All or Nothing | Grand Theft Auto: San Andreas  
Star Wars Episode III: Revenge of the Sith  
Mercenaries: Playground of Destruction  
God of War | The Godfather  
Star Wars Battle Front II  
Grand Theft Auto: Liberty City Stories  
25 to Life |

minutes would provide a representative sample of a single setting of game play, which typically ranged between thirty minutes to one hour (Woodard & Gridina, 2000; Gentile & Walsh, 2002). This provided a relative advantage to other content analyses, which use a single game session of 20 to 30 minutes. The volunteers varied in their level of ability. When available, the easiest mode of game play was selected to allow participants to progress through the game efficiently. For games that allowed character selection, multiple characters were used for shorter durations in order to get an accurate analysis of all possible controllable characters. In a couple of rare cases (i.e., Mortal Kombat: Armageddon and WWF SmackDown Vs. Raw, 2007), the number of characters allowed for selection caused the duration of the gaming session to exceed 45 minutes.

Each recording was coded with a predetermined coding scheme detailed below. To provide a thorough analysis, every character present in the gaming session was included. This was important for the current research as it gives the most realistic view of all characters in the games. On the rare occasion that the coder could not make a ruling, two other individuals were consulted for a majority consensus.

Unit of Analysis and Coding Scheme

The standard unit of analysis was a single character in a video game. All codes were mutually exclusive.

Gender of the character. Each character was coded as either “male,” “female,” or “unidentifiable.” Unidentifiable codes were applied to nonhuman characters or characters without a clear gender. Nonhuman characters with attributes of one gender or the other (e.g., pink bow, masculine name) were coded accordingly. The codes were reliably applied (97% agreement).

Role Type. The role type was defined as the primary position of the character within the content of the video game. Each character was coded as either “lead,” “supporting,” or “background.” Lead characters were the avatars
of the game, operationally defined as characters controlled by the player and protagonists of the game. Supporting characters were operationally defined as interactive characters controlled by the game that had an impact on the plot of the narrative. Background characters were operationally defined as characters that appeared in the game but did not play any role in the actual narrative -- the lead character did not interact with these characters in any way nor were they important to the storyline. The codes were reliably applied (90% agreement).

**Body exposure.** Body exposure was defined as the appearance of the character within the content of the video game. Five separate categories were coded. The first category, character clothing, included three codes: “fully clothed,” “suggestively dressed,” and “not applicable.” Fully clothed was operationally defined as characters who: (1) had only the neck, face, arms, feet, and/or hands are exposed; (2) whose clothing was not tightly fit to accentuate the breasts, buttocks, or genital area; and (3) did not have any sexually suggestive sayings written on the clothing. Suggestively dressed was operationally defined as characters that violated the three criteria for fully clothed. Any characters with non-human bodies were coded as not applicable. The second category, chest exposure included four codes: “chest fully exposed,” “chest partially exposed,” “both,” or “no exposure.” Chest fully exposed was operationally defined as characters with breasts or pectorals exposed with their nipples visible. Chest partially exposed was operationally defined as characters with breasts or pectorals exposed with no nipples visible. Characters who appeared in two different outfits and had different body coverage were coded as both. Any characters that had non-human bodies were coded as not applicable. The third category, midriff exposure was coded as “midriff exposed” or “midriff concealed.” Midriff exposure was operationally defined as characters whose abdomens were exposed either fully or partially. Midriff concealed was operationally defined as characters whose abdomens were not exposed. The forth category, leg exposure, was coded as “leg exposed” or “legs concealed.” Leg exposure was operationally defined as characters that had portions of their legs exposed from the knees up. Legs concealed was operationally defined as characters who did not have portions of the legs exposed from the knee up. The fifth category, buttock exposure was coded as “buttock exposed” or “buttock concealed.” Buttock exposure was operationally defined as characters whose upper thigh or buttock or lower back and upper buttock were exposed. Buttock concealed was operationally defined as characters whose upper thigh or buttock or lower back and upper buttock were not exposed. The codes were reliably applied (character clothing: 97% agreement; chest exposure: 84% agreement; midriff exposure: 97% agreement; leg exposure: 100% agreement; buttock exposure: 100% agreement).

**Violence.** The violence codes were meant to capture each character’s ability to experience violence within the context of the game. Four codes categories were included: commit physical violence, receive physical violence, commit verbal violence, and receive verbal violence. Physical violence was defined as a threat of physical force or the actual use of such force intended to physically harm another character. Sports violence required for the individual sporting event, such as tackling in football, was not included. Verbal violence was defined as any names or gestures, spoken or physically enacted, which were directed towards any character or group with the purpose of demeaning or belittling that character or group. Only controllable characters were included in the analyses in order to avoid having double codes represented in the dataset.

