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From ‘Silly’ to ‘Scumbag’: Reddit Discussion of a Case of Groping in a Virtual Reality Game

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ABSTRACT

This paper examines key discussion points among VR-interested Reddit users regarding a controversial case of VR groping reported in 2016. Through a mixed-methods approach that includes qualitative thematic analysis and quantitative coding, this paper identifies four key discussion themes: 1) Conceptualization—what is the act of groping? 2) Ethics—what is (un)acceptable about the act? 3) Action—what should be done about it? and 4) Vision—what does this act mean for the future of VR? Within these themes, most comments were dedicated to the questions of whether the act of groping in VR constitutes sexual assault or sexual harassment, whether it is the individual’s responsibility to respond to this act, and whether this act causes harm. These results assist in the formation of a framework for understanding and addressing concerns related to unwanted sexual behaviours in VR and other digital play spaces.

Keywords

Virtual reality; sexual harassment; virtual groping; QuiVr; Reddit

INTRODUCTION

In 2016, an incident of “virtual groping” was reported in the multiplayer archery-based virtual reality (VR) game *QuiVr* (Bluteak 2016). In an article for *Medium* (Belamire 2016), a player wrote that upon entering the game and using voice chat, her teammate began to follow her around and make sexual gestures at her avatar within the virtual world: “. . . he chased me around, making grabbing and pinching motions near my chest. Emboldened, he even shoved his hand toward my virtual crotch and began rubbing.” He continued to do this despite her moving away and telling him to stop, and eventually she quit the game.

The player described the experience as very “real” and “violating” (Belamire 2016, n.p.), drawing attention to the ways that VR prompts a realistic perception of a virtual space and heightens the emotional impact of our experiences within them. Once published, this account was picked up by a number of media outlets (e.g. Cross 2016; Wong 2016), with many highlighting this incident as reflective of sexist attitudes in gaming and a major

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obstacle to women's participation in VR environments. The developers of QuiVr publicly expressed their regret over this incident, swiftly implementing an in-game 'power gesture' that causes nearby players to fade from perception (Stanton 2016), a response that was welcomed by many (see e.g. D'Anastasio 2016).

However, this article produced conflicting responses among readers. As Cross (2016) points out, many online responses to this incident were dismissive of Belamire's experience and, at times, abusive and misogynistic. On the other hand, many responses empathized with her experience and called on developers to take this kind of behaviour seriously. At the same time, readers from all perspectives grappled with understanding this act given the virtual and playful context it occurred in.

This paper aims to closely explore online discussion surrounding this particular incident, focusing in particular on Redditors (a term commonly used to self-identify as a Reddit user) who are interested in VR. The key research questions are thus: 1) What are the key discussion points among VR-interested Redditors in responding to this case of groping in a VR game? and 2) What are the main conflicts and disagreements between discussants?

It is hoped that by answering these questions, we can better understand VR users' values, concerns and contentions concerning unwanted sexual interactions in VR, identifying opportunities for development and education in this area.

LITERATURE REVIEW

The ambiguous ethics of unwanted digitally-enacted sexual interactions or 'UDESIs' (Sparrow 2018) have long received public and scholarly attention. In 1998, Dibblell gave a famous account of a 'virtual rape' in a text-based, multi-user dungeon (MUD) called *LambdaMOO*, and similar incidents have continued to arise in digital spaces over the years. A virtual rape in the social virtual platform *Second Life* was allegedly investigated by Belgian police (Duranske 2007), and it was recently reported that a 7-year-old player's female avatar was "violently gang-raped" by two male avatars in the children's gaming platform *Roblox* ("Roblox 'gang-rape' shocks mother" 2018).

The virtual and playful context raises some special ethical considerations that make these acts comparable to real-world acts, but also quite unlike them. As Dunn (2012) puts it, there is a certain *limited asymmetry* in digital games: actions that would be wrong in the physical world are sometimes, but not always, wrong in digital games as well. The most salient difference is the lack of physical contact involved in virtual interactions, but there are other considerations too. Whether or not an in-game act (such as betraying or harming another player) is ethically unacceptable may depend on such factors as avatar identification, consent, and contribution to play (Dunn 2012), or if it brings about the 'right' kind of competition (Nguyen & Zagal 2016).

The account of virtual groping in QuiVr sits firmly within debates surrounding the nature and ethics of UDESIs in digital games. From textual rape, to graphical rape, to groping in immersive VR, it seems that unwanted sexual interactions in digital games persist and evolve alongside the technologies in which they occur—yet our ideas about what these acts really are and how we should respond to them remain unresolved.

Scholarly work in this area has thus far largely attempted to identify the similarities between UDESIs and their physical-world counterparts rather than their differences, drawing on the harm and violation they can cause. Dibblell (1998, n.p.) wrote of his own

shift in perspective regarding the virtual rape in *LambdaMOO* as the aftermath of this event unfolded in the online community: “Where before I’d found it hard to take virtual rape seriously, I now was finding it difficult to remember how I could ever not have taken it seriously”. Some scholars have identified a need to move beyond the understanding of virtual acts as immune to ethical consideration. Evans (2010, 86) wrote, for instance, “murder, rape, adultery, prostitution, theft, ransom, harassment, and other real-world crimes will soon need to be redefined in virtual terms”. More recently, it has also been suggested that the category of ‘virtual sexual assault’ should be introduced as a new class of offence under the law (Danaher 2018, 21), while Strikwerda (2017) has argued that such acts already constitute sexual harassment.¹

These perspectives are important in light of the ongoing sexism and harassment directed in particular at females in digital gaming (see Easpaig & Humphrey 2017; Easpaig, 2018), and in light of the increased awareness in wider society of sexual misconduct, as exemplified by the #MeToo movement (see Mendes, Ringrose & Keller 2018). They are also of increasing importance as VR technology advances and the personal use of VR for online gaming becomes more commonplace. VR provides players with an embodied, first-person perspective, which heightens a sense of immersion and presence (Monteiro et al. 2018). Because of this, it has been argued that VR versions of digital games featuring horror and violence may need to adopt stricter content ratings (Wilson & McGill 2018), and this raises questions about how UDESI are to be understood and handled in such environments as well.

