The Age Of Gamers And Their Representation Of Sexual Orientation And Gender Identity Through Avatars

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Abstract

The video game industry now holds a significant share of the global market, and the consumption of video games has given rise to avatars and online societies. Video games impact the real world by enabling individuals to represent themselves through avatars in virtual spaces, driven by various motivations. Many scholars are interested in studying the variables related to the identity and gender of gamers to find correlations with their representation in the game. However, many researchers in these studies primarily focus on biological sex and do not thoroughly explore sexual orientation and gender identity (SOGI) in relation to gamers and their avatars. This research inquiry aims to investigate the gaming population's biological sex, gender identity, sexual orientation, and age to discern patterns in how they express gender through their avatars.

Data were collected through online questionnaires using Google Forms in online social media gaming communities, primarily Facebook. The study focused on popular games from three distinct genres: action (Grand Theft Auto), MMORPG (Black Desert Online), and simulation (The Sims 4), where players can freely customize their avatars. The sample group consists of 420 individuals. Among them, 52.6% were identified as male, and 47.4% (identified as) female. The average age of the gamer sample was 22.75 (SD = 6.17). Age and Sex Ratios (ASRs) indicate a trend among this

younger generation towards not adhering strictly to the gender binary. In terms of sexual orientation, most gamers identified themselves as heterosexual, but in terms of gender identity, many identified themselves as queer.

Keywords: Gamer, Avatar, Sexual orientation, Gender identity, Video game.

Introduction

The video game industry now commands a global market share of $335 billion (Statista, 2023). Additionally, the consumption of video games has given rise to avatars and online societies where individuals can interact without the need for face-to-face meetings while maintaining the freedom to withhold personal information. This phenomenon has also created a virtual world where people can assume the roles or personalities of others, allowing them to express facets of themselves that they might choose not to reveal in their daily lives. Moreover, it provides the opportunity for actions that need not have real-world consequences.

The media of video games impact the real world by enabling individuals to represent themselves through avatars in virtual spaces, spanning offline games, online games, and social media platforms. Video game culture is defined by gamers' behaviour and their ideology regarding how to play video games (Shaw, 2010) with motivations including the establishment of identity within the gaming community (Taylor's, 2006) as well as achievement, social interaction, and immersion (Yee, 2006). The context of game culture is characterized by the discourse surrounding technology capabilities converging with prevailing concepts of gender and race, which shapes the video game industry and developers' creativity (Dovey & Kennedy, 2006). This transformation has positioned video games as a significant component of international culture in society (O'Hagan & Mangiron, 2013).

On this topic, the customization of avatars to represent identity in the virtual world is crucial because, in the majority of video games, gamers interact with the game avatar (Bainbridge 2007; Lin & Wang, 2014) primarily to create avatars in which they can choose their

sex, gender, and race, either mirroring their real-life identities or deviating from them (Trepte, et al., 2009). Some gamers use avatars to express their gender identity or sexual orientation (Eklund, 2011) without necessarily adhering to their real biological sex.

The issue of gender in video games is a subject of study. Many researchers are interested in studying the variables related to the identity and gender of gamers to find correlations with the representation in the game (Eklund, 2011; Hefner & Vorderer, 2007; Schroeder, 2002; Griffiths et al., 2003; Ogletree & Drake, 2007; Ewell et al., 2016; Soutter & Hitchens, 2016; Gabbiadin et al., 2016). There is also a group interested in studying the direct design aspects, focusing on ethnicity, race, size, body shape, skin colour, and gender of the avatar in video games presented to consumers through media and the choices made by gamers when using the game (Ogletree & Drake, 2007; Gabbiadin et al., 2016; Hefner & Vorderer, 2007; Eklund, 2011; Martins et al., 2011; Dunn & Guadagno, 2012; Soutter & Hitchens, 2016; Behm-Morawitz, 2017; Baken & Bakan, 2019). However, many researchers in these studies primarily focus on biological sex and do not thoroughly explore sexual orientation and gender identity (SOGI) in relation to gamers and their avatars.

As previously noted, gamers have the option to play video games anonymously. This research inquiry aims to investigate the gaming population's biological sex, gender identity, sexual orientation, and age and to discern patterns in how they express gender through their avatars.

