

Don't Talk Dirty to Me: How Sexist Beliefs Affect Experience in Sexist Games

Jason T. Bowey, Ansgar E. Depping, and Regan L. Mandryk

Department of Computer Science, University of Saskatchewan

Saskatoon, SK, Canada

{firstname.lastname}@usask.ca

ABSTRACT

Research on sexism in digital games has suggested that women self-select out of playing sexist games; however, assuming a homogenous gender-based response does not account for the diversity of identities within a gender group. Gender-incongruent responses to recent events like #gamergate implies that the gender of the participant is not paramount to experience, but that their beliefs about gender roles are. To explore the role of sexist beliefs on experience in sexist games, we created three versions of a game that were identical except for the presence of sexist imagery and/or dialogue. We show that enjoyment of sexist games is not predicted by player gender, but by the player's pre-existing beliefs about gender. Furthermore, avatar identification is the pathway through which enjoyment is facilitated. Finally, sexist dialogue does not improve the play experience for anyone – rather it harms experience for players of all genders who do not hold sexist beliefs.

Author Keywords

Digital games; play experience; sexism; #gamergate

ACM Classification Keywords

K.8.0. General: Games

INTRODUCTION

Sex sells. In the context of digital games – which is a \$100 billion industry worldwide [24, 65] – this translates into many popular games that portray female characters as hypersexual (e.g., Red Dead Redemption [77]) or portray male characters as hypermasculine (e.g., Gears of War [25]). Female characters are often treated as rewards to be obtained (e.g., The Witcher [15]), as damsels in distress who need to be rescued (e.g., Legend of Zelda [67]), as a prop in service of the male protagonist's character development – often referred to as “woman in the refrigerator” (e.g., God of War [82], Fable 2 [55]), or simply as background decoration (e.g., Hitman: Absolution [44]) [83,84]. And even when the main character is a strong female with a

developed personality and attributes, her body and clothing (or lack thereof) is often hypersexual (e.g., Lara Croft [19], Bayonetta [70]). Previous literature has argued that sexist character roles can be attractive and useful in fostering avatar identification [46,43]; however, other literature suggests that female players are offended by highly sexualized female characters and high levels of violence [40,97], may be irritated by sexist design choices intended to target male gamers [17], and in many cases may make an active choice to not play games with sexist content [28,51].

Feminist game critics have long criticized the game industry for catering to the presumed straight male player [14,49,83,84]. The vitriolic response from a group of mostly male gamers escalated into threats of rape, violence, and even death against women who spoke out against sexism in games and the game industry [8,63,95]. The debate around sexism in the games industry got massive public exposure through the recent #gamergate and #notyourshield controversies, which helped to shed light on many aspects of sexism within games and the game industry, including how players – particularly women – experience sexist game content [16]. Discussions around sexist game content sometimes suggest an ‘us vs them’ dynamic between male and female gamers [13]; however, the issue is not as simple as one of pitting men against women. For example, many men oppose the sexist rhetoric of #gamergate supporters [92] – an open letter in support of diversity in the game community was started by a male feminist and was quickly signed by 2500 people in response to #gamergate [98]. Conversely, there are women who challenge the idea of women being offended by sexist games and support #gamergate as a fight for masculinity and for male spaces in games [9,86,87]. That men and women do not react to rhetoric around sexism in games as two distinctly homogenous groups is not surprising, as feminist scholars have long suggested that it is a mistake to divide men and women into two *dichotomous* groups and assume corresponding attitudes, rather than allowing them to choose and perform their own individual identity and beliefs that might include a *dualistic* balance of the masculine and feminine [12,21,51,88].

As applied to an understanding of play experience, this all suggests that it may not be as simple as suggesting that women self-select out of playing games with sexist content, imagery, or themes [29,51]. We propose in this paper that the gender of the participant is not paramount to game

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experience, but that their *beliefs about gender roles and sexism* are. To explore the relationships between gender, sexist beliefs, and sexism in games, we conducted an experiment to determine how people who hold a range of sexist beliefs respond to games that contain sexist content.

We created a short role-playing game based on a prologue, 3 playable levels with a single common mechanic in each (i.e., fighting, infinite runner, shooting), and an epilogue. We created a game (rather than adapting an off-the-shelf game) so that we could completely control and isolate the source of the sexist content in the game. To create sexist game versions, we added sexist imagery – i.e., characters that visually reinforced sexist stereotypes (helpless damsel, sexualized harlot, hyper-masculine barbarian, manly hero) – in one version and both sexist imagery and dialogue – i.e., through using gendered pronouns, sexual innuendo, diminutive nicknames, and objectification – in another.

Participants played one game version and answered several questionnaires about their beliefs around gender roles, sexist beliefs, and play experience. As it has been suggested that sexist characters can aid in avatar identification [43,46], and that avatar identification facilitates game enjoyment [43], we measured avatar identification and resulting game enjoyment. We have four main findings.

- The gender of the player does not predict avatar identification; however, their beliefs about gender roles and benevolent sexism do predict avatar identification.
- Lower avatar identification translates into less game enjoyment.
- Sexist dialogue harms play experience: adding sexist dialogue harms experience for people who do not hold sexist beliefs, and also does not improve experience for those who do.
- Including visually sexist character stereotypes does not harm identification and enjoyment; however, sexist character stereotypes reinforced through both imagery and dialogue harms both identification and enjoyment.

Our work explores player response to sexist characters and behaviours in a role-playing game. We refute the notion that men and women form distinct groups that respond in a predictable manner to sexist content in games. Player response is determined not by their gender, but by the beliefs about gender that they hold.