But how do VR users understand and talk about UDESI such as the one reported by Belamire (2016)? There is little empirical work in this area, and in exploring online discussions of this particular account of virtual groping in *QuiVr*, this paper hopes to address this gap. Consalvo (2007, 84) notes the importance of external texts surrounding games in impacting the game experience, arguing that “paratextual industries associated with games . . . have helped define how players should play games, in addition to how they might evaluate and think about them”. By analysing Redditors’ evaluations and thoughts surrounding this act as expressed in one of these paratextual sites—the online discussion forum *Reddit*—we can better understand how the norms surrounding the (im)permissibility of in-game UDESI are co-constructed alongside the discourses surrounding them.

METHODS

Data Collection

This study gathered publicly-available comments from online threads on *Reddit* discussing the original article by Belamire (2016).² Data collection took place on January 16–17, 2019. *Reddit* was selected for this study as it is a rich data source for online discussion of specific issues: it was ranked 15th in terms of global internet traffic and engagement at the time of data analysis (Alexa 2019) and has been used in a variety of studies to examine online discussions, particularly of controversial groups and topics (see e.g. Sowles et al. 2018). Belamire’s article examines a well-known case of a UDESI in a VR game that received widespread public and media attention and was selected as a salient case study that provides fertile ground for discussion and analysis.

Threads discussing the article were identified by using the keyword search terms ‘My First Virtual Reality Groping’, the title of Belamire’s (2016) article, alongside ‘VR groping’, ‘VR sexual harassment’, and other variants. After collecting relevant threads in response to the article, we selected threads from subreddits related specifically to VR. This was done

to narrow down the scope of the study, limiting comments to those made by people who use VR or display an interest in it (note that we could not verify whether all the commenters truly use VR or are particularly interested in VR, but their participation in these subreddits is taken as a proxy). Of these threads, those that had more than 50 comments (that is, those that generated more substantial discussion and data) were chosen for analysis. This amounted to a total of 339 comments from 203 commenters. The comments spanned three discussion threads—two from the subreddit *r/PSVR* and one from *r/Vive*.³

Data Miner, an online data mining tool and Google Chrome plugin, was used to scrape the comments. Along with the comments, extracted data included the number of ‘points’ for each comment⁴ and the year of posting (all original threads and responses were posted during 2016–2017). Usernames were also scraped initially to establish a user count, then were anonymized for analysis.

Analysis

Analysis of the comments took place through two key methods: 1) qualitative thematic analysis (Braun & Clarke 2006), which structured the data according to key themes in relation to the research questions; and 2) quantitative content analysis (Weare & Lin 2000), which expressed the themes in terms of quantitative scores to determine their prevalence in the data.

This reflects a mixed analytic approach that has two benefits: firstly, it allowed us to understand the data from different perspectives, much like a triangulation approach (see Patton 1990, 187–189); and secondly, qualitative coding allowed us to generate a novel data-driven coding scheme that made quantitative content analysis possible and relevant to the data.

Thematic analysis

The comments were entered into the qualitative analysis software *NVivo*. Thematic analysis was performed on the data by the primary researcher to identify key themes, i.e. “patterns in the data that are important or interesting” (Maguire & Delahunt 2017, 3353). Following Braun and Clarke (2006), this process involved six stages, including reading the comments repeatedly, generating codes, and (re)arranging them into themes. As many comments were lengthy and complex, many comments expressed multiple themes and were coded multiple times according to the ideas expressed (rather than by sentence or word). At the end of this process, four key themes with two to four subthemes each were produced to encapsulate the main discussion points and areas of disagreement.

Thematic analysis was chosen to generate the themes for two reasons. Firstly, thematic analysis is suitable for exploratory studies like this one that are building themes from the ground up through a data-driven, inductive approach (rather than a ‘top-down’ approach that makes use of existing frameworks). Secondly, this method of qualitative analysis is highly flexible—it is “compatible with both essentialist and constructionist paradigms” (Braun & Clarke 2006, 78). This is beneficial as our thematic analysis takes place amidst a more contextualist approach, which Braun and Clarke (2006) describe as a method that sits in between essentialist and constructionist positions. Adopting the contextualist approach here means that we take the key themes in this study to reflect the true or real concerns of the comment(er)s under analysis, but recognise that these concerns also interact with wider contexts and discourses surrounding reality, virtuality, non-consensual sexual acts, and gender relations.

Content analysis

Quantitative content analysis began with the construction of a coding scheme that was based around the four themes produced during the qualitative thematic analysis of the data. By assigning numerical codes to each of the comments extracted from Reddit, this stage of analysis allowed for a more in-depth and comparative exploration of the themes. In particular, quantitative coding allowed us to examine how many comments were largely dedicated to each theme, which helps us determine which themes were more popular or generated more discussion.