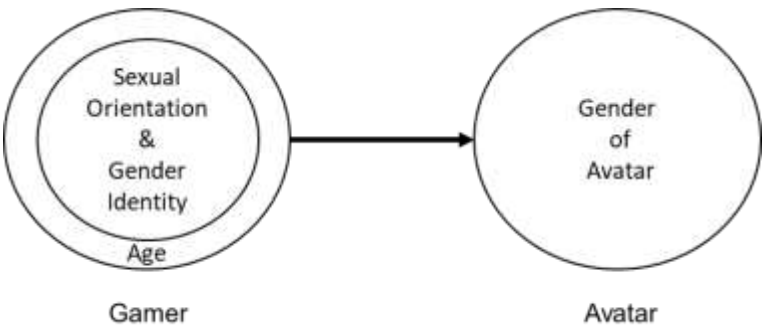

Figure 1: Concept Framework

Literature Review

Gender Essentialism

Human society has entered the modern era with the emergence of the essentialist sexual paradigm (Essentialism), primarily linked to the biological sex and hormonal differences between males and females. This classification of biological sex and gender is examined through a science-technology framework (Gülgöz et al., 2019; Smiler & Gelman, 2008).

Gender Construction

Currently, gender studies are increasingly embracing gender diversity, encompassing aspects related to culture, health, medicine, values, and the inherent dignity of humanity. Consequently, the contemporary scientific system of gender classification has come under scrutiny. This represents a paradigm shift in the examination and critique of modernity. Through the theory of essential concepts shaping the definition of gender in diverse ways, gender is no longer solely measured by physical scientific criteria. In an era often referred to as postmodern, the emphasis is placed on the significance of constructing a society comprising of various interconnected units, including interactive spaces, boundaries, identities, and the interdependence of human existence for survival. Consequently, humans are recognized as social beings who engage and interact with each other through group actions.

When all institutions making up society are considered, the initial stage of human communication establishes gender roles through language, encompassing gestures, speech, and writing. The language system serves as a symbol for conveying meanings in the form of signs (Signifier), as theorized by Ferdinand de Saussure, with examples like the words 'father' and 'mother,' 'boys' and 'girls.' This extends to categorizing social entities, such as men's and women's restrooms, and influencing behavioural associations, such as garage and kitchen usage. Gender, therefore, assumes a prominent role in everyday life, shaping activities like playing with dolls, which can be fed and have their diapers changed. Thus, gender becomes a symbol that imparts a symbolic meaning (Signified) in structuring the role of a

homemaker responsible for child-rearing. It prepares young girls for adulthood, emphasizing femininity, distinct from dolls depicting soldiers holding guns, which represent masculinity associated with strength. Gender role perceptions are culturally determined, and language exhibits fluidity, evolving over time and with the seasons. For instance, a hammer does not solely signify a tool for destruction but also represents a means for creating objects (Kagan, 1964).

Judith Butler, a gender studies theorist and philosopher influenced by postmodern ideas and Foucault, seeks to define gender through the lens of social, political, and cultural structures. She argues that gender is intricately connected to race, ethnicity, sexuality, and identities constructed through discourse. Drawing from phenomenological theory, Butler expands the tools of political expression to challenge gender categorizations, particularly those imposed on women. She critiques cultural perceptions of gender at birth (physiology) that cannot be separated from gender and aims to create a new legal and political discourse systematically addressing heterosexuality, including the value of marriage and the spontaneity of sexual attraction for species reproduction, as discussed by Foucault in biopolitics (Butler, 1988).

Butler's definition of gender suggests that physical gender is governed by legal and scientific constructs, while gender itself is a performance (Gender as a performance). Whether it's walking, talking, facial expressions, or gestures, everything constitutes a role play. Performance involves repetition and extends beyond external acts to encompass Foucault's concept of stylistics of existence, which relies on social history to determine internal performance. When the performative and social concepts are applied to gender, the individual body becomes a significant medium of immediate public action. It is temporary and fluid, reflecting personal choices not rigidly constrained by scripts and cultural codes. This does not imply that the identity being displayed existed before culture, as society and culture shape identity. Performers are therefore always ready to choose from various acting roles within existing cultural constraints. Thus, gender, in reality, becomes performances that interpret sexual or

gender identity manifestations. Expressing through gestures is a popular way to convey gender, making sexual identity easily recognizable to the public in terms of masculinity and femininity. Consequently, posture, body language, and clothing are interconnected with physical characteristics in complex ways, necessitating alternative presentations to avoid being limited by nature, history, language, and patriarchal symbols. Gender, therefore, is something that can be embodied through everyday performance, symbolized by the body in various ways, and represented through temporal social patterns that are endless or serve as a person's secondary identity (Butler, 1988; Butler, 2011).