Each of the four categories was coded based on the gender of the other character (the noncontrollable character) involved in the violence. Codes included “female only,” “male only,” “unidentifiable only,” “male and female,” “male and unidentifiable,” “female and unidentifiable,” and “no violence.” A code of female indicated that the participants either engaged in violence against or was a recipient of violence from another female character in
the game. A code of male indicated that the participants either engaged in violence against or was a recipient of violence from another male character in the game. A code of unidentifiable indicated that the participants either engaged in violence against or was a recipient of violence from another characters in the game whose gender was unidentifiable. A code of no violence indicated that the character was not capable of engaging in violence. The codes were reliably applied (commit physical violence: 81% agreement; receive physical violence: 84% agreement; commit verbal violence: 94% agreement; commit verbal violence: 94% agreement).

**Rescue.** The rescue codes were meant to capture whether or not characters gave or received help from others. Each character was coded as either “rescued,” “rescuer,” or “no rescue.” Rescued was defined as a character that is saved from impending danger or has been kidnapped and another character attempts to retrieve them. Rescuer was defined as a character that saved another from some impending danger or attempted to retrieve another character that has been kidnapped. No rescue was defined as a character who neither accepted nor received a heroic rescue. The codes were reliably applied (100% agreement).

**Reliability**

Two coders were trained utilizing the coding scheme. Inter coder reliability was calculated using percent agreement for 5% (or 31) of the characters from all of the video game sessions. After reliability was established, one coder completed the remaining 507 characters.

**RESULTS**

**Gender of the character.** It was predicted that there would be more male characters than female characters. Consistent with predictions, the majority of characters in this sample were male (75.4%). Females made up a much smaller proportion of characters overall (21.3%), and only a small proportion of characters were unidentifiable (3.4%). This was consistent across all genres (see Table 2).

**Role type.** It was predicted that more female characters would appear in support or background roles and more male characters would appear in lead roles. Consistent with predictions, most female characters appeared in supporting roles, whereas most males and gender unidentifiable characters appeared in lead roles $\chi^2 (4, N = 538) = 20.54, p < .001$. Additionally, as shown in Table 3, a higher percentage of female characters appeared as background characters compared to male characters (18% vs. 8%).

**Body exposure.** It was hypothesized that female characters would show more body exposure overall. Overall, female characters in this sample had more skin exposed than male characters. Results in Table 4 demonstrate that although few characters appeared suggestively dressed, all characters who did appear suggestively dressed were female. $\chi^2 (4, N = 538) = 69.52, p < .001$. According to Table 5, the majority of characters had no chest exposure; for characters who had chests exposed, male characters were more likely to have fully exposed chests whereas female characters were more likely to be partially exposed chests, $\chi^2$
Table 3. Role type by gender

<table>
<thead>
<tr>
<th></th>
<th>Male Characters</th>
<th>Female Characters</th>
<th>Unidentifiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>231 (57%)</td>
<td>40 (35%)</td>
<td>10 (55%)</td>
</tr>
<tr>
<td>Supporting</td>
<td>142 (35%)</td>
<td>54 (47%)</td>
<td>5 (28%)</td>
</tr>
<tr>
<td>Background</td>
<td>33 (8%)</td>
<td>20 (18%)</td>
<td>3 (17%)</td>
</tr>
</tbody>
</table>

Table 4. Character clothing by gender

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Unidentified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully clothed</td>
<td>265 (65%)</td>
<td>36 (32%)</td>
<td>4 (22%)</td>
</tr>
<tr>
<td>Suggestively dress</td>
<td>0 (0%)</td>
<td>7 (6%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>141 (35%)</td>
<td>71 (62%)</td>
<td>14 (78%)</td>
</tr>
</tbody>
</table>

Table 5. Chest exposure by gender

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Unidentified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest fully exposed</td>
<td>81 (20%)</td>
<td>2 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Chest partially exposed</td>
<td>36 (9%)</td>
<td>41 (36%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Both</td>
<td>54 (44%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>No Exposure</td>
<td>284 (70%)</td>
<td>71 (82%)</td>
<td>18 (100%)</td>
</tr>
</tbody>
</table>

\[
(6, N = 538) = 75.21, p < .001. Furthermore, as it appears from Table 6, female characters had more midriff exposure \[\chi^2 (2, N = 538) = 27.65, p < .001\], leg exposure \[\chi^2 (2, N = 538) = 65.32, p < .001\], and buttock exposure \[\chi^2 (2, N = 538) = 40.35, p < .001\] than male characters and unidentified characters.

