Sex sells? Two Experiments Testing Exposure to Sexualized Female Characters on Purchase Intention

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Abstract

Two experiments tested the effects of sexual appeals on video game purchase intention. Study 1 examined the interplay of character gender and sexualization, revealing participants', especially women participants', stronger purchase intention for a non-sexualized female character than a sexualized one. In Study 2, we utilized the reasoned action approach and found that exposure to a non-sexualized female character was associated with stronger purchase intention through perceived competence, attitudes toward and norms about purchasing the video game. Overall, women participants showed stronger purchase intention with non-sexualized characters than sexualized ones, while men's purchase intention remained unchanged after exposure to sexual appeals.

Keywords: sexualization, sexual appeal, video game, purchase intention, reasoned action approach

Sex sells? Two Experiments Testing Exposure to Sexualized Female Video Game Characters on Purchase Intention

In recent years, the share of women who play video games has increased to nearly 50% of all video game players (ESA, 2022). Nonetheless, the video game industry maintains a complicated relationship with gender stereotypes and hypersexualized imagery of female characters. Hypersexualized imagery refers to images of people that emphasize their physical, sexually appealing features while neglecting other characteristics (Behm-Morawitz & Mastro, 2009; Downs & Smith, 2010). Video games are not unique in their heavy use of hypersexualized advertising imagery; sexualized imagery is present across all contexts of advertising and communication media in general (Eisend & Hermann, 2020). Evidence suggests that advertisers themselves continue to promote such depictions (Eisend & Hermann, 2020), however, studies on the actual effectiveness of sexualization in advertisements have mixed results (Wirtz et al., 2018). Indeed, a recent meta-analysis on sexual appeals in the context of advertising found that stronger sexual appeal was associated with stronger advertisement recall but also stronger negative attitudes toward the brand (Wirtz et al., 2018). Here, we report the results of two experiments that investigated how sexual appeals in video game promotional art influence people's intention to purchase the video game.

This disconnect between the expectations and the effectiveness of sexual appeals in advertising follow from an incomplete understanding about message features and contextual effects, and prior work on these outcomes often focuses exclusively on sexualized depictions (e.g., scantily clad, large-busted women) without a direct comparison to non-sexualized content (e.g., Lee & Lee, 2016). In our inquiry, we contribute to this body of work by experimentally investigating the legitimacy of this "sex sells" logic in the context of video gaming.

Character Sexualization in Video Games

Video game technology emerged in the 1950s and 1960s in the U.S. alongside the computer industry (Izushi & Aoyama, 2006). Video games quickly became associated with the stereotype of a young male player and women are considered as not belonging to the video game culture (Paaßen et al., 2017). Based on this stereotype, video games have been designed with the intention of attracting heterosexual male gamers. However, the actual demographics of modern video game players do not fully reflect this stereotype. Work in this area has identified that women play video games as much as men (ESA, 2022), though there is evidence of gender-based patterns for game genre preferences and behaviors (Lange et al., 2021; Phan et al., 2012). Despite these changing demographics, this stereotype of gaming as a male pursuit still persists today (Yao, Ellithorpe, et al., 2022) and influences who identifies as a ‘gamer’ (Shaw, 2012). These beliefs are also represented in how video games are designed and marketed.

Video game developers often depict female characters in a hypersexualized manner. In the present research we define a sexualized character as having a high percentage of bare skin, enlarged breasts and buttocks, and disproportionate ratio between chest size and waist size (Lynch et al., 2016). A content analysis of the depiction of female game characters from 1983 to 2014 demonstrated that while sexualization in games has overall decreased since the 1990’s, female characters are more likely to be sexualized and are represented in less important gameplay roles than male counterparts (Lynch et al., 2016). Content analyses found that women are underrepresented in video games, but when women are present they appear less clothed than their men and inappropriately dressed for the performed tasks (Downs & Smith, 2010; Yao et al., 2024). Additionally, research has found that many female video game characters are dressed in a

way that draws attention to their bodies, particularly their breasts, which carry strong sexual meanings, and are often depicted as helpless victims of men (Gestos et al., 2018).

Negative Effects of Character Sexualization in Video Games

Exposure to these sexualized depictions has well-established negative consequences for viewers (Brechan & Kvalem, 2015; Gestos et al., 2018). For example, Gestos et al. (2018) found in their review that women report self-objectification and low levels of self-efficacy as a result of exposure to sexualized female content within video games when compared to participants exposed to non-sexualized content. For women, these consequences related to sexualized depictions are also associated with lower self-esteem (Brechan & Kvalem, 2015), more negative body image (Harper & Tiggemann, 2008), disordered eating behaviors (Brechan & Kvalem, 2015), and lower self-efficacy (Morawitz, 2007).