Queer

Given the complexity and diversity of human sexuality, the Queer movement has emerged. Originally, in the first era before the 1980s, the term 'queer' was derogatory, signifying something abnormal, deviant, or related to homosexuality and pansexual. However, starting in the 1980s, the LGBTQ+ community began reclaiming and using the term 'queer' to describe their diverse gender identities and sexual orientations. This transformation, as proposed by Butler, underscores the empowerment that can be derived from a term previously associated with insult and accusation (McCann & Monaghan, 2019).

By the 1990s, 'queer' had entered public and academic discourse and developed into Queer theory within a post-modern framework. Queer theory challenges traditional social norms perpetuated by state power mechanisms, which categorize gender stereotypically as either male or female, define norms related to marriage, singleness, heterosexuality, homosexuality, normality, and perversion, among others. Queer theorists seek to deconstruct binary oppositions (Eng & Halberstam, 2005) by critiquing gender injustices in society and advocating for individuals with diverse sexual orientations and gender identities who fall under the umbrella of queer. This term encompasses those who question or are uncertain about their gender (Questioning), women who love women (Lesbian), men who love men (Gay), individuals attracted to both genders (Bisexual), and transgender people.

The Queer theory further extends beyond the societal prejudice of a binary gender system (Gender binary) to embrace a non-binary approach, which encompasses genderless individuals (Agender/ Undifferentiated), those with gender fluidity (Gender fluid), and people identifying with two genders (Androgynous) (Diamond, 2020). It also encompasses sexual orientations that deviate from societal expectations, such as those with preferences for individuals of all genders, as seen historically in certain Indian tribes, and individuals who experience no sexual attraction to any gender (Asexual) (Prause & Graham, 2007).

Research Questions

Research question 1) Is there a relationship between gamer's, age and their sexual orientation?

Research question 2) Is there a relationship between gamer's, age and their gender identity?

Research question 3) Is there a relationship between gamer's, age and their avatar gender?

Research question 4) Is there a relationship between gamer's, sexual orientation and the gender of their avatar?

Research question 5) Is there a relationship between gamer's, gender identity and the gender of their avatar?

Research Methodology

1) The researcher conducted a gameplay test and gathered information from online game stores, including game reviews on websites such as YouTube. The games selected for analysis were those that are popular and widely recognized among gamers, have received awards from reputable institutions in the gaming industry, and have substantial player communities in the online gaming community. The study focused on popular games from three distinct genres: action (Grand Theft Auto), MMORPG (Black Desert Online), and simulation (The Sims 4), where players can freely customize their avatars.

2) Data were collected through online questionnaires using Google Forms. The questionnaires were distributed to online gamers within the sample group

who play the specified games. These gamers utilize various platform systems, including PlayStation 4, PCs, and smartphones. The questionnaires were disseminated through online community groups dedicated to playing these games. The primary platform for this gamer community engagement and exchange of opinions was Facebook. The process for collecting the questionnaires proceeded as follows: 2.1) Accessing the online social media groups for the three sample games: Grand Theft Auto 4 Online, Black Desert Online, and The Sims 4. 2.2) Distributing the questionnaire links to the discussion boards within the gamer community groups playing the specified games, as well as to groups associated with the respective console systems provided by the games. 2.3) Ensuring an adequate number of respondents across all three sample games to ensure a representative population for reliable statistical analysis. 2.4) Screening and compiling complete data, which were then recorded in the computer system to prepare for data analysis.

3) In this study, the data analysis employed descriptive statistics to examine the demographics. It involved analyzing a sample of gamers to explore the relationship between biological sex and psychological gender in shaping a gamer's identity. To assess this relationship, Chi-square statistical tools, along with Adjusted Residual (ASR) values, were used. Quantitative data analysis was carried out using the SPSS program on a computer. The analysis was conducted at a 95 percent confidence level ($\alpha = .05$) to determine statistical significance.