Violence. Based on the results of prior content analyses, it was hypothesized that male characters would be more likely to be the perpetrators of physical violence whereas female characters the recipients of physical violence (e.g., Dill et al., 2005). All female and almost all male characters were able to engage in some sort of violence. Approximately half or more male and female characters both engaged in and were recipients of violence from both male and female character. Male characters were also more likely to commit violence against only other male characters \[\chi^2 (10, N = 281) = 33.80, p < .001\] and receive physical violence from only other male characters \[\chi^2 (10, N = 281) =

Table 6. Midriff, leg, and buttock exposure by gender

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th></th>
<th></th>
<th>Females</th>
<th></th>
<th></th>
<th>Unidentified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exposed</td>
<td>Concealed</td>
<td>Exposed</td>
<td>Concealed</td>
<td>Exposed</td>
<td>Concealed</td>
<td></td>
</tr>
<tr>
<td>Midriff</td>
<td>88 (22%)</td>
<td>318 (78%)</td>
<td>49 (43%)</td>
<td>65 (57%)</td>
<td>0 (0%)</td>
<td>18 (100%)</td>
<td></td>
</tr>
<tr>
<td>Legs</td>
<td>46 (11%)</td>
<td>360 (89%)</td>
<td>49 (43%)</td>
<td>65 (57%)</td>
<td>0 (0%)</td>
<td>18 (100%)</td>
<td></td>
</tr>
<tr>
<td>Buttock</td>
<td>1 (1%)</td>
<td>405 (99%)</td>
<td>12 (11%)</td>
<td>102 (89%)</td>
<td>0 (0%)</td>
<td>18 (100%)</td>
<td></td>
</tr>
</tbody>
</table>
While female characters were unlikely to commit violence against and receive violence from only other female characters only. Overall, the amount of verbal violence was very low, and there were no significant differences in the amount of verbal violence the characters committed [$\chi^2 (4, N = 281) = 2.50, p = .65$] or received [$\chi^2 (4, N = 281) = 2.91, p = .57$]. See Tables 7 and Table 8 for all descriptive statistics.

**Rescues.** It was predicted that women would be more likely to be portrayed as being rescued, but more men would be portrayed as rescuers. Character rescue scenarios were uncommon in this sample. Consistent with predictions, only male characters were rescuers, $\chi^2 (4, N = 538) = 18.04, p < .001$. Table 9 indicates that while both female and male characters were rescued, a slightly higher proportion of female characters were rescued overall.

**DISCUSSION**

The results of this study revealed that interactive console video games continue to represent characters that adhere to traditional gender roles. Specifically, the analysis indicated that female characters were underrepresented in video games and tended to appear in supporting and background roles more than did men. Female characters were found more likely to be shown with suggestive clothing and with partially exposed chests and fully exposed midriffs, legs, and buttock. Female characters were also more likely than male characters to appear in the narrative as needing rescued. Male characters, on the other hand, were more likely to appear in leading roles with limited body exposure (with the exception of fully exposed chests). They were likely to engage in violence with other men and, in some cases, were portrayed as heroes who rescued other characters.

Furthermore, the predictions that video games present players with female and male characters in traditional gender roles was supported. It is important to consider these results within the context of social learning theory. That is, research suggests virtual models can influence subsequent behavior of viewers (Bandura, 1965; Bandura, Ross, & Ross, 1961, 1963; Meltzoff, 1988) and thus we might expect that the representation of traditional roles in video games would influence individuals’ attitudes about the gender roles within society. This is particularly important given that research

**Table 7. Characters’ ability to commit violence by type of violence and gender**

<table>
<thead>
<tr>
<th>Controllable Character</th>
<th>Physical Violence</th>
<th>Verbal Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Male Only</td>
<td>60 (26%)</td>
<td>1 (2.5%)</td>
</tr>
<tr>
<td>Female Only</td>
<td>0(0%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Unidentified Only</td>
<td>8(3.5%)</td>
<td>1(2.5%)</td>
</tr>
<tr>
<td>Male + Female Only</td>
<td>114(49%)</td>
<td>24(60%)</td>
</tr>
<tr>
<td>Male + Unidentified</td>
<td>1(0.5%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Female + Unidentified</td>
<td>0(0%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Male + Female + Unidentified</td>
<td>34(15%)</td>
<td>14(35%)</td>
</tr>
<tr>
<td>No Violence</td>
<td>14(6%)</td>
<td>0(0%)</td>
</tr>
</tbody>
</table>
Table 8. Characters’ ability to receive violence by type of violence and gender