Not only do sexualized depictions negatively influence women's self-perception, this sexualization may also contribute to a sexist video game culture where women are discriminated against and mistreated. Empirical research has demonstrated that a video game player with female voice received three times more negative comments than a video game player with male voice in a multiplayer game (Kuznekoff & Rose, 2013). Another experiment found that male players' intention to play with a woman decreased when the woman was portrayed with female gamer stereotypes (Yao, Ewoldsen, et al., 2022). This decreased play intention was demonstrated in both casual and competitive video games. An important and disheartening consequence of character sexualization and sexist video game culture lies in sexual harassment, which was found to be a predominantly gendered phenomenon in video gaming with men more likely to commit sexual harassment, and women more likely to be harassed (Pina et al., 2009).

Advertising Effectiveness of Sexualization

Besides ethical and public health concerns, the use of the potentially harmful sexualization of characters may not actually be an effective advertising strategy. While some work on games has found that the presence of sexualized female characters predicts higher sales (Near, 2013), others indicate that it may be ineffective or even counterproductive. For example, sexualized advertisements can reduce product attractiveness and purchase intentions, especially among women (Gramazio et al., 2021). Additionally, evidence suggests that sexualized advertisements do not promote brand recognition (Blair et al., 2006) and exposure to which may in fact reduce moral support of ethical organizations (Bongiorno et al., 2013).

This lack of a beneficial effect of sexualization in advertisement may be related to the increased cognitive attention that sensational sexualized depictions necessitate. Reichert (2003) found that when sexual images are presented to a consumer, they use cognitive resources to process this information, which reduces their capacity to process other information (i.e., reasons for buying the brand, brand name and sponsorship). However, work by Severn et al. (1990) suggested it is a complex relationship. Although they reported no effect of sexualized ads on attitudes toward the brand, they did find that those respondents who viewed a sexual ad had greater purchase intentions. These findings suggest that the relationship between sexualized ads and purchase intent may be a complex one with mediating mechanisms.

Purchase Intention

Advertising effectiveness is also typically evaluated using the concept of purchase intention. Purchase intent is commonly studied in advertising due to its demonstrated effectiveness in predicting consumer behaviors (Spears & Singh, 2004). Purchase intent has been defined as “an individual’s conscious plan to make an effort to purchase a brand” (Spears & Singh, 2004, pg. 56). Purchase intent, attitudes toward brands, and advertisement evaluation are

closely related and often used interchangeably (Spears & Singh, 2004). Purchase intent is related to emotions, feelings, and memory that an advertisement evokes, ultimately culminating in a decision to purchase (Wirtz et al., 2018).

Research on sexualization in advertising reveals complex effects on consumers. Past research has uncovered that physically attractive individuals were rated as having more socially desirable personalities and were expected to have greater personal success (Dion et al., 1972). Additionally, it was found that subjects would rate advertisements showing a model of the opposite sex more positively than an advertisement showing a model of their own sex, and that physically attractive models produce higher ratings than unattractive models (Baker & Churchill, 1977). However, more recent research has revealed different patterns regarding sexualization effects. Consumers, especially women, respond negatively to sexualized female ads, showing lower product attractiveness and purchase intentions (Gramazio et al., 2021). Exposure to sexualized advertisements can also increase body dissatisfaction, particularly those with higher internalization of appearance ideals (Krawczyk & Thompson, 2015). In addition, it was found that, especially for low-involvement products, sexual imagery in advertisements may distract consumers from properly processing product information (Gong et al., 2021).

Based on these mixed findings in the literature, we proposed the following research question to further investigate the popular advertising ideology of “sex sells”:

RQ1: In the video gaming context, does character sexualization contribute to individuals’ intention to purchase?

Consumer Gender and Sexualization Effects

Empirical research has demonstrated that men and women may process sexual appeal in advertisements differently. Early research in this area indicated sexual appeals’ stronger

persuasive marketing effects such as favorable attitudes and purchase intention compared to nonsexual appeals regardless of consumer's gender identity (Reichert et al., 2001). However, a recent meta-analysis found that although both women and men showed improved ad recognition and recall with sexual appeal in advertising, women evaluated the advertisements with sexual appeals significantly more negatively than men (Wirtz et al., 2018). Similarly, more research found a stronger negative response to sexualized imagery in advertising from women than men. For example, women who are exposed to sexualized female models in an advertisement, compared to those exposed to non-sexualized female models, showed decreased intention to purchase the product, whereas men's responses were unchanged by the advertisement's sexualization (Gramazio et al., 2021). Moreover, exposure to sexualized women in advertising were found to cause body dissatisfaction for both women and men, although this negative impact was stronger amongst women (Krawczyk & Thompson, 2015). Meanwhile, some research found a positive effect of sexual appeal on women consumers, that women may respond positively to sexualization in advertising when the fit between the sexual appeal and the brand is strong (Putrevu, 2008).