RELATED WORK

We use *sex* to refer to the biological sex of a character or player, and *gender* to refer to their identification as male, female, or other [69]. Because we asked participants their gender, rather than their sex, we refer to the players as having genders. *Gender roles* describe beliefs about appropriate behavior based on gender [34,71] and *sexist beliefs* refers to beliefs that are based on sex and/or gender.

Sexist content in games can be derived from multiple sources, including from graphics, interactions, narratives, or themes. The presence of sexual content does not by

definition make a game sexist; we use sexism to refer to content (sexual or otherwise) that promotes gender inequality [7,75] between male and female characters or players. Gender inequality is generally derived from sex-based differences in power (i.e., the ability to influence the behavior of another person), violence (i.e., behavior intended to harm another person who tries to avoid being harmed), or objectification, which either emphasizes someone's instrumentality (i.e., treating someone as a tool for achieving one's own goals) or dehumanizes (i.e., denying that people have thoughts and feelings) them [53]. As such, we use *sexism* similarly to [29] to refer to *attitudes and actions that are based on gender and/or sex and promote inequality between men and women*. Although sexism is often of a hostile nature (e.g., violence toward women), sexism is also often of a benevolent nature; for example, the view that women are more helpful, empathetic, or intimacy-seeking than men or that women require paternal protection [34]. Although framed in subjectively positive traits, this benevolent form of sexism is an attitude of inequality based on gender or sex [34] and is sexist as it places women on a pedestal while simultaneously reinforcing their subordination [89].

Gender Roles and Sexism in Games

Male characters are represented in games much more often than female [23,45,94]. When female characters are portrayed in video games, they are often depicted in sexualized ways such as partially nude, with an unrealistic body image, or wearing sexually revealing clothing or inappropriate attire [11,23,45]. This tendency towards sexualizing women in video games has repeatedly led to criticism of the game industry for only catering towards presumed straight male players [28,36,84]. Research on the consequences of sexualized imagery indicates that men show a greater likelihood to harass women after play [22,96]. The harassment towards female users are usually sexist remarks ranging from traditional sexism (e.g., “get back in the kitchen.”) to sexual harassment (e.g., “show me your tits.”) [28]. Fox and Tang [29] conclude that sexualized imagery therefore might promote the growing problem of harassment of women in games. In addition to this, research suggests that female users experience diminished self-efficacy [1] and increased self-objectification [27,28] after play. The effect that sexualized imagery of women has on both men and women has led to the conclusion that, when exposed to these portrayals, women may self-select out of such environments [28], which in turn reinforces the idea of games being a “man's world” dominated by masculine disclosure [81].

Issues of masculinity in games and the games industry have been explored by feminist scholars for several decades [49]. A common perspective focuses on how to make games more gender-inclusive to be attractive to girls as a leisure activity [14,49]. Based on the notion that games provide early exposure and comfort with digital technologies, the arguments often center around how the male-centric games

industry disadvantages girls from gaining that early exposure to STEM topics [13,35] and from the stealth-learning that digital games provide [48]. Books, such as Graner Ray's *Gender Inclusive Game Design: Expanding the Market* (2004) [73] present arguments on how to design games that appeal to the playstyle and preferences of female players. Cassell and Jenkins's *From Barbie to Mortal Kombat* (1998) [14] similarly focused on the emergence of the 'girls game' movement, albeit with a more inclusive perspective of gender preferences.

Beyond this foundational work on female gamers, literature on sexism in games can be distilled into three main trends. First, the majority of the research focuses on how women experience sexism in games differently than men. The distinguishing variable that influences the effect of sexist content in games is almost always gender conceptualized as the binary "men vs. women" [23,28,94]. This dichotomous approach asserts that 'women' are a group with a set of similar characteristics and beliefs that is fundamentally different from the group 'men'. Contemporary theories about gender might argue that this dichotomous distinction is reinforcing a deterministic view of gender relations in which people are divided into clear-cut groups, i.e., women and men [12], rather than a dualistic distinction in which people embody varying amounts of the masculine and feminine, regardless of their biological sex [51]. Furthermore, it may be more relevant to distinguish players who adhere to the concepts of gender that sexist games elicit (e.g., strong, dominant men and sexualized, helpless women) from those who don't. Adherence to these more traditional concepts of gender might be a better predictor for who is bothered by sexist game content and who is not.

Second, most studies investigated sexualized imagery [23]. While the visual depiction of female characters is certainly a powerful example of how games depict genders differently, there are other aspects of games that are, while being more subtle, just as sexist. Though imagery is an important part of games, it should not be the only factor considered when examining sexist content. In particular, the structure of a game's narrative, or the story trope, is crucial because of its power to objectify male and female characters [54]. In addition to the structure of tropes, language itself can have a powerful effect on sexism. Swim et al. [89] considered the role of sexist language and how it relates to subtle sexism. McConnel et al. [61] showed that adding male suffixes to occupation titles led perceivers to interpret a social target's personality as more masculine. Finally, language is a dominant means by which stereotypes are defined, communicated, and assessed [58], so language and dialogue in media should not be overlooked when it comes to sexist content and the effects it can have.

Third, to our knowledge, all studies investigating the effect of sexist content in games considered consequences in areas like tolerance for sexual harassment [22], beliefs about benevolent sexism [96], and agreement with gender

attitudes and stereotypes [1], rather than directly examining the effects of sexism on game experience. In our work, we propose to examine the role of sexist game content on player experience, as it is the driving factor behind game enjoyment and greatly influences purchasing decisions.