Results

Demographics of Gamers

Biological sex and age of gamers: The population data in the overall profile of gamers from the sample group consist of 420 individuals (N = 420). Data were collected conveniently, with a focus on the online gaming community listed in the video game roster. The distribution of biological sex among these gamers is as follows: 52.6% identified as male, while 47.4% identified as female. The average age of the gamer sample was 22.75 (SD = 6.17). Age categories were as follows: less than 18 years, accounting for 26%; 41.2% aged 18-24 years, and 32.9% aged over 25 years.

Education level: Less than a bachelor's degree or high school (43.3%) bachelor's degree or equivalent (49.3%), Master's degree (6.9%), doctoral degree (0.5%) and Others/Not disclosed (0.2%).

Length of time and platform to play: The average gaming experience among the sample group was 9.24 years
(SD = 7.29). The majority had gaming experience of less than 5 years (32.6%). The average frequency of gaming (days per week) was 4.16 (SD = 1.19). A substantial number of gamers (57.4%) played video games every day. The average hours spent per gaming session was 5.9 (SD = 3.54). Most gamers played for 8 hours per session (58.6%). In terms of platform preference, the majority used personal computers (95.2%) for gaming, while a smaller percentage used PS4/PS5 (4%) and using XBOX1/XBOXS/X (0.7%).

Gender identity and Sexual orientation of gamers: Based on gender information from the gamer population, it was found that Cisgender had the highest number at 78.3%, gender fluid (5.7%), androgynous (4.5%), questioning (4.5%), transgender (3.1%), agender/undifferentiated (2.1%), and non-binary (2.1%).

Sexual orientation of gamers: The demographic data related to sexual orientation reveals the following percentages within the gamer population: Orientation towards men (35%), Orientation towards women (47.1%), Bisexual (7.9%), Pansexual (7.4%), Asexual (1.7%), Transgender (0.7%), and Not interested (0.2%)

Research Question 1

The relationship between gamer's, age and their sexual orientation based on Chi-square was significant (See Table 1). Among the gamers, 82.2% (n = 346) identified themselves as straight. ASR scores indicate that those who were more than 18 years old were proportionately more likely to identify themselves as straight (62.9%; n = 265) than those in the age group of less than 18 years old (19.3%; n = 81).

Among the gamers who identified themselves as having a queer sexual orientation, the proportion of those identifying themselves as queer was 17.9% (n = 75). The ASRs indicate that identifying themselves as

queer was more prevalent among those who were less than 18 years old (6.7%, n = 28) than those who were more than 18 years old (11.2%, n = 47).

Table 1: The relationship between gamer's, age and their sexual orientation

Age of gamers	**Sexual orientations**	
	Straight (ASR[a])	**Queer (ASR[a])**
Less than 18 years old	-2.5*	2.5*
More than 18 years old	2.5*	-2.0*
λ^2 (1, N = 420) = 6.154, p = .013, Cramer's V = .121		

Note: *Significant ASR scores. [a] Negative ASR scores indicate underrepresentation and positive scores indicate overrepresentation

Research Question 2

The relationship between gamer's, age and their gender identity based on Chi-square was significant (See Table 2). Among the gamers, 78.4% (n = 329) identified their gender identity as cisgender. The ASRs indicate that those who were more than 18 years old were proportionately more likely to identify themselves as cisgender (59.8%; n = 251) than those in the age group of less than 18 years old (8.6%; n = 78).

Among the gamers who were identified as having a queer gender identity, the proportion of those identifying themselves as queer was 21.7 (n = 91). The ASRs indicate that identifying themselves as queer was more prevalent among those who were less than 18 years old (7.4%.; n = 31) than those who were more than 18 years old (14.3%; n = 60).

Table 2: The relationship between gamer's, age and their gender identity

Age of gamers	**Gender identity**	
	Cisgender (ASR[a])	**Queer (ASR[a])**
Less than 18 years old	-2.0*	2.0*
More than 18 years old	2.0*	-2.0*
λ^2 (1, N = 420) = 3.980, p = .046, Cramer's V = .097		

Note: *Significant ASR scores. [a] Negative ASR scores indicate underrepresentation and positive scores indicate overrepresentation

Research Question 3

The relationship between gamer's, age and their choice of avatar gender was found to be significant based on the Chi-square test (See Table 3). The distribution of avatar representation was as follows: male (26.2%; n = 110), female (47.7%; n = 200), and Queer (26.2%; n = 110). ASR scores indicate that the individuals who were less than 18 years old were less likely to customize their avatars as female, while those who were more than 18 years old were more likely to customize their avatars as female.