In the video game context, little research has been done on the role of consumer gender in the relationship of character sexualization and purchase intention. One content analysis found an increase in video game sales when non-central women characters are sexualized on the box art cases (Near, 2013), however this research did not study women and men consumers separately. Therefore, we propose a non-directional research question regarding how women and men respond to sexual appeals in video game characters.

RQ2: Is there a gender difference in the relationship tested in RQ1?

We conducted two experiments in the present research. In study 1, we tested how character gender and sexualization may work together to influence individual's purchase intent of a video game. In Study 2, we focused on female characters and tested the role of sexualization on intention to purchase the video game. Utilizing the Reasoned Action Approach (RAA; Fishbein & Ajzen, 2011; Fishbein & Yzer, 2003), we also tested potential mediating mechanisms to address the complex relationship between sexualization and purchase intent. Together with both studies, we empirically demonstrated that the sex-sells logic may be outdated in the video gaming context and that sexualized imaginary may not contribute to consumers' purchase intention.

Study 1 Method

Participants

Participants were 266 undergraduate students who participated for course credit after providing informed consent. Of the initial participants, 26 were excluded from analysis for failure to complete the 10-minute online experiment. One participant was further removed from analysis due to reporting impossible age. In the final sample (n=239), participants' age ranged from 18 to 45 (M=20.67, SD=2.90), and 68% self-reported as women and 32% self-reported as men. The racial and ethnicity breakdown was 60% White, 16% African American, 18% Asian or Pacific Islander, and 5% others. The study was approved by the Institutional Review Board at [UNIVERSITY]. All data and stimuli associated with the present two studies are shared on OSF[1].

Design & Procedure

Study 1 employed a 2x2 between-subjects factorial design, manipulating the gender (female vs. male) and sexualization (sexualized vs. non-sexualized) of a character featured on video game box art. Participants

[1] https://osf.io/nvzhu/?view_only=c54557773a4943dd82aa6ad056536e04

were randomly assigned to one of four conditions. All box art designs were created by a professional content creator who replicated the artistic style of characters from the Chinese video game *Arena of Glory*. The resulting images closely resembled authentic video game packaging available for purchase in stores. Each box art prominently displayed a single character in the center of the cover. Due to the nature of the sexualization manipulation, the hypothetical video game was rated "M for Mature" by the ESRB. Character gender was manipulated through visual appearance, while sexualization was defined by whether the character's image emphasized their nudity and sexiness (see Appendix for an example).

After providing consent, participants were redirected to a separate webpage and instructed to evaluate promotional materials for an upcoming video game launch. The true objective of the study was concealed, with participants fully debriefed at the conclusion of the experiment. Each participant was randomly assigned to one of the stimulus conditions, where they evaluated a single box art design and reported their likelihood of purchasing the game. Finally, participants completed demographic questions, including their age, gender, and race.

Measures

Purchase Intent

Purchase intent was tested with one question: “how likely are you to purchase this video game?” Purchase intent of the video game was measured on a 7-point Likert question from (1) extremely unlikely to (7) extremely likely (total sample: M=2.64, SD=1.81; women subsample: M=2.93, SD=1.90; men subsample: M=2.13, SD=1.52).

Study 1 Results

All data analysis in the present research was performed with R (version 4.3.1). The same analyses were performed with the total sample, the women subsample, and the men subsample across both studies. A two-way ANCOVA was computed with purchase intention as the dependent variable and participant’s gender as a covariate with the total sample. Sexualization had a main effect (F(1, 228)=16.30, p<.001). Without consideration of character’s gender, exposure to non-sexualized character, compared to sexualized character, was associated with stronger purchase intention. Character gender also had a main effect on purchase intention, that participants overall preferred male characters compared to female characters (F(1, 228)=7.45; p<.01). There was a significant interaction between character gender and sexualization (F(1, 228)=5.99; p<.05; see Figure 1). Pairwise comparisons revealed that, for a female character, participants showed stronger purchase intention when she is non-sexualized compared to sexualized (b=-1.28, p<.001). Additionally, when the characters are non-sexualized, participants showed stronger purchase intention with a female character than a male character (b=.87, p=.03).

For the women subsample, there was again a main effect of sexualization on purchase intention (F(1, 143)=18.51, p<.001). However, neither the main effect of character gender nor the interaction effect was statistically significant. Probing pairwise comparison again revealed that women showed stronger purchase intention with exposure to a non-sexualized than a sexualized female character (b=1.79, p<.001). For the men subsample, there was a main effect of

character gender on purchase intention ($F(1, 82)=4.54$, $p=.03$). Neither the main effect of sexualization nor the interaction effect was significant. None of the pairwise comparison was significant, either.