Player Experience

Research in understanding the experience of players draws from traditions in psychology, games user research, and human-computer interaction. The most prevalent model that explains player experience is the satisfaction of needs during play [80], which is part of the broader context of self-determination theory [79]. Self-determination theory suggests that we are intrinsically motivated to engage in an activity because of our pure desire to do it, outside of the context of any external rewards [78] and has been shown to describe the experience of people playing games [80].

Intrinsic motivation is comprised of our interest-enjoyment in an activity, the effort-importance we invest on the activity, our perceived competence with the activity, and how much tension-pressure we feel during the activity [60]. Measurement of motivation is accomplished using the Intrinsic Motivation Inventory (IMI) [60]. The satisfaction of our need for competence autonomy, and relatedness – i.e., mastering challenges under our own volition, while feeling connected to others – work together to foster intrinsic motivation [78]. This relationship has been shown in a range of domains, including video game play [90]. As such, these constructs are often used in evaluating game experience, including the experience of different types of people during game play [5,50,72], of different game mechanics [32], or of different game input devices [4,85,93]. Measurement of need satisfaction is often accomplished using the Player Experience of Need Satisfaction Scale (PENS) [80].

In translating research on need satisfaction to the play context, Ryan et al., [80] added two additional constructs of particular relevance to game play. Intuitive controls describe control of the game that feels natural, whereas immersion/presence describes the experience of being transported into the digital environment [47]. Other researchers have described immersion as being comprised of three components [2]: transportation [39] – i.e., narrative engagement, loss of awareness, and flow; identification – i.e., identifying with a character's virtual personality and representation [18]; and telepresence – i.e., feeling present inside of a virtual world [56]. Because the immersive aspects of transportation and identification are particularly relevant to the experience of sexism in games [43,46], we describe them in more detail.

Transportation and Identification

Transportation is often described using a traveler metaphor, in which an audience member becomes absorbed and lost in the world created by a piece of media. [33] The audience member loses their sense of self as mental systems become



Figure 1: Level 1 with fighting mechanic (left), Level 2 infinite runner (centre), Level 3 with shooting mechanic (right).

focused on the narrative, excluding attention to the outside world. Similar to transportation, transportability is a personality trait defined as an individual's susceptibility to be transported into a narrative. [20] Previous work has confirmed that transportability predicts transportation [20], as well as enjoyment [3]. In addition, transportation has been shown to be a causal factor in increased identification with story characters [20]. Identification is a cognitive process through which audience members experiencing a piece of media adopt the point of view of a particular character. The process of identification has been described as a process in which the audience member loses awareness of self to be temporarily replaced with emotional and cognitive connections to a particular character [18].

The process begins with the audience member either: adopting a character's perspective, feeling fondness towards a character, or realizing some similarity between themselves and the character. As the narrative progresses, the audience member adopts the goals of the identified character and empathizes with the events of the narrative. Previous work has shown that higher identification with a character in a game leads to higher levels of enjoyment [43]. Also, greater time spent engaging with a story has been shown to result in stronger identification [74].

It has been previously hypothesized that narratives could be used in persuasion [2] and identification has been proposed as an important candidate to be effective at creating persuasive narratives [52]. In particular, identification could be used in persuasion by manipulating the source of a message, rather than the message itself, to make the message more attractive and palatable. [18] In addition, it has been shown that higher identification leads to increased activation of trait characteristics and increases the chance of mimicking behavioural tendencies displayed by the identified character, suggesting that experiencing strong identification with a character for long periods of time could have lasting effects on an individual's beliefs and values. As such, it is plausible that identifying with a character who displays sexist behavior could affect the experience and beliefs of players of sexist games.

EXPERIMENT DESIGN

We conducted an online study in which we presented three different versions of a simple role-playing game (RPG) that

varied in their degree of sexism. We measured individual traits and player experience using several validated scales.

Game

We designed a 10-minute 2.5D game that was comprised of a prologue, three levels, and an epilogue. The prologue was a simple cut-scene to set up the narrative's conflict, the levels were each designed around a single straightforward game mechanic, and the epilogue was an interactive conversation between the player and one of the characters in the game (see Figure 1).

Game Narrative and Mechanics

The main conflict in the game's narrative was based around the 'damsel-in-distress' trope. Players were informed that the Kingdom's Royal Heir has been captured by a dark wizard and must be rescued. Along the way, the player would encounter obstacles, opponents, and dilemmas in order to reach their goal [30].

The prologue was a short cut-scene showing the Royal Heir running in a field with a looming dragon shadow overhead.

In the first level, we employed a side-scrolling fighting mechanic. The player had to progress through a forest – using the 'A' and 'D' keys to move left and right respectively – fighting barbarians they encountered, using the left mouse button to attack. Eventually, the player reached a clearing where a barbarian was watching over a cage with a prisoner. The player is told the prisoner is to be sold to slavers, and challenges the barbarian to a fight. After defeating the barbarian, the prisoner promises to help the player rescue the Royal Heir once all of the barbarians have been defeated. Several more barbarians attack and the player must defeat them all. Having defeated all of the barbarians, the player finds a key to the cage and releases the prisoner. The prisoner tries to go back on their promise to help the player and runs off, forcing the player to follow.