Each comment was coded according to some descriptive variables (origin subreddit, points, and response type, i.e. whether it is a standalone statement or a reply), as well as coding variables related to the subthemes. In identifying the theme of each comment for quantitative purposes, only the *dominant* theme was coded (in other words, each comment was only assigned one numerical code, even if it expressed multiple themes during qualitative analysis). This strategy was chosen rather than coding for every theme that a comment expressed as it helped to streamline the coding process and produce a single inter-rater reliability score. One subtheme (subtheme 1c on the question of whether this act constitutes sexual assault/harassment) was also coded quantitatively to explore the prevalence of the contrasting opinions on that topic.

Coding was performed by the primary and secondary researchers. The process began with the construction of a detailed written coding scheme and meetings to discuss the codes and establish a shared understanding of the scheme. Each researcher then individually coded the data, and inter-rater reliability was calculated. The first round of reliability testing revealed a 49.6% agreement between the two coders (Krippendorff's $\alpha = 0.434$). Given this low inter-rater reliability score, the coders conferred again and the coding scheme was revised to enhance clarity. Both coders then individually recoded each of the comments again, producing a 72.6% agreement (Krippendorff's $\alpha = 0.69$), a score that Krippendorff (2004, 241) describes as sufficient for “drawing tentative conclusions”.⁵

This data-driven, inductive approach to producing the coding scheme was helpful for this study as current research has produced few relevant coding schemes or frameworks that would be of use in this specific area of inquiry. By creating an original coding scheme, the results are not only fully informed by the data itself, but also provide a basic framework for future analyses of online discussion related to UDESIs and other controversial in-game behaviours.

RESULTS AND DISCUSSION

Four key discussion themes were identified through thematic analysis. Within each of these main themes, two to four subthemes were identified (see Table 1). In the following subsections, an overview of the themes and their prevalence in the data will first be presented, followed by an in-depth discussion of the individual sub-themes.

Theme Prevalence

Quantitative content analysis allowed us to identify the prevalence of these themes in the data (see Figure 1). The theme of conceptualization was most prevalent (n=97), followed by action (n=85), and then ethics (n=71). Vision accounts for only a small number of total comments (n=12). A total of 74 comments were assigned to ‘Other’ and were excluded from analysis as they did not contribute meaningfully to the research questions (this category included deleted comments, as well as unrelated posts, jokes and personal attacks). This resulted in a total of 265 comments for analysis. Since the number of

comments assigned to each of the first three subthemes was fairly even, we may tentatively infer that the comments were roughly equally concerned with trying to figure out what the act of groping in VR actually is, what is wrong about it, and what to do about it, while a small segment of comments considered this act in terms of the future of VR.⁶

Major Theme	Sub-Themes
1. Conceptualisation What is the act of groping in VR?	1a. How does this act compare to other in-game acts?
	1b. How does this act compare to physical/'real-world' acts?
	1c. Does this act constitute sexual assault/harassment?
2. Ethics What is (un)acceptable about the act of groping in VR?	2a. Is this act harmful?
	2b. Can this act be expected in games?
	2c. What motivates the perpetrator?
	2d. What motivates the writer?
3. Action What should be done about groping in VR?	3a. Is it the individual's responsibility to respond to this act?
	3b. Should the perpetrator be punished?
	3c. What other solutions are available in tackling this issue?
4. Vision What does this act mean in relation to the future of VR?	4a. How are we to understand this act as VR technology develops?
	4b. How will such acts impact VR in the future?

Table 1: The four key discussion themes and their associated subthemes.

Further analysis revealed that some subthemes generated more discussion than others (see Figure 2). The question of whether the act of groping in VR constitutes sexual assault or harassment (1c) was most prevalent, then the question of whether it is the individual's responsibility to respond to this act (3a), followed by the question of whether this act is harmful (2a). These subthemes and what they represent will now be discussed in more detail in the remaining subsections.

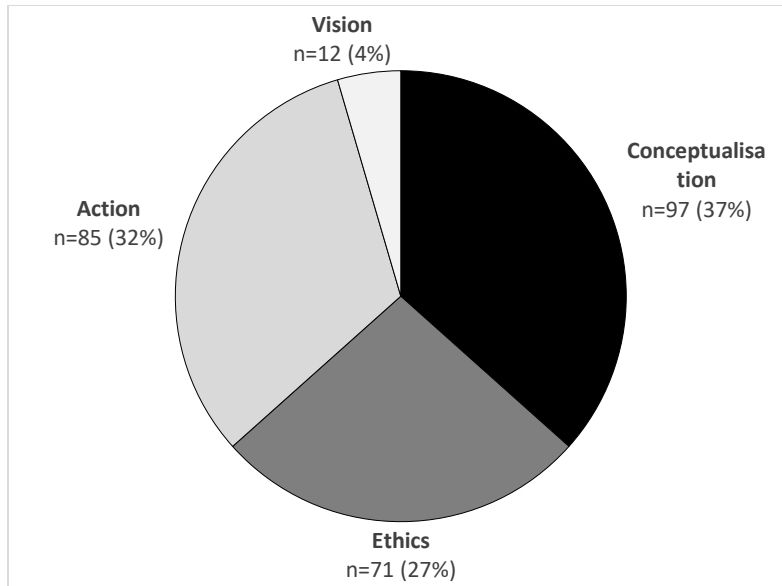


Figure 1: The four key discussion themes. Pie chart shows the number and percentage of total comments (N=265) coded to each of the four key themes.