Study 1 Discussion

With the total sample an interaction effect was found between character gender and sexualization on individual's purchase intention of the video game. Specifically, participants reported stronger purchase intention after exposure to a non-sexualized female character compared to a sexualized one. Results from the women and men subsamples revealed that this effect may be driven by women - women are likely to choose a video game with non-sexualized female character than a sexualized one, although this link was nonsignificant among men. This finding overall corroborates prior research that women tend to respond negatively toward sexualized compared to non-sexualized imagery in advertising (e.g., Gramazio et al., 2021). Additionally, across all analyses with the total sample and the gender subsamples, no pairwise comparison showed participants' increased purchase intention after viewing a sexualized character. This means, in this study, for both female and male characters, "sex *did not* sell". This finding also added new perspectives on the advertising effects of sexualization in the specific context video gaming. Previous research in the focal area has found no significant difference in sales for a box art with a sexualized or non-sexualized female character with central roles (Near, 2013). Our results added nuance to this prior finding by revealing a potential gender difference, that women may react more strongly and negatively to sexual appeals in video games than men.

Study 1 has limitations. First, there was one box art as the stimulus per condition, which makes the design susceptible to stimulus sampling issues (Wells & Windschitl, 1999). With only one stimulus box art case for each condition, we risked unknown characteristics about the

stimulus itself as a confound in the results. In Study 2, we used two stimuli characters for each condition. Second, the stimuli in this study were not pilot tested. Although we found significant differences between conditions, a pilot test of the stimuli would have helped ensure that we indeed manipulated sexual appeal of the character. Therefore, we pilot tested all stimuli in Study 2. In Study 1, more than two thirds of the participants were women which could be an artifact of the sample. In Study 2 we balanced participants gender during data collection. Additionally, we used modified characters of an existing video game as stimuli. Although the video game is primarily consumed in a different region (i.e., China), it is possible some participants may have played the game before and consequently their responses may have confounded the results. Thus in Study 2 we controlled whether a participant has played the video game before as a covariate. Lastly, video game exposure may have an impact on participants' overall perception of the video game culture as well as their baseline perceived sexiness and competence of female characters in video games. Thus in Study 2 we also controlled overall video game exposure as a covariate.

Study 2

In Study 1, we tested the direct association between character sexualization on video game covers and individual's purchase intent. We found significantly stronger purchase intent when exposed to a non-sexualized female character than a sexualized female character, whereas no statistical difference was found in purchase intent between a sexualized and non-sexualized male character. In study 2, we focused only on female characters with a one-factor, two-condition experimental design. We again tested the effect of character sexualization on purchase intent, however we extended Study 1 by testing potential mediating mechanisms in this relationship using RAA (Fishbein & Ajzen, 2011; Fishbein & Yzer, 2003).

Derived from the theory of reasoned action (Fishbein, 1979), the RAA has been a theoretical mainstay which explains the individual's psychological processes regarding behavioral formation (Fishbein & Ajzen, 2011; Fishbein & Ajzen, 2003). The RAA posits that individuals' behavior can be interpreted as a function of their attitudes toward the behavior (e.g., "I like exercising.") and their perceived norms about the behavior (i.e., the perception that one's important others think they should or should behave in a certain way; for example, "My mom approves of me exercising."). A plethora of research has demonstrated that behavioral decision-making is predicted by both attitudes and perceived norms in behavioral contexts such as watching online advertisement (Lee et al., 2017) and sharing news articles via social media (Kim et al., 2020). When purchase intention was the main focus, research has successfully demonstrated that this intentional behavior can be predicted by consumers' attitudes toward and perceived norms for the product across various domains such as shopping for organic food (Janani & Annapoorni, 2023), leather products (Belleau et al., 2007), and everyday grocery in online platforms (Hansen et al., 2004). In the current study, we utilized RAA to understand how sexual appeals may predict video game purchase intention through attitudes and perceived norms (see Figure 2 for the conceptual model).

In Study 2, we tested how sexualization of the female character on the video game cover (present vs. absent) may influence perceived sexiness and competence of the character and subsequently attitudes toward and norms about the video game, and eventually influence purchase intention. Existing literature proposes that sexiness and competence tend to go hand-in-hand in female character's representation in video games (e.g., Lara Croft in Tomb Raider; Jansz & Martis, 2007). However, it remains unclear whether the manipulation of the sexual appeal of a female character would influence perceived competence as well. Additionally, we tested the roles

of a these key concepts in the behavioral formation process according to the RAA in the focal context, namely attitudes and norms.

Study 2 Method

Participants

Participants were undergraduate students from a large midwestern university who participated in the 12-minute online experiment for course credit. Participants' gender was balanced during data collection such that number of female and male participants were roughly equal. Of the initial 394 participants, 12 were removed due to failure at attention check (i.e., fail to select "neither agree nor disagree" when asked to). In the final sample (n=382), 54% were women and 46% were men (M_{age}=20.23, SD_{age}=1.95; $range_{age}$=18 to 37). The racial breakdown was 70% White, 17% Asian, 5% African American, 2% Hispanic or Latino/a, 4% interracial, and 2% other.