In the second level, we employed an infinite runner mechanic. The player chased the prisoner down a forest path, avoiding obstacles by jumping or swerving left or right by pressing 'W', 'A', and 'D' respectively, trying to reach the prisoner and get the promised information regarding the Royal Heir. The player slowly catches up to the prisoner, until the prisoner finally admits defeat and leads the player to their village.



Figure 2: Gendered (left) and neutral (right) characters. From left to right: Harlot, Knight, Barbarian, Princess.

In the third level, we used the shooting mechanic. The player and the prisoner arrived at the village, but was under attack by barbarians. The player found a crossbow and had to shoot twenty barbarians, while avoiding shooting the villagers, to scare the invaders away and earn the promised information. Pressing the left mouse button would slow down time so the player could be more accurate with their shot, and releasing the mouse button fired the crossbow.

Finally, in the epilogue, the prisoner led the player to the Dark Wizard’s castle, only to discover that ‘The Princess had been taken to another castle’. The player then had to choose what to do with the prisoner to end the game.

Game Versions

Depending on their assigned condition, participants played one of three versions of the game: Gender Neutral, Sexist Imagery, and Sexist Imagery plus Dialogue. Although the game mechanics did not vary across versions, we manipulated the graphics of the characters (see Figure 2) and the sexism present in the dialogue.

Gender Neutral. All four characters were androgynous in appearance, each identical in body type, face, and hair, varying the hair colour, skin colour, and shirt colour to differentiate them. All dialogue in the game was generic and non-gendered, following the ‘damsel-in-distress’ narrative trope as loosely as possible while maintaining the overall story structure. All gendered pronouns were removed and characters were referred to generically by their titles (Royal Heir, Prisoner, Bandit, Player).

Sexist Imagery. All four characters were highly gendered in their appearance to conform to the Damsel-in-Distress Trope. The Player looked like a knight (masculine), the Bandit looked like a barbarian (masculine), the Heir looked like a princess (feminine) and the Prisoner looked like a harlot (feminine). Character models were custom designed to reinforce sexist stereotypes (helpless damsel, sexualized harlot, hyper-masculine barbarian, and manly hero). The gender-neutral dialogue was also used in this version. To

confirm that our characters were perceived by participants in the intended way, we conducted two pre-studies (see Appendix). Our male characters were perceived as highly masculine, our female characters as highly feminine, and our neutral characters as neutral (see Figure 2).

Sexist Imagery plus Dialogue. We used the sexist imagery, but also reinforced gender roles through the use of sexist dialogue. First, the dialogue used gendered pronouns (he, she). Second, the dialogue was systematically edited in four ways to reinforce sexist stereotypes, inspired by the tropes and dialogue typically used in modern games and by theories of objectification and instrumentality [68]. We reinforced the idea that women are weak and men are strong, e.g., “That is a frightening weapon!” vs “One of them dropped a crossbow, use that”. We included sexual innuendo in reference to the Harlot, e.g., “Wow! You really know how to handle a sword.” vs “Amazing, your skill with a blade is impressive”. We added diminutive nicknames in reference to the Harlot, e.g., “Darling, Sweetie”. We also reinforced the idea that women are interchangeable [68], e.g., “She is ours. Go get your own.” vs “This is our prisoner”. We did not change the plot or add new narrative concepts in any way; the variations were intended to reinforce sexism in the game through dialogue. We did not do additional studies to confirm that the dialogue was perceived as sexist; however, we can be assured that it had the intended effect based on the “bug report” responses of participants who played this version (participants were under the pretense that they were playtesting a game under development), e.g., “Make it not a chauvinistic sexist game” “Remove misogyny”, “I would change the rampant sexism of the game”, and “I feel like I need a shower”.

Cover Story

Participants were told they would be playing a short game and evaluating it for enjoyment. After completion of the experiment, participants were informed of the true purpose of the study and presented with a manipulation check that confirmed they read and understood the debriefing.

Measures

We collected both subjective and behavioural measures.

Individual Traits

Transportability. We assessed transportability, which is a personality trait that determines an individual's susceptibility to being transported or immersed into a narrative, using the Transportability Scale of 20 items [20] (Cronbach's alpha = .91).

Male Role Attitudes. We assessed pre-existing sexist beliefs by gathering the Male Role Attitudes Scale (MRAS), which measures masculine ideology through 8 items, such as "It bothers me when a guy acts like a girl" and "A young man should be physically tough, even if he's not big" [71] (Cronbach's alpha = .79).

Benevolent Sexism. We also assessed pre-existing sexist beliefs by gathering the benevolent sexism subscales of the Ambivalent Sexism Inventory (ASI), which measures protective paternalism (e.g., "Women should be cherished and protected by men"), complementary gender differentiation (e.g., "Women have a superior moral sensibility"), heterosexual intimacy (e.g., "Despite accomplishment, men are incomplete without women"), and a combined level of general benevolent sexism through 11 items [34] (Cronbach's alpha = .91).

Player Experience

Enjoyment was measured using interest-enjoyment subscale of the Intrinsic Motivation Inventory (IMI) [60], which measures how much the player enjoyed the game through five items (Cronbach's alpha = .94). We chose to use IMI instead of PENS [79] to measure Player Experience because we were more interested in exploring enjoyment, rather than focus on the building blocks that lead to enjoyment, which is what PENS measures.

Identification

Identification was measured using the Player Identification Scale (PIS) [57]: similarity identification, embodied identification, and wishful identification combine to give a general measure of avatar identification through 17 items (Cronbach's alpha = .97).