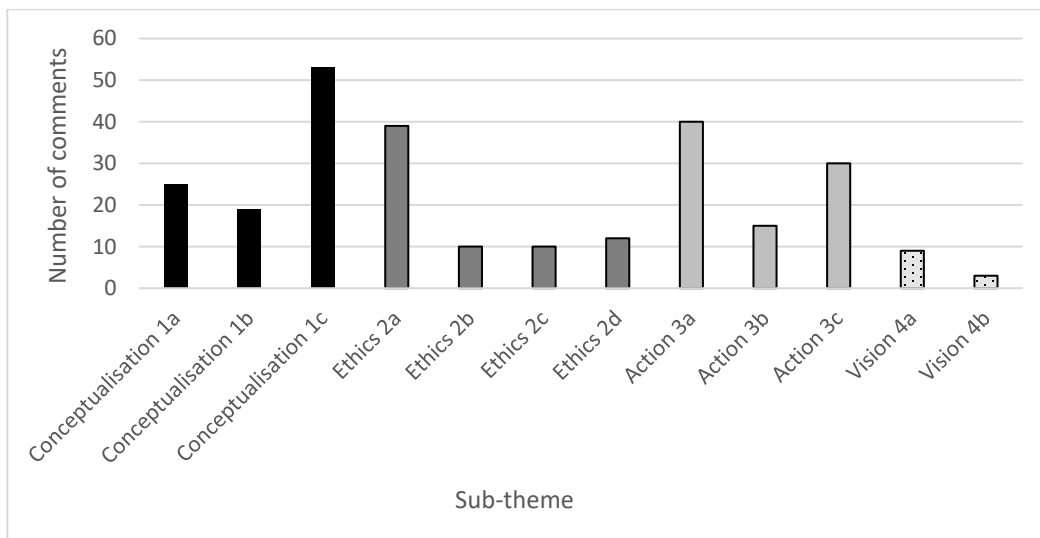


Figure 2: The discussion sub-themes. Bar graph shows the number of comments coded for each sub-theme (N=265).

Conceptualisation (Theme 1)

The first theme is summed up by the following question: How are we to understand or conceptualise the act of groping in virtual reality? The conceptualisation process among Redditors largely involved comparing the act described in the article to other acts of unwanted sexual behaviours and violence in digital games, VR, or the physical world. Three subthemes were identified in this category.

The first subtheme (1a) encompasses attempts to answer the question of how this act compares to other in-game acts. In particular, VR groping was often compared to ‘teabagging’, a largely accepted (though often unpleasant) behaviour seen most frequently in competitive first-person shooter games whereby one player crouches repeatedly over the head of another player lying on the ground in mimicry of a sexual act, usually to humiliate or assert victory over that player (see B. Myers 2017; M. Myers 2017). As one commenter stated,

The closest thing I can reference is teabagging which happens daily in tons of games. In real life if some dude knocked you over and gently dangled his plump testicles on your forehead, there would be an issue... in the virtual environment it’s hilarious.

On the other hand, as another Redditor argued, the act of VR groping described in the article is not the same as teabagging given its targeted nature:

I don't think teabagging is really analogous. . . . Teabaggers teabag indiscriminately. This woman was singled out and harassed because the other person heard her voice and decided to target only her.

VR groping was also compared to in-game violence, given that violence is unacceptable in the physical world but acceptable in digital games. Here, there is a “slippery slope” concern that taking VR groping seriously means virtual violence (which is a common, accepted and non-criminal feature of many digital games) would also need to be taken more seriously.

The second subtheme (1b) asks how this act compares to physical or ‘real world’ acts. Here, discussants explored how the virtual nature of the act set it apart from its physical counterparts. For some Redditors, the virtual nature of the act was not enough to distinguish it from physical-world groping:

It’s about the act, not the medium, these polygons are controlled by real people ... imagine you was in SportsBar and some mug constantly pretended to give you head and wouldn't stop, you would be fine with that?

Other Redditors suggested there was nevertheless an important difference between physical and virtual experiences. The following commenter identified a lack of control in physical situations as an important indicator of difference:

Being threatened in [real] life with a knife is horrible and the smell and [physicality] of danger without an off switch makes the two very different. I've been threatened with a broken bottle in a bar while working and though that demo [the *Kitchen Demo* in the VR version of the horror game *Resident Evil 7*] resonated with me.... it's not the same as I have the control. It's when your control is taken away that it becomes deeply troubling. This lady had control at all times. Control is everything.

Sexual assault or sexual harassment?

The third subtheme (1c) addressed the question of whether this act constitutes sexual assault or sexual harassment. As the most prevalent subtheme in the data, this question produced widely varying standpoints, and many Redditors drew from their (at times limited or incorrect) understandings of what constitutes sexual assault and harassment to argue

their position. This was perhaps an especially salient category for Redditors given the question posed in the article—“As VR becomes increasingly real, how do we decide what crosses the line from an annoyance to an actual assault?” (Belamire, 2016, n.p.)—as well as some confusion surrounding the original title of the article (the URL of the article contains the words “My First Virtual Reality Sexual Assault”, though the article itself is headlined “My First Virtual Reality Groping”).

Because this was a notable category, all comments were quantitatively coded according to whether they expressed an opinion on this topic, regardless of whether it was their dominant theme, in order to determine the prevalence of the diverging opinions represented in the dataset. Figures 3 and 4 show the results of this analysis.