Design & Procedure

Study 2 employed a one-factor, two-condition between-subjects design, manipulating the sexualization (sexualized vs. non-sexualized) of a female character featured on video game box art. Participants were randomly assigned to evaluate a mock box art under one of the two conditions. The same professional content creator who designed the materials for Study 1 also developed the box arts for Study 2, ensuring consistency in visual style. The same video game name and ESRB "M for Mature" rating were used in Study 2. Each box art displayed a female character prominently in the center of the front cover, designed to mimic realistic video game packaging. To mitigate stimulus sampling concerns (Wells & Windschitl, 1999), two variations of box

art were created for each condition, and participants were randomly assigned to evaluate one of the two variations within their assigned condition.

The procedure for Study 2 mirrored that of Study 1, with a few additional measures introduced. Beyond the likelihood of purchasing the video game, participants also reported their perceptions of the character's sexiness and competence, their attitudes toward and norms surrounding the video game, and their intention to purchase it. Additionally, demographic information and covariates, such as participants' familiarity with the video game and general video game exposure, were collected.

Pilot Testing the Stimuli

Sexualization was operationalized by the image of the female character on the box art. Two stimuli box arts were pilot tested per condition, thus a total of four video game covers were tested. Participants for the pilot test (n=359; range$_{age}$=18 to 53; M_{age}=20.16; SD_{age}=2.38; 53% were women, 40% were men, 2% were nonbinary, preferred own terminology, or preferred not to disclose; racial breakdown: 69% White, 13% Asian, 6% African American, 7% interracial, and 5% other) were undergraduate students from the same participant pool (i.e., SONA) as those in Study 1 & 2, who participated the online survey for course credit. To avoid exposure to similar survey content as a confound, a participant was only allowed to participate one of the following three surveys associated with the current research: Study 1 survey, Study 2 pilot test survey, or Study 2 main survey. Participants were randomly assigned to evaluate one box art from the sexualized character condition and one box art from the non-sexualized character condition. The order of viewing the two box arts were randomized.

After viewing each mock cover, participants reported how sexualized they feel about the character from "not sexualized at all" (1) to "extremely sexualized" (7). We found a significant

difference in averaged sexualization rating between the sexualized character condition (M=4.46, SD=1.28) and the non-sexualized character condition (M=2.16, SD=1.26; t(716)=24.13), p<.001). That is, participants perceived the female characters in the sexualization condition as on average more sexualized than those in the non-sexualization condition.

Measures

See Table 1 for descriptive statistics.

Perceived Sexiness. Participants reported the perceived sexiness of the character in the mock cover by rating their agreement of the statement "I found this character sexy" on a 7-point Likert scale from (1) strongly disagree to (7) strongly agree.

Perceived Competence. Participants reported the perceived competence of the character in the mock cover by rating their agreement of two statements: "To what extent do you perceive the character to be competent?" and "Playing as this character would help me win the game." Both items were measured on a 7-point Likert scale from (1) strongly disagree to (7) strongly agree (r=.58, p<.001).

Attitudes toward the Video Game. Attitudes toward the video game were measured with the following sematic differentials on seven-point scales: bad/good, harmful/beneficial, not enjoyable/enjoyable, unpleasant/pleasant, boring/interesting ("What are your perceptions of the game being advertised?"; Cronbach α=.93). The five sets of semantic differentials were randomized.

Perceived Norms about the Video Games. Perceived norms were measured with the question "to what extent would the following people approve of you purchasing this game?" on a 5-point Likert scale (1=not at all; 5=a great deal). Participants rated the approval likelihood for six proximal social referents (i.e., my good friends, my gamer friends, my best friend, my

romantic partner, sisters/brothers, my parents; Cronbach α=.93). The six items in this measure were randomized.

Purchase Intent. Purchase intent was again measured with the question "How likely are you to purchase this video game?" on a 7-point Likert scale from (1) extremely unlikely to (7) extremely likely.

Covariates. Overall video game exposure was controlled as a covariate and measured with one question "how often do you play video games on average" from (1) "less than an hour per week" to (6) "more than 20 hours per week". Because *Arena of Glory* is an existing video game, we controlled whether participants have played this game with three possible answers: yes (n=11), maybe (n=14), no (n=357).

Study 2 Results

The model was tested using path analysis with the Lavaan package (Version 06-16; Rosseel, 2012) in R (Version 4.3.1). Regression coefficients are unstandardized, and 95% confidence intervals were reported with 5,000 bootstrap samples. Because we are interested in direct and indirect effects rather than the global model fit, a saturated model was tested and therefore global model fit indices were perfect and not meaningful to interpret. See Table 2 for path results.

With the total sample, exposure to a sexualized female character was associated with increased perceived sexiness and decreased competence compared to exposure to a non-sexualized female character. However, within the gender subsamples, both women and men perceived the non-sexualized character as more competent but did not perceive the sexualized character as sexier. The direct effect of sexualization on purchase intention was nonsignificant in the total sample and the subsamples.