Participants and Deployment Platform

We recruited 439 participants to participate in the study through Amazon Mechanical Turk (MTurk), which has been shown to be a reliable research tool [59] in the context of games research [6,10]. To exclude participants who did not take care in answering the survey questions, we identified noncompliance by response time, response patterns and consistency metrics, as suggested by Meade & Craig [62]. We removed participants who spent less than 1.5 seconds/question on 2 or more questionnaires (N=50). We also detected the variance of responses for each individual subscale and excluded participants with more than 3 standard deviations above the mean on more than 3 subscales (N=36) – this process excluded participants who consistently did not pay attention to reverse-coded items.

This left 353 participants (161 self-identified as female) in our analyses. Ethical approval was obtained from the behavioural research ethics board of our university, and participants provided informed consent. To comply with ethical guidelines, the experiment was only available to workers in the USA who were older than 18. Participants were compensated with \$3 USD; the entire task took approximately 20 minutes.

Procedure

At the beginning of the experiment, participants were assigned to one of three conditions which determined which version of the game they would play: gender-neutral dialogue and visuals (*neutral*) (N=122, 52 female), gender-neutral dialogue with gendered graphics (*sexist imagery*) (N=122, 66 female), and gendered dialogue with gendered graphics (*sexist imagery plus dialogue*) (N=109, 43 female). Other than the different versions of the game, participants all experienced the same experiment protocol.

First, participants were presented with the cover story and asked to provide informed consent to their participation in the study. Next, they provided basic demographic information and completed the Transportability scale.

Participants then played their assigned version of the game in a between-subjects design. Immediately after playing the game, participants were asked to fill out the player experience questionnaires (Identification and Enjoyment) and a questionnaire about sexist beliefs (ASI). Participants were provided with several open-answer questions asking for comments about the game and general feedback. Finally, participants were debriefed on the purpose of the study and were asked to confirm which version of the game they experienced.

Follow-Up Study

Approximately one week after their participation in the study, participants were sent an email inviting them to participate in a follow-up study. Participants were given five days to respond and were compensated \$1 USD for their participation. In total we received follow-up data from 362 participants (82% response rate).

The purpose of the follow-up study was to measure participant's **pre-existing sexist beliefs** without potential influence or priming caused by the game. The follow-up study included only two questionnaires: the ASI and the MRAS as measures of sexist beliefs. The individual traits were gathered after the main experiment to not prime participants as to the nature of the manipulations prior to play; we waited several days before the follow-up study to ensure that the experimental conditions no longer affected participants' baseline answers.

Data Analyses

Collected data was analyzed using SPSS 24, with the Process macro for SPSS [42]. We had 353 participants in our full sample, and we had pre-existing sexist belief data for 287 of these participants from our follow-up study. We

first checked for group differences in the individual traits to ensure that random assignment generated groups that did not differ on our traits of interest. One-way ANOVAs revealed that the groups were comparable in terms of transportability ($F_{2,352}=.95$, $p=.388$), and pre-existing benevolent sexism ($F_{2,286}=2.16$, $p=.118$).

RESULTS

Our research questions center around the relative roles of gender and sexist beliefs in the play experience of games that contain sexist imagery and dialogue. We first present results regarding the translation of identification into enjoyment, followed by the relative contributions of gender and sexist beliefs to play experience, and the role of sexist imagery or dialogue in experience.

Gender and Sexist Beliefs

Before presenting the effects of sexist content, we first show the relationship between gender and sexist beliefs. We used a linear regression to determine whether gender predicted sexist beliefs; however gender does not significantly predict benevolent sexism ($\beta=.182$, $p=.238$) or MRAS ($\beta=.002$, $p=.988$). Figure 3 shows the distribution of benevolent sexism and MRAS by gender.

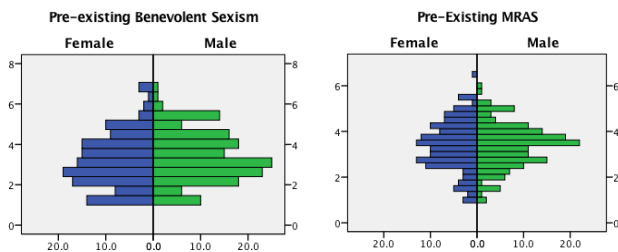


Figure 3. Distributions of sexist beliefs by player gender.

The Role of Identification in Predicting Enjoyment

We first investigate effects of identification on enjoyment because literature suggests that identification with characters in narratives and games leads to enjoyment [43].

Identification predicts enjoyment

Linear regressions revealed that avatar identification predicts enjoyment in all three versions of the game (Neutral: $\beta=.568$, $p<.001$; Imagery: $\beta=.667$, $p<.001$; Dialogue: $\beta=.672$, $p<.001$). So regardless of whether the game contained sexist imagery or dialogue, identifying with the characters significantly increases game enjoyment.

The Role of Gender and Sexist Beliefs on Identification

Previous literature on sexist games has suggested that women self-select out of playing games with sexist imagery or themes because they don't find it enjoyable to play them [17]; however, previous work has argued against the effectiveness of looking for differences between men and women [26], which suggests that it may not be as simple as assuming that men enjoy sexist themes while women do not. Perhaps men who don't identify with the sexist themes also self-select out of playing while women who do identify with these themes enjoy the games. To determine the

relative roles of gender and sexist beliefs on play experience of sexist games, we computed several models.

Predicting identification from gender

We first tested whether a player's gender predicted how much they identified with the protagonist in the different versions. Linear regressions revealed that gender did not significantly predict avatar identification in either the neutral ($\beta=-.254$, $p=.279$), sexist imagery ($\beta=-.244$, $p=.330$) or sexist dialogue ($\beta=.079$, $p=.792$) conditions.