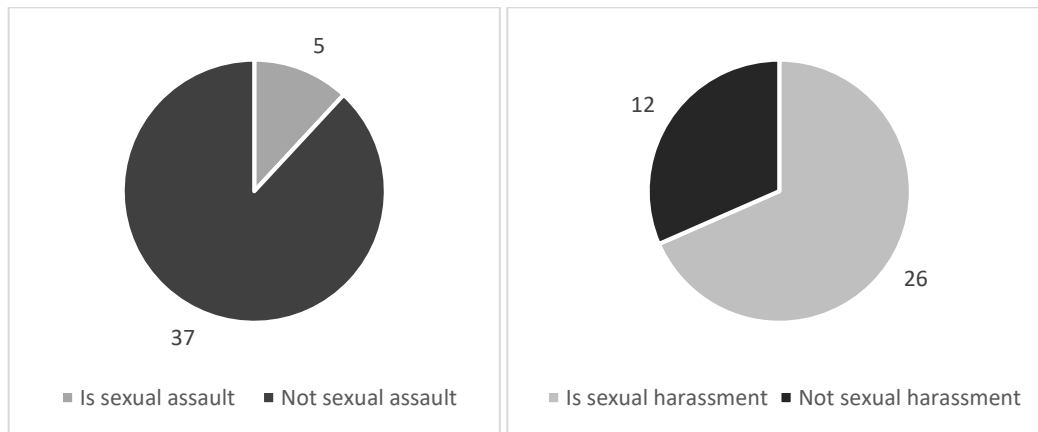


Figure 3 (left): Pie chart demonstrating the number of comments expressing an opinion on whether the act of VR groping constitutes sexual assault (n=42).

Figure 4 (right): Pie chart demonstrating the number of comments expressing an opinion on whether the act of VR groping constitutes sexual harassment (n=38).

Of those comments that expressed an opinion on whether the act constitutes sexual assault (n=42), the majority (n=37, or 88%) suggested that it was not (Figure 3). Of those comments that expressed an opinion on whether the act constitutes sexual harassment (n=38), a smaller majority (n=26, or 68%) said that it was (Figure 4).⁷ In distinguishing this act from sexual assault, comments pointed in particular to the ‘safeness’ of the virtual environment and the ability to remove oneself from it at any time. Discussants would also point to physicality as an important factor in determining the act’s status:

What I have trouble with is calling anything in virtual space ‘assault’. The usual definition of the word is ‘a physical attack’ and I feel it is blowing the act way out of proportion and belittles the actual assaults that take place in meatspace.

At the same time, many recognised it as a form of sexual harassment, as demonstrated in the following comment:

(I don't think in VR you could ever claim assault, because my understanding is it has to be physical, but I could be wrong). What she can claim, though, is sexual harassment . . . Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment.

Some comments did not accept this act as an instance of sexual harassment either, however:

My political correctness is being pushed beyond its limits here. I'm sorry but there is no sexual harassment in multiplayer games. There are horny teenagers that get excited they have the courage to interact with a female.

Given the relative novelty of VR (and particularly multiplayer VR games), it is perhaps unsurprising that much discussion was dedicated to the theme of conceptualisation. Redditors negotiated extensively around where this act stands among other acts that are more familiar in digital games and the physical world. Indeed, the question of how we should conceptualise the act of VR groping is an important one, for it is inextricably tied to navigating the ontology of the game space itself as virtual and playful, and this ontology feeds into subsequent ethical debates surrounding the act and how we should respond to it. In particular, it has implications for how seriously we should take this act and how we should respond to it. The next theme builds upon this foundation through the introduction of an ethical dimension.

Ethics (Theme 2)

The theme of ethics focuses on whether or not this act was wrong and why. For some Redditors, it was highly unethical, reflecting a serious problem in the world of VR gaming. For others, it was more akin to what may be called a ‘suberogatory action’ (that is, an act that is in bad taste) (Young 2017). For others still, this act did not deserve ethical consideration and was largely unproblematic. Four subthemes were identified to summarise the various ethical arguments put forward by discussants.

The first subtheme (2a) asks if this act was truly harmful, and was the third most prevalent subtheme in the data. Here, Redditors entered into a consequentialist debate that explored whether the act of groping in VR can reasonably be said to cause harm, and whether any harm caused is sufficient to make the act unethical. Like subtheme 1b, this discussion drew heavily on the virtual nature of the incident, focusing in particular on the immersiveness of VR and its resulting potential to heighten one’s emotions in response to in-game acts. Many discussants took a more empathic approach to the event and acknowledged VR’s realism:

I've seen people react in genuine fear to [VR]. Even verbal abuse can cut pretty deep, so I can definitely see that it could be very upsetting for someone to be ‘groped’ in VR.

On the other hand, some expressed more skepticism in this regard:

You're nothing but a floating headset and move controllers anyway! Stop pretending that VR is at such a realistic level that you can actually feel violated online, it's incredibly stupid . . .

The second subtheme (2b) addresses whether the act can be expected or anticipated in games, which is an ethical question because it has implications for how far this act can or should be tolerated. It also points to the issue of implicit consent—a player who enters a game knowing that virtual violence is expected in the game, for instance, may be understood as giving their implicit consent to violence.

For some commenters, UDESIs and other unpleasant player-to-player interactions are expected in digital play environments and largely unavoidable. One Redditor wrote, “My

basic take is...yeah...welcome to the wonderful world of online multiplayer”, while another commented, “You can't expect any place with massive freedoms to not also be dominated by assholes”. There is a sense of acceptance of (or resignation in regard to) disruptive or harmful in-game acts here. However, this view was not upheld by all discussants—as another commenter pointed out,

. . . if you started up a game called ‘Erotic Body Touch Simulator’ you would expect to be touched in an erotic fashion. What we're talking about here is a lack of consent in regards to a sexual interaction, which is where harassment and assault come into play.