Greater perceived sexiness was associated with increased attitudes and norms about purchasing the video game when considering all participants. Analyzing the subsamples revealed that these positive relationships were only significant among men but not women. Greater perceived competence was also associated with increased attitudes and norms about purchasing the video game when considering all participants. These relationships remain significant in both men and women subsamples.

Regarding indirect paths, none of the indirect paths through perceived sexiness was significant in the total sample and the subsamples. The indirect paths through perceived competence were significant in the total sample. Compared to non-sexualized character, participants exposed to the sexualized character reported weaker perceived competence of the character, weaker positive attitudes and norms about purchasing the video game, and weaker intention to purchase the game. In the women subsample, only the indirect path through perceived competence, attitudes, and purchase intention was statistically significant. In the men subsample, neither of the indirect paths through perceived competence was significant.

Study 2 Discussion

Results from Study 2 again did not support the “sex-sells” logic. None of the tested direct and indirect paths indicated increased purchase intention with exposure to a sexualized female video game character. Overall, participants did evaluate the sexualized character as sexier and the non-sexualized character as more competent. However, the notion of the sexualized character as sexier did not contribute to stronger purchase intention of the video game for men or women.

The notion of the non-sexualized character as more competent did contribute to participants’ stronger purchase intention of the video game, through more positive attitudes and norms about the purchase. Results from the subsamples revealed that women are more likely to

react positively toward the non-sexualized character and further heighten their intention to purchase the game. The stronger purchase intention through the positive reaction toward non-sexualized female character as more competent was nonsignificant among men. Similarly, greater perceived sexiness of the character was found to relate to more positive attitudes and norms about purchasing the game among men but not women. These findings in gender difference are consistent with findings from Study 1, that women are more likely to react negatively toward sexual appeals and positively toward non-sexualized characters in video games.

Theoretically, our results validated RAA in the context of sexual appeal and video gaming. Our results also extended the theory by parsing out divergent mechanisms between message exposure and behavioral intention in the focal context, that participants' increased purchase intention was primarily through increased perceived competence of the non-sexualized character. Additionally, we found a gender difference that overall women are more likely to react negatively about female character sexualization than men. This finding aligns with other theoretical mechanisms such as the objectification theory, where research has found exposure to sexually objectifying imagery of women in media may link to women's negative self-perceptions and negative emotions (Koval et al., 2019). To protect their positive sense of self, women may feel reluctant to link sexualized features of a female character as appealing and consequently feel reluctant to buy the video game.

Some of the key variables in this study were measured on a 7-point Likert scale and others were measured on a 5-point Likert scale. There is an ongoing debate about the optimal number of response categories in Likert-type scales. While some studies suggest that 7-point scales offer greater accuracy and reliability compared to 5-point scales (Finstad, 2010), others

find no significant differences in reliability or predictive validity between the two formats (Rhodes et al., 2010). Regardless of this debate, we recognize our usage of a mix of two types of Likert scales as a limitation. Additionally, we used RAA as the main theoretical framework to predict consumer's purchase intention of video games in this study. Although the RAA mechanism has been demonstrated as an effective predictor of behavioral formation across many domains (e.g., Hansen et al., 2004; Kim et al., 2020), we recommend future research to explore other theoretical frameworks that may also explain purchase intention in the focal context, e.g., Consumer Theory (Lancaster, 1966), Extended Parallel Process Model (Witte, 1992), and Prototype Willingness Model (Gerrard et al., 2008).

General Discussion

Results across two experiments challenged the prevailing "sex-sells" logic in the advertising industry. In both studies, we did not find any support that sexual appeals may boost consumers' purchase intention for video games. Overall, women were more likely to react negatively toward sexualized characters than non-sexualized characters, while men's purchase intention was unchanged based on their exposure to sexualization. Additionally, in Study 2, we further found that pathways through perceived competence, instead of perceived sexiness, was the primary mechanism of the sexualization-purchase intent relationship. However this indirect relationship is more prominently exhibited among women than men.

This research echoes previous work done on video games and their frequent use of sexual advertisements. Specifically, evidence continues to suggest that the use of highly stereotyped, hypersexualized characters does not promote positive reactions toward a video game. Furthermore, it may behoove video game developers to take this research into consideration when choosing how they will depict game characters in the future. Our findings suggest that

consumers, especially women, enjoy seeing female video game characters embodying traditionally masculine traits that emphasize competence rather than hyper-sexual appeals.