Sexist beliefs predict identification

We next tested whether a player's index of benevolent sexism or affiliation with male role models (MRAS) predicted how much they identified with the game's protagonist. Linear regressions revealed that neither benevolent sexism nor MRAS predicted avatar identification in the neutral condition (Ben: $\beta=.109$, $p=.252$; MRAS: $\beta=.158$, $p=.208$). However, both constructs predicted identification in the sexist imagery (Ben: $\beta=.293$, $p=.009$; MRAS: $\beta=.296$, $p=.044$) and sexist dialogue (Ben: $\beta=.542$, $p<.001$; MRAS: $\beta=.536$, $p<.001$) conditions.

The beta values presented above suggest that sexist beliefs is a more salient predictor of identification in games with sexist dialogue and imagery than with sexist imagery alone. In the game with sexist imagery, a one-point increase on the benevolent sexism scale translates into an increase in identification of one-third of a point. However, in the game with sexist imagery and dialogue, an increase of one point in benevolent sexism translates into an increase of over half a point in identification (see Figure 4).

Sexist imagery is helpful, but sexist dialogue and imagery together is harmful

Figure 4 shows the relationship between sexist beliefs and identification in the different conditions. Identification with the character is similarly high in both sexist games for those with a high level of benevolent sexism; however, the imagery plus dialogue condition translated into less identification for those low in benevolent sexism. As such, overall, adding sexist dialogue to sexist imagery can be considered to be harmful for identification.

On the other hand, when we consider the effect of adding sexist imagery alone, we see a different pattern emerge. Figure 4 shows the relationship between sexist beliefs and identification for the neutral condition. For those low in benevolent sexism, there is no difference in identification between the neutral or sexist imagery versions of the game; however, identification increases with increased benevolent sexism in the sexist imagery game. Interestingly, sexist graphics alone actually aid with identification for people who hold sexist beliefs over a neutral version of the game.

The pattern that sexist imagery aids identification, but sexist imagery and dialogue harm identification is also demonstrated by looking at the overall levels of identification in the different games. A one-way ANOVA shows a significant effect of game version on avatar

identification ($F_{2,350}=4.88, p<.008$). Post-hoc comparisons (Tukey's HSD) show that players in the sexist imagery condition identify more than players in the neutral condition ($p=.045$) and that players in the sexist imagery plus dialogue condition identify less than those who played with sexist imagery alone ($p=.010$).

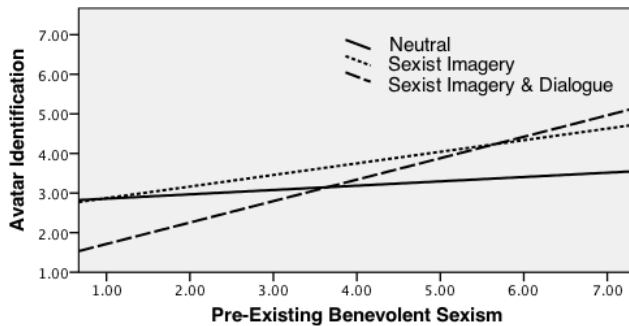


Figure 4. Linear regression lines showing the prediction of sexist beliefs on avatar identification for the three versions.

The Role of Sexist Beliefs in Predicting Enjoyment

Our results show that identification predicts enjoyment in each game, but that people who do not hold sexist beliefs identify less in the sexist versions of the game. So, do the sexist beliefs of players that affect identification in sexist games translate into enjoyment of those games?

The prediction of identification by sexist beliefs in the sexist game translate into enjoyment

We conducted a moderated mediation [41] for the two sexist versions of the game only. The full model is significant ($R=.638, p<.0001$). The prediction of benevolent sexism on enjoyment is fully mediated by identification ($p<.001$), and the mediation is significant for both the game with sexist imagery and the game with sexist imagery and dialogue (the bootstrapped confidence intervals do not contain zero in either case [41]: imagery: .016 - .372; dialogue: .213-.541). As such, our results suggest that sexist beliefs affect the enjoyment of sexist games because of the resulting identification with the character.

Women enjoy the games more, regardless of game version

Finally, we conducted a 2 (gender) by 3 (game version) ANOVA on game enjoyment, and found a significant effect of gender ($F_{2,347}=31.5, p<.0001$), in which women rated their enjoyment as higher than men. However, there was no significant interaction of gender with game version ($F_{2,347}=1.54, p=.798$) showing that this result did not vary with the presence of sexist imagery or dialogue.

DISCUSSION

We summarize our findings, situate results in the context of underlying theory, and address limitations and future work.

Summary of Findings

We show results of the relative roles of gender and beliefs about gender on player experience of sexist games.

First, the gender of the player does not predict avatar identification; however, their beliefs about gender roles and

sexism do. Second, the differences in avatar identification as a result of the sexist content translated into game enjoyment. Third, the sexist imagery and dialogue harmed avatar identification (and resulting enjoyment) for those players who do not hold sexist beliefs; it did not aid avatar identification over sexist imagery alone for those who do. And fourth, sexist character stereotypes reinforced through graphic representations increased identification and enjoyment; however, sexist character stereotypes reinforced through both graphics and dialogue harms identification and enjoyment.

Explanation of Findings

In this section we will explain our findings and contextualize them in terms of the underlying theory.

Why Identification?