This view draws into focus how acts such as violence may be expected in *many* digital games, sexual interactions may be expected in very *particular* games, but this expectation cannot be extended to *all* digital games. In the case of UDESIs, it may be that a smaller subset of games are designed primarily for sexual interactions and thus such acts may be expected in them—but in a new team-based archery VR game like QuiVr, this expectation strikes some as particularly unwarranted. For another Redditor, the blanket generalization that acts like this should be expected in all games is also potentially harmful: “I just think that normalising unacceptable behaviour in any form is a dangerous thing”.

The third subtheme (2c) explores the perpetrator’s character and asks what motivates them, in order to explore the ethics of the act. Here the focus is not so much on the act itself or its consequences, but on the mindset, intentions and context in which the perpetrator of this act was operating. For some Redditors, it is clear that the perpetrator is an “asshole” or “douchebag” with ill-intent, summed up by this comment: “‘Why can't I virtually molest people!?! So lame! –Scumbags’”. For others, the perpetrator likely did not intend to molest or harm: “He probably just thought he was being silly, and I'm pretty certain he wouldn't have thought he was upsetting someone to the extent that he apparently did.”

Finally, another ethical subtheme deserves mention. Rather than questioning the character and motivation of the perpetrator, some commenters turned to questioning the character and motivation of the writer of the article (2d). These comments tended to focus on ‘PC [political correctness] culture’, the influence of mainstream feminism and sensationalism in journalism, and were largely infused with skepticism regarding the veracity of the story itself and the author’s intentions in writing it. One Redditor writes, “I see this as a SJW [social justice warrior] attempt to rile up the internet for creating internet drama and clicks”. It is this perceived egotistical desire to ‘stir the pot’ that some commenters found more notably unethical than the act itself:

This is just sensationalist journalism. Actual sexual assault is incredibly serious and unacceptable. Comparing it to an experience in a video game is a shockingly insensitive way to get more page views.

To summarise the ethics theme, Redditors focused largely on consequentialist debates in determining the ethical status of this act of groping in VR, but also took into account whether the act can (or should) be expected in the digital playful context, as well as the motivation and character of the perpetrator. Concerns about sensationalist journalistic practices and political correctness were also present, some reminiscent of the thinly-veiled misogyny related to Gamergate.⁸

The starkly contrasting opinions about these issues may be said to reflect what has been identified as ‘boundary-work’ in digital games, whereby players engage in an ongoing negotiation of in-game rules and ethics (Carter et al. 2015), exhibiting perspectives that are “largely unresolved and . . . perhaps irreconcilable” (Gibbs et al. 2013, 3). These ethical discussions draw an important issue into focus: people understand their own actions in virtual worlds in very different ways, and players may also have widely differing interpretations of the intentions behind another player’s actions as well. We may recall Mr. Bungle’s response to the genuine hurt and outcry from players of the MUD *LambdaMoo* as a result of the ‘virtual rape’ he initiated—“It was purely a sequence of events with no consequence on my RL [real life] existence” (Dibbell 1998, n.p.). Players can starkly disagree on the meaning attached to ludic digital actions, and can be fairly resistant to attempts to challenge those meanings.

Action (Theme 3)

Regardless of their ethical positioning, many Redditors had much to say about what actions should be taken in response to acts like groping in VR games. Suggestions here were heavily intertwined with their views in the two themes already discussed. Three subthemes were identified related to action.

The first subtheme (3a), the second most prevalent subtheme in the data, focuses on the individual victim’s responsibility to take measures to avoid acts like these. Here, the discussion surrounds whether the individual who feels harmed by some action performed by another is ultimately the one responsible for finding a way to disengage from the act and the perpetrator. The appropriate and obvious response for some Redditors thus involved the harmed individual changing game servers, muting or blocking the offending player, or otherwise just taking off the VR headset and leaving the game. For these Redditors, this response is one that is already a common way of negotiating digital games in which ‘bad behaviour’ is to be expected. This perspective was often tied to a sense of helplessness in being able to control people’s online behaviours. As one Redditor wrote:

I agree that people should be able to control themselves and show manners even in a virtual environment, but if they don’t the only real option is to ignore them, block them, or leave the game.

This perspective was echoed in another’s response: “You can only change yourself, not others. I mute people in games when they start spewing racist shit.” However, placing the responsibility on the harmed individual was not a sufficient response for other Redditors. As one discussant wrote, “I put it to you or anyone: why should someone have to quit a game, find a new [game] lobby or take off their VR headset due to the actions of another?”

The second subtheme (3b) focuses on whether or not the perpetrator of acts like this should be punished, and if so, what sort of punishments are appropriate. Suggested responses ranged from issuing no punishment at all (“You don’t get to censor anybody who does or says something you don’t like just because you don’t like it”), reporting the individual (giving them a warning or strike against their account), suspending their account, banning them from the game altogether, and even real-world responses. One somewhat unpopular comment (with -5 points) suggested,

These things have to be stopped. Whatever it costs. . . . If they do it another time, they should not [be] allowed to drive a car for 3 month[s]. And if they do it a third time, they should not be allowed to buy a new headset, for life.