In addition to the limitations mentioned in each study, some limitations are shared by both studies. For example, in both experiments we used samples of undergrad students rather than a nationally representative gamer sample. This could bias our results as the age span of video game consumers is larger than the typical age range of college students. For example, adolescents and middle-aged adults may respond to sexualization differently than college students and consequently report different purchase intentions. Therefore we caution the readers to recognize the limits of generalizability of our results. We also advocate for replications of our research with more representative video game consumer samples. Additionally, sexualization is a broad term and can be interpreted differently by individuals. Although we pilot tested the stimuli and found significant differences in sexualization between conditions, we did not measure specifics such as sexualization types and perceived intensity of sexualization. Future research is encouraged to further parse out the roles of these nuances in the effects of character sexualization. Last, in the present research we found differences in perceived sexiness and competence by only manipulating sexual appeal. To improve scientific rigor in this line of research, we would recommend future research to replicate our research and explicitly manipulate character's competence.

Conclusion

Does *sex* really *sell* in advertisement? Through two experiments we tested this popular ideology in advertising in the context of video games. Our results did not replicate the "sex sells" cliché. Exposure to highly sexualized depictions of women on a box art case did not heighten people's intention to purchase the video game. Rather, consumers, especially women, showed

stronger intention to purchase the video game when they saw a strong, competitive, and non-sexualized character than a sexualized one on the box art. Overall, these findings suggest that the "sex-sells" paradigm may be outdated in the context of video game advertising. Non-sexualized representations of female characters not only align better with contemporary consumer preferences but also present an opportunity for marketers to embrace ethical and inclusive practices in their promotional strategies.

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There is no conflict of interest.

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Data Availability Statement

All data and stimuli associated with the present two studies are available on OSF.

https://osf.io/nvzhu/?view_only=c54557773a4943dd82aa6ad056536e04

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Appendix


Arena Of Glory
Arena of Glory
MATURE
M
Blood And Gore
Mild Lyrics
Intense Violence
WARNING
Microsoft
PROOF OF PURCHASE
MATURE 17+
M
ESRB

Figure 1

Interaction Effect between Character Gender and Sexualization on Purchase Intent (Study 1)