Avatar identification is a key component of becoming immersed in a narrative for various types of media [64]. The importance of identification likely is explained by the act of playing a game. In text-based media, such as a novel, identification is created through the point of view of a narrating character. The reader finds a connection with the character to facilitate this identification [18] but it heavily depends on the quality and delivery of the work itself. Similarly, in film, identification is primarily created by leveraging the perspective through which the viewer experiences the media, namely the camera. This has been theorized to be a weaker and more difficult connection to forge for cinema-style viewing [18] and extremely difficult for a viewing experience situated in front of a television [18]. In games, however, the player has control over many aspects of the character – from controlling the character, moving and controlling the camera perspective, and in many cases, customizing the character's visual appearance. For these reasons, it would be fair to argue that avatar identification would indeed play a large and important role in the way players experience games. Furthermore, while games likely facilitate stronger identification than other forms of media, it would also make sense for identification to be greatly reduced if there is a divergence between the player's beliefs and the beliefs and actions displayed by the character when outside of the player's control.

Why do Sexist Visuals Help Identification?

There are several possibilities why the sexist visuals increased avatar identification. One possibility is that the Knight character's appearance was more attractive and interesting than the androgynous character, which may have led to players liking the Knight more, leading in turn to stronger identification [18]. Second, most players are used to playing as a male knight character, regardless of their own gender, because most games have male protagonists [23]. Positive previous experience with a character can lead to an increased fondness for that particular character, which enables easier identification in similar situations in the future [18], so many players would more easily identify with a character if they have fond memories of other games where they played as a similar character. Third, knight

characters are traditionally seen as noble or paragon: they are an ideal to strive for. As such, players who strive to be a better person may identify with the Knight character in a wishful way, forging a connection with him that they wish they could be. Previous literature has suggested that tropes can facilitate immersion and enjoyment through familiarity [2], so it is not surprising that adding gender-stereotypical visuals aids identification and enjoyment.

Why is Sexist Dialogue Harmful to Identification?

Language is an important factor in perpetuating sexism [58,61], which means players can easily interpret sexist ideas when they are conveyed through language. Also, for those who do not hold sexist beliefs, a sexist character would be less likable, which is detrimental to the process of identification [18]. Similarly, a sexist knight may be seen as less noble, which may reduce the previously mentioned desire players may have to be similar to him.

Why is Identification Harmed for Those who do not Hold Sexist Beliefs?

The process of identification requires an individual to feel connection or similarity with a character [18]. For someone who does not hold sexist beliefs, a sexist character would not be one that that individual would relate to or want to be similar to. Thus, they would experience less identification with the character than someone who shares similar beliefs.

Why Does Identification not Increase with Sexist Dialogue for those Who Hold Sexist Beliefs?

We likely did not observe greater identification when sexist dialogue was added because of the asymmetry between creating identification and breaking it. The act of breaking identification can occur easily, from external stimuli such as the phone ringing, to stimuli brought by the story such as changing narrative perspective [18]. Conversely, forming identification is more involved and must be maintained for the audience member to feel identified. This asymmetry would explain why people who do not hold sexist beliefs were more easily turned off by the sexism, and why the opposite does not seem to be true for people who hold sexist beliefs. The sexist dialogue is just one more factor on top of several others that would forge identification for people with sexist beliefs (e.g., agency through controlling the character, relating to the knight visually).

Which Beliefs Matter for Identification and Enjoyment?

We measured two constructs to gather information on the participants' preexisting beliefs about gender: benevolent sexism and male role acceptance. For both constructs, we assumed they might differentiate between players whose experience was harmed by sexist content and players who didn't mind the sexist content. While male role acceptance showed similar trends to benevolent sexism, our empirical results are stronger for benevolent sexism. We believe this trend is due to the relationship between the occurring themes in the game and the nature of the preexisting beliefs that were examined. The male role acceptance scale measures beliefs about masculinity and does not include

gender excitations for women. Benevolent sexism includes some ideas about masculinity, e.g., "Despite accomplishment, men are incomplete without women"; however, focuses mostly on beliefs about women, e.g., "Women should be cherished and protected by men". Our game, while also prompting traditional concepts of masculinity (i.e., the strong, dominant and aggressive hero), mostly caters to sexist ideas about women (i.e., the scantily-dressed seductive, yet helpless harlot, the pure and innocent princess in distress). Benevolent sexism was likely the stronger predictor in our data because it more accurately speaks to the kind of sexism that is portrayed in our game.

This opens up the interesting follow up question: Would we find the same results with a different game as an example? We interpreted our results as exemplary to how preexisting beliefs influence the experience of a game. Benevolent sexism is most likely not always the distinguishing trait to determine who is affected by sexist content and who is not. Sexist content can take on many forms, from overtly misogynistic violence towards women (e.g., Grand Theft Auto [76]) to subversively embedded ideas of traditional gender roles (e.g., Princess Peach in Super Mario Bros. [66], God of War [82]) It is reasonable to assume that there is a set of different constructs that can become relevant depending on the "brand" of sexism portrayed in the game.

Shooting games, for example, often provide a militarized narrative structure that emphasizes hypermasculine traits such as dominance, violence, and lack of emotional expression (e.g., Gears of War [25]). These types of games are likely more affected by preexisting ideas of masculinity, than benevolent sexism. Similarly, games that portray highly sexualized and objectified female avatars are likely highly affected by a preexisting propensity to sexualize and objectify women. (e.g., Duke Nukem [31], Dead or Alive Xtreme Beach Volleyball [91]) and may be more affected by existing ideas about women as sexual objects. Finally, games that contain high levels of aggression toward women are probably affected by a tendency to normalize and justify harassment and physical violence towards women (e.g., Grand Theft Auto [76], God of War [82]), as is measured through scales of hostile sexism [34].