Among the comments overall, there was a general discomfort with real-world and criminal responses to VR groping like those described in the comment above. Nevertheless, many comments, even those made by users who did not take VR groping very seriously, voiced support for a reporting system that could eventually lead to suspension or banning, particularly alongside options to mute or block the offending player.

The third subtheme (3c) looks at other responses beyond individual responsibility and punishment. Such responses include solutions such as in-game moderation and sorting players according to their desired multiplayer experiences. A small number of Redditors also considered taking preventative measures, such as challenging the status quo of 'gamer culture' that may make acts like groping in VR seem acceptable or permissible: as one commenter wrote, ". . . the more inclusive a culture we foster in VR, the better it is going to be for all of us."

The action theme demonstrates the difficulties of determining how to deal with acts of groping in VR given the ambiguities presented by the wide range of conceptualisations and ethical evaluations surrounding the act itself. However, notably echoing Kerr's (2008, 428) suggestion that it is better to deal with in-game transgressions within the game rather than through the "crude hammer" of criminal law, many discussants were uneasy with the potential for real-world punishment for virtual actions, particularly amidst wider concerns over privacy and online freedoms.⁹

Vision (Theme 4)

The final theme encompasses projections surrounding how acts like VR groping may develop alongside the technology they take place in. Two subthemes were identified.

The first subtheme (4a) involves discussions of how our conceptualisations, ethics and actions in response to such acts may develop as VR becomes more realistic, immersive and commonplace. One Redditor expressed a concern that it will become increasingly difficult to treat VR groping lightly given such developments:

Of course today's VR experiences are a pale reflection of reality - but in no time at all, they'll be so realistic, you won't be able to brush it off. And, sure. 'Don't play that game.' But suppose in 10 years LinkedIn is all VR. You basically have to use LinkedIn to look for a job or find someone to speak at an event or whatever.

Another concern focused on the introduction of haptic feedback devices, which allow VR users to physically feel the touch of another within the virtual world. One Redditor tied the introduction of haptic feedback to the potential for criminal repercussions to VR groping:

[VR groping] seems like something that will end up challenged in courts some day . . . Let's say they invent haptic feedback suits for VR one day that let you feel heat or stiffness when touched in different places for better immersion (fire from an explosion, bumping into a table, etc). Now the person on the other could potentially feel you touching them as well just seeing it, and get feedback themselves about it. . . .

The second subtheme (4b) includes discussions of how acts like groping in VR will affect the uptake, acceptance and development of VR technology in the future. For example, when one commenter expressed concern that acts like this could damage the mainstream uptake of VR ("Trolls could kill VR"), another expressed more optimism that VR would

adapt appropriately: “Online Multiplayer gaming has a rich history full of assholes. VR will either accept that, or come up with ways to prevent/minimize it. I don't think trolls will kill it [altogether].”

The vision theme reflects the concerns of those who have an interest in VR and its uptake. Indeed, the issue of how to deal with UDESIs as VR technology develops is yet another example of the ongoing and ever-evolving “wicked problem of values and ethics in [human-computer interaction] design” (Shilton 2018, 109). This problem highlights the difficulties designers face in “avoiding bias and unfairness” in technological design despite the fact that “people and systems are thoroughly entangled” and technology and its users are unpredictable. Regardless, any design or policy choices made in this regard are likely to be of significance in determining how VR and VR games are received by wider communities.

IMPLICATIONS AND FURTHER WORK

The first key takeaway from this study is that, given the high level of commentator engagement with the conceptualisation theme, it is evident that the position of UDESIs is still unclear in relation to other contentious digital acts and their physical-world counterparts. Secondly, many commenters noted that VR games are distinctly more realistic and immersive than non-VR games, and are only expected to become more so as the technology develops. We note a potential tension here: in VR games that are advertised and experienced as ‘real’ and ‘immersive’, VR developers may increasingly encounter demands to acknowledge UDESIs as similarly ‘real’ given their potential impact on the player—demands that might, at the same time, continue to be met with resistance by other groups of players. Finally, highlighted in this study is the fact that ethical negotiations of in-game acts do not simply occur in a vacuum. Rather, they interact with wider social trends and debates surrounding comparable acts outside games. Indeed, commenters often expressed confusion regarding what sexual harassment or assault is, and this was further complicated by the VR context. These findings may thus serve as a useful empirical foundation for the further consideration of design and policy formation in relation to VR games. How UDESIs in VR games should be acknowledged, defined and responded to, and how the player interests and expectations highlighted in this study can be appropriately managed, are particularly in need of further examination.

LIMITATIONS

This study has some limitations. Firstly, it focuses on comments on VR-related subreddits in response to a specific account of a UDESI in the game QuiVr. Although this focus allows for a closer qualitative analysis of the relevant data, the themes highlighted may not reflect the key concerns of all Redditors, VR-interested users, video game players, or the wider public, both in terms of this event and in regard to UDESIs more generally. Further work is needed to explore how these arguments and concerns might shift in different populations and contexts. One particular area of interest may be to, like Dibbell (1998), adopt a more ethnographic approach in exploring UDESIs. Examining how particular VR game communities are affected by or respond to such acts, for instance, could produce some interesting insights that are strongly connected to the player communities themselves.

Secondly, many comments were lengthy, complex and reflected more than one theme. While qualitative analysis is suited to this sort of data, quantitative analysis using a dominant coding strategy is perhaps less so, as it may dilute the complexity and interrelations of the themes identified. If quantitative coding is used, it may be beneficial

to code multiple themes per comment rather than just one dominant theme (see Note 5 for more on this).