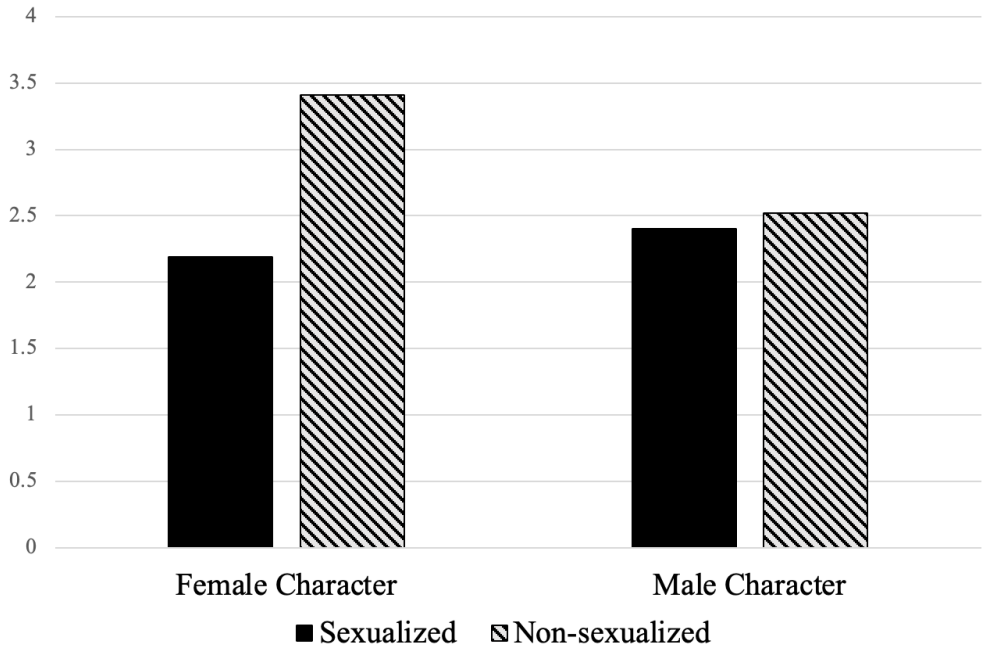

Figure 2

Conceptual Model of Study 2

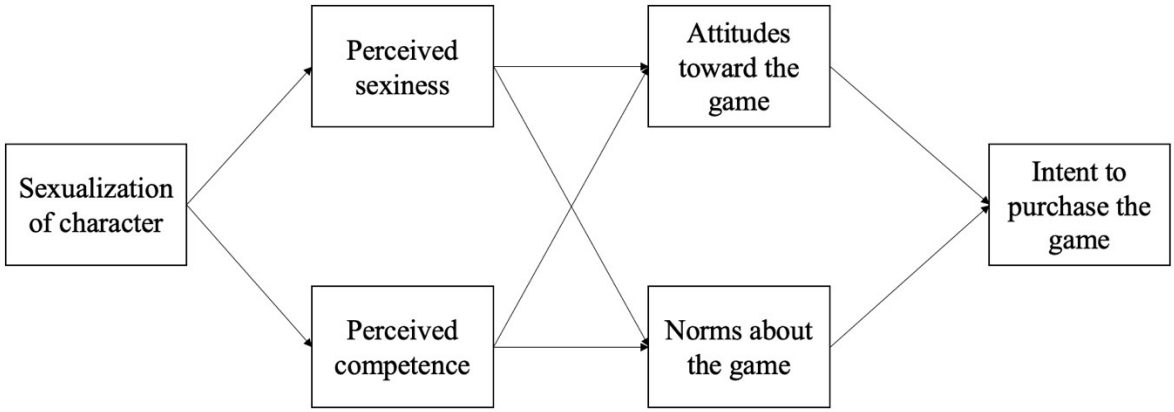

Table 1

Descriptive Statistics (Study 2)

Total Sample						
	1	2	3	4	5	6
M	-	3.34	4.15	4.09	2.26	2.47
SD	-	1.61	1.89	1.21	.93	1.54
1.Sexualization	-					
2.Perceived Sexiness	.10	-				
3.Perceived Competence	-.23***	.45***	-			
4.Attitudes toward the Video Game	-.17**	.43***	.59***	-		
5.Perceived Norms about the Video Game	-.21***	.35***	.48***	.51***	-	
6.Purchase Intention	-.17**	.48***	.48***	.57***	.53***	-
Women Subsample						
	1	2	3	4	5	6
M	-	3.03	4.09	3.98	2.22	2.21
SD	-	1.57	1.24	1.20	.90	1.43
1.Sexualization	-					
2.Perceived Sexiness	.15*	-				
3.Perceived Competence	-.28***	.42***	-			
4.Attitudes toward the Video Game	-.22**	.34***	.58***	-		
5.Perceived Norms about the Video Game	-.19**	.27***	.47***	.50***	-	
6.Purchase Intention	-.19**	.39***	.43***	.53***	.50***	-
Men Subsample						
	1	2	3	4	5	6
M	-	3.71	4.22	4.23	2.30	2.77
SD	-	1.58	1.13	1.22	.97	1.61
1.Sexualization	-					
2.Perceived Sexiness	.06	-				
3.Perceived Competence	-.15*	.48***	-			
4.Attitudes toward the Video Game	-.11	.51***	.60***	-		
5.Perceived Norms about the Video Game	-.22**	.43***	.49***	.53***	-	
6.Purchase Intention	-.14	.52***	.54***	.60***	.56***	-

Note. For (1) sexualization, sexualized character = 1, non-sexualized character = 0.

*p<.05. **p<.01. ***p<.001

Table 2

Path Analysis Results (Study 2)

	Total Sample		Women Subsample		Men Subsample	
	B	95%CI	*B*	95%CI	*B*	95%CI
sexualization→perceived sexiness	**.33***	**[.03, .64]**	.45	[-.005, .85]	.18	[-.29, .64]
sexualization→perceived competence	**-.53***	**[-.77, -.30]**	**-.70***	**[-1.04, -.37]**	**-.34***	**[-.69, -.02]**
perceived sexiness→attitude	**.16***	**[.08, .24]**	.09	[-.02, .20]	**.12***	**[.12, .35]**
perceived sexiness→norm	**.10***	**[.04, .16]**	.05	[-.03, .13]	**.15***	**[.06, .24]**
perceived competence→attitude	**.47***	**[.37, .58]**	**.47***	**[.32, .61]**	**.47***	**[.32, .62]**
perceived competence→norm	**.26***	**[.19, .34]**	**.27***	**[.18, .37]**	**.26***	**[.16, .38]**
attitude→purchase intent	**.33***	**[.19, .46]**	**.31***	**[.17, .46]**	**.33***	**[.09, .56]**
norm→purchase intent	**.36***	**[.21, .50]**	**.34***	**[.11, .56]**	**.36***	**[.16, .56]**
sexualization→perceived sexiness→attitude→purchase intent	.02	[-.01, .03]	.01	[-.01, .03]	.01	[-.03, .05]
sexualization→perceived sexiness→norm→purchase intent	.01	[-.01, .02]	.01	[-.02, .02]	.01	[-.02, .04]
sexualization→perceived competence→attitude→purchase intent	**-.08***	**[-.12, -.02]**	**-.10***	**[-.16, -.02]**	-.05	[-.11, .03]
sexualization→perceived competence→norm→purchase intent	**-.05***	**[-.08, -.01]**	-.17	[-.11, .02]	-.03	[-.07, .01]
sexualization→purchase intent	-.22	[-.45, .01]	-.28	[-.60, .06]	-.17	[-.52, .16]
R^2	49%		44%		51%	

Note: sexualized female character=1, non-sexualized female character=0. Significant coefficients are bolded and marked with an asterisk.