<table>
<thead>
<tr>
<th>Controllable Character</th>
<th>Physical Violence</th>
<th>Verbal Violence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Male Only</td>
<td>58(25%)</td>
<td>1(2.5%)</td>
</tr>
<tr>
<td>Female Only</td>
<td>0(0%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Unidentified Only</td>
<td>7(3%)</td>
<td>1(2.5%)</td>
</tr>
<tr>
<td>Male + Female</td>
<td>100(46%)</td>
<td>22(55%)</td>
</tr>
<tr>
<td>Male + Unidentified</td>
<td>1(1%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Female + Unidentified</td>
<td>0(0%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Male + Female + Unidentified</td>
<td>41(17%)</td>
<td>16(40%)</td>
</tr>
<tr>
<td>No Violence</td>
<td>18(8%)</td>
<td>0(0%)</td>
</tr>
</tbody>
</table>

Table 9. Rescues by gender

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Unidentifiable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rescued</td>
<td>6(2%)</td>
<td>9(8%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>Rescuer</td>
<td>13(3%)</td>
<td>0(0%)</td>
<td>0(0%)</td>
</tr>
<tr>
<td>No Rescue</td>
<td>387(95%)</td>
<td>105(92%)</td>
<td>18(100%)</td>
</tr>
</tbody>
</table>

shows that modeling behavior increases when observers identify with the model (Lachlan, Smith, & Tamborini, 2005; Schunk, 2004) and the behavior is rewarded (Bandura, 1965; Schunk, 2004) – two attributes which might be particularly salient when playing video games. It is estimated that adolescents play nearly 10 hours of video games per week on average (Gentile, Lynch, Linder, & Walsh, 2004) and thus they are likely repetitively presented with depictions of traditional gender roles.

The results of the analysis have implications for the socialization of both men and women who play video games. Research on social learning theory suggests that gender similarity increases identification and therefore likelihood of engaging in modeled behavior (Bandura, Ross, & Ross 1961, 1963; Madsen, 1968; Schunk, 2004). Young girls are likely to identify with female characters in these games that are presented as secondary characters and who wear less clothing and have sexualized appearances with breasts, midriffs, legs, and buttocok exposed. Research has documented that media influences girls’ perceptions of body image and beauty (American Psychological Association, 2007; Hargreaves & Tiggemann, 2003; Kendrick & Gutierrez, 1980; Tan, 1979; Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997; Weaver, Masland, & Zillmann, 1984) and thus we would expect that video games that show such depictions would also lead to unrealistic expectations. For young boys, who are likely to be primary players of video games (International Game Developers Association, 2005), the stereotypic depictions may lead to unrealistic expectation about their role relative to women.
Although the findings have clear implications within the context of social learning theory, the results are purely descriptive in nature. To fully understand the relationship between the representation of female characters in video games and subsequent player attitudes and behavior, it is important for future research to include an empirical examination of the effects of this representation on players. Furthermore, this investigation accounted for gender stereotypes, but based on the review of the video games, it is clear that other groups (i.e., ethnic and racial minorities) are also presented in a stereotypic manner. Future research is needed in this area to understand how these depiction influence attitudes and behaviors. Finally, as new video game platforms emerge (e.g., iPad and other tablets) future research should examine whether these trends generalize to newer platforms and games.

The sample of video games may limit the generalizability of the results. However, the video games for the content analysis were chosen with the goal of finding a sample that might be most influential as they were the most rented and popular video games for a series of three years. Moreover, the coding scheme captures the number of times that certain elements were presented but not the context in which events occur. Additionally, some of the sexualization of women may have been underrepresented within the context of the content analysis. For example, several of the games use silhouettes of women in the background décor of the games (e.g., James Bond: Everything or Nothing). However, this was not included in the content analysis as we examined only characters in the game. Finally, the small percentage of games coded by the second coder is a potential limitation to our results. Future research on this topic should examine the data with two coders thoroughly examining the games.

This study makes salient a looming question about how to counter the messages that are presented in interactive video games. The current research itself may help to highlight the importance of the problem. However, because there is supporting evidence for these findings, it is important to consider how to combat these representations. One possibility is media literacy, especially among teens and children. Adolescents are likely to be more easily influenced and educating them about media representations may enable them to think critically about these portrayals. Adolescents are in constant contact with media and need tools to navigate through the amalgamation of messages and information to which they are exposed. Lastly, making interactive video games more diverse would also help counter the negative sexual and stereotypical depictions of women and other underprivileged groups. Increasing women’s involvement in game creation may help accomplish this. Future research should address these questions, while future developers should take these findings into consideration when new developing interactive digital video games.

REFERENCES


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