Finally, as the unit of analysis was the comment rather than the commenter, we note that the results do not clarify the potential role of ‘superposters’ (SP1s). Graham and Wright’s (2014, 15) framework for coding SP1s highlights the ‘positive functions’ of SP1s in virtual debate spaces, which include ‘consultative’, educational, and ‘social bonding’-based communicative practices that otherwise encourage discussion. Post-analysis, we identified nine Redditors in the current study as SP1s (providing between 8–22 comments each in a single thread). Some of these contributors demonstrated the potential to actualize these positive functions, namely by reflecting on the various perspectives of other commenters. However, some also repeatedly argued a single viewpoint (in particular, that the act does not constitute sexual assault and/or should not be taken too seriously) in a way that may have led to an overrepresentation of these perspectives in the discussion. Further work in this area would help build a more robust understanding of how SP1s operate in different debates and how they may impact the results of studies of online discussion forums.

CONCLUSION

Redditors discussed Belamire’s (2016) article on groping in VR according to four key distinct but interrelated themes: 1) Conceptualization—what is the act of groping in VR? 2) Ethics—what is (un)acceptable about the act? 3) Action—what should be done about it? and 4) Vision—what does this act mean for the future of VR? The first three themes represent the bulk of discussion on this topic. Conflicts and disagreements within these themes were numerous. The three subthemes that generated the most comments concerned whether the act of groping in VR constitutes sexual assault or sexual harassment, whether it is the individual’s responsibility to respond to this act, and whether or not this act caused harm. The majority of comments that expressed an opinion on whether the act constitutes sexual assault or harassment said VR groping does not constitute sexual assault, while a smaller majority said it does constitute sexual harassment. While many comments were dismissive of VR groping as being anywhere near as serious as real-world groping, many comments nevertheless highlighted it as one that needs to be responded to effectively by developers.

The four key themes identified and the conflicts they contain reflect an ongoing negotiation of our relationship to VR as an embodied virtual space, as well as to acts of sexual assault and sexual harassment. The results of this study point to a shifting gaming landscape—the ‘same old’ digital games and the cultures surrounding them are entering into immersive virtual platforms and encountering new audiences and voices. This results in a tense discourse as users struggle to define and evaluate unwanted sexual acts in VR amidst a rapidly changing technological and social context, where virtual worlds are becoming more immersive and concerns about sexual assault/harassment, both within and outside gaming, are becoming more visible.

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ENDNOTES

1 Beyond UDESIs, many scholars continue to argue that a wide variety of digital in-game actions—including stealing from, betraying, and even killing fellow players in game—can be harmful and morally wrong (see e.g. Huff, Johnson & Miller 2003; Powers 2003; Wolfendale 2007; Luck 2009; Ryland 2019).

2 Before data collection began, ethical approval for the study was obtained from the Human Ethics Advisory Group (HEAG) in the Department of Engineering at the University of Melbourne, Australia (ethics approval ID: 1853304.1).

3 The subreddit r/PSVR describes itself as “A place to share your love for and discuss everything PlayStation VR” and had 115k subscribers at the time of analysis. The subreddit

r/Vive describes itself as being a platform for “Discussing Virtual Reality Experiences and VR technology”, and had 119k subscribers at the time of analysis.

4 Points, also known as ‘up-votes’ or ‘down-votes’ to the community, are given by Redditors to comments to signify support or interest.

5 Although within acceptable levels for tentative conclusions, the inter-rater reliability score generated for the quantitative coding in this study is still below what would be ideal for drawing stronger quantitative conclusions (i.e. Krippendorff’s $\alpha > 0.8$). We identify at least two key reasons for this: 1) There were some remaining ambiguities in the coding scheme (such as how to deal with short statements of agreement in reply to an earlier comment), which were revealed after the coders went through every comment individually together after the coding was complete; and 2) Many of the comments are fairly lengthy and reflect multiple themes, making assigning a single code difficult. The coding scheme has been revised to take 1) into account. Nevertheless, in regard to 2), we suggest that the complex nature of the data on a site like Reddit means that quantitative coding, particularly using a dominant coding strategy, is less suited to the data than qualitative analysis. We nevertheless offer the results of this analysis in this paper as a means to tentatively complement the qualitative themes and to prompt further discussion on the usefulness of this type of quantitative coding with online forum data.

6 As a point of comparison, Gibbs et al. (2013) also identified conceptualisation (framed as ontological negotiations surrounding personhood and the game environment) and ethics to be important themes in online discussions of a controversial in-game incident in 2006. In this incident, a group of players in the massively multiplayer online roleplaying game (MMORPG) World of Warcraft violently disrupted a funeral being held in-game for a player who had died in real life (see also Luck 2009).

7 Note that there is some overlap between comments here, as some commenters expressed an opinion on the act as constitutive of sexual assault *and* sexual harassment within the same comment (a total of 67 comments expressed an opinion on whether or not the act constitutes sexual assault, sexual harassment, or both).

8 Gamergate is a hashtag movement initially claimed to be about gaming journalism ethics that evolved into “a campaign of systematic harassment of female and minority game developers, journalists, and critics and their allies” (Massanari 2017, 330). Importantly, Massanari (2017) also argues that Reddit is designed in such a way that supports these sorts of hateful and toxic campaigns and allows them to flourish, making it perhaps unsurprising that a segment of comments in the current study followed this trend.

9 For more literature on the extent to which criminal law can be applied to actions in virtual worlds, see Lastowka and Hunter (2004), Brenner (2008), Johansson (2009), and Guinchard (2010).