How Do Our Results Fit with Existing Literature?

As presented in the related literature section, there is a significant body of work on gender and games that makes research contributions using a range of methodological approaches – in particular, through qualitative contributions (e.g., [21,48,49]) or through quasi-experimental approaches (e.g., [29,51]). We approached the issue of sexism in games from an empirical perspective, looking at the effects of a particular experimental manipulation on player experience. There are many potential problems that arise from playing sexist games – e.g., hostility towards women [22,28], long-term effects in society [28,29], and issues of gender equality and representation [23,45,94] – that our results do not address; however, our work is in line with the body of

work on gender in games that suggests that sexism in games is harmful to play experience for a large proportion of gamers. Our work takes the literature a step further by identifying that the harm of sexist games is not specific to female players, but that sexism in games negatively affects the enjoyment of both female and male players.

Limitations and Future Work

Although we carefully controlled our design and analyses, there are limitations that can be addressed in future work.

First, our game was relatively short (10 minutes) compared to the way that games – especially role-playing games – are normally played. These short play times likely help to explain our small effect sizes. If players spent longer interacting through and with the characters, we would likely observe greater identification through increased interaction [74]. We would like to explore the role of sexist beliefs on identification in games with longer play times and depth.

Second, we introduced sexist dialogue almost immediately. Identification is a cognitive process in which players are less likely to question their own beliefs by being immersed in the story [18]; however, in our game, the players were immediately faced with sexist dialogue, giving no chance to first identify with the knight. Our results may have been different if the sexism was added after the player had already undergone the process of identification. For example, a game in which a player builds a strong connection and empathy with a character early on may be less likely to alienate players if the character suddenly began displaying behaviours that went against the player's own personal beliefs because the process of identification was already underway. In this way, game designers could leverage identification in a persuasive manner to force a player to see something from a different perspective, with their defensive shields down and more willing to listen to points of view contrary to their own. We would like to explore the persuasive aspects of character identification.

Third, we focused on the effects of sexist games on player experience and avatar identification. We would like to extend the empirical control we used to the exploration of how sexist elements in games normalize sexist thoughts and behaviors [1,96] by unpacking how sexist content from different sources (i.e., graphics, dialogue) influence participants' sexist beliefs in the short term.

Fourth, we focused on a particular type of sexism – the objectification of female characters alongside their helplessness and interchangeability. We would like to further explore the role of hypermasculine characters on game experience for players who hold different beliefs.

Fifth, the characters in the sexist imagery condition had light skin; two of the characters in the neutral version had blue skin. We did not examine how sexist depictions interact with race of the character or player and would be interested in exploring the interaction of sexist imagery with unfavorable depictions of other marginalized groups.

Finally, the characters in our game were assigned, rather than created by the players. Increasing player agency in the game may allow the players to construct the character's persona more similarly to their own, which is likely to increase identification. We would like to explore how increasing player agency affects the experience.

CONCLUSION

Research on sexism in digital games has suggested that women self-select out of playing sexist games; however, we suggest based on literature that the gender of the participant is not paramount to experience, but that their beliefs about gender roles are. To explore the role of sexist beliefs on experience in sexist games, we created three versions of a game that were identical except for the presence of sexist imagery or sexist imagery and dialogue. We conducted an experiment with 353 players and showed that enjoyment of sexist games is not predicted by the gender of the player, but by pre-existing beliefs about gender that the player holds. In addition, we demonstrate that avatar identification is the pathway through which enjoyment is facilitated for players who hold different sexist beliefs. Furthermore, we show that adding sexist dialogue to sexist games harms experience for people who do not hold sexist beliefs, but does not improve experience for those who do. Finally, we show that including visually sexist character stereotypes can aid in identification and enjoyment; however, sexist character stereotypes that are reinforced through both imagery and dialogue harms identification and enjoyment.

Our work explores player response to sexist characters and behaviours in a role-playing game. We refute the notion that men and women form distinct groups that respond in a predictable manner to sexist content. Player response is not about gender, but is determined by the beliefs about gender roles that players hold.

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APPENDIX

We conducted two pre-studies to determine that our character designs indeed matched the gender tropes we were trying to match. In the first study (N=80), we tested the gendered characters and several neutral designs, asking participants to rate the character on a continuous sliding scale from masculine (-1.0) to feminine (1.0). One-sample t-tests (comparing to neutral) showed that the knight ($M=-.82$, $SD=.4$, $t_{78}=-18.0$, $p<.001$) and barbarian ($M=-.89$, $SD=.3$, $t_{78}=-27.1$, $p<.001$) were perceived as significantly masculine; the harlot ($M=.89$, $SD=.3$, $t_{78}=23.5$, $p<.001$) and princess ($M=.89$, $SD=.3$, $t_{78}=25.4$, $p<.001$) were perceived as significantly feminine. The initial neutral characters were perceived as more masculine, thus we iterated on the model and hairstyles, conducting a follow-up study (N=40). We selected our neutral characters based on the two designs that were perceived as most neutral ($M=-.11$, $SD=.6$, $t_{39}=-1.1$, $p=.260$; $M=-.14$, $SD=.6$, $t_{39}=-1.4$, $p=.169$); see Figure 2.

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