Table 3: The relationship between gamer's, age and their avatar gender

Age of gamers	**Genders of avatar**		
	Male (ASR[a])	**Female (ASR[a])**	**Queer (ASR[a])**
Less than 18 years old	**-**	-2.4*	**-**
More than 18 years old	-	* 2.4*	-
λ^2 (2, N = 420) = 6.285, p = .043, Cramer's V = .122			

Note: *Significant ASR scores. [a] Negative ASR scores indicate underrepresentation and positive scores indicate overrepresentation

Research Question 4

The relationship between gamer's, sexual orientation and the gender of their avatar was found to be statistically significant based on the Chi-square test (See Table 4). ASRs indicate that those with sexual preferences towards males were more likely to customize their avatar as female (21.0%; n = 88) and less likely to customize it as male (5.2%; n = 22). Those with sexual preferences towards females were more likely to customize their avatar as male (19.5%; n = 82), while they did not customize their avatar to female (19.3%; n = 81), and queer (8.3%; n = 35), Additionally, those with sexual preferences towards Queer were more likely to customize their avatar as Queer gender (9.0%; n = 38) and less likely to customize it as a male avatar (1.4%; n = 6).

Table 4: The relationship between gamer's, sexual orientation and the gender of their avatar

Sexual orientation of gamers	**Genders of avatars**		
	Male (ASR[a])	**Female (ASR[a])**	**Queer (ASR[a])**

Male	-3.8*	3.7*	-
Female	6.7*	-2.6*	-3.7*
Queer	-4.0*	**-**	5.4*
λ^2 (4, N = 420) = 63.885, p < .001, Cramer's V = .276			

Note: *Significant ASR scores. [a] Negative ASR scores indicate underrepresentation and positive scores indicate overrepresentation

Research Question 5

The relationship between gamer's, gender identity and the gender of their avatar was found to be statistically significant based on the Chi-square test (See Table 5). ASRs indicate that those who identify themselves as female were more likely to customize their avatar as male (41.4%; n = 174), while very few did not customize it as female (0.5%; n = 2), and a small percentage identified it as queer (5.7%; n = 24). Conversely, those who identified themselves as queer were more likely to customize their avatar as of queer gender (9.5%; n = 40) and less likely to customize it as male (15.2%; n = 64).

Table 5: The relationship between gamer's, gender identity and the gender of their avatar

Gender identity of gamers	**Genders of avatars**		
	Male (ASR[a])	**Female (ASR[a])**	**Queer (ASR[a])**
Male	-	-	-
Female	* 4.1	* -2.4	*-3.3
Queer	* -6.0	-	* 5.6
λ^2 (4, N = 420) = 38.877, p < .001, Cramer's V = .215			

Note: *Significant ASR scores. [a] Negative ASR scores indicate underrepresentation and positive scores indicate overrepresentation

Discussion

From the data, it is observed that the gamers under 18 years old tend to have a more diverse sexual orientation and gender identity. ASRs indicate a trend among this younger generation towards not adhering strictly to the gender binary, and they often identify themselves as queer, aligning with the principles of queer theory. In contrast, the gamers over 18 years old seem to adhere to more traditional gender norms, displaying characteristics associated with essentialism paradigms.

Gamers under 18 years old are also less likely to prioritize representing a female gender through their avatars. Instead, they appear to choose diverse gender representations for their avatars. On the other hand, those over 18 years old tend to customize their avatars as female.

In terms of sexual orientation, the gamers who have a preference for males tend to customize their avatars as females, while those with a preference for females tend to customize their avatars as males. This suggests that the gamers in these groups may have a heterosexual orientation, as they choose avatars of the same gender to attract others, reflecting real-world heterosexual relationships. Conversely, the queer gamers often opt for avatars with queer genders, possibly to appeal to fellow queer gamers. This gender identity data suggests that the female gamers and queer gamers may fall within the same group, as female gamers tend to customize male avatars to express their gender identity. Conversely, it can be inferred that the male gamers are driven to play video games by motivations unrelated to gender identity.

Conclusion

These results reveal empirical patterns regarding the relationship between gender identity, sexual orientation, and gamers' behaviors in representing and fulfilling themselves through avatars. These data provide a fundamental guideline for studying the intersection of gender, video game, and avatar customization. Future research in this field should delve into understanding the motivations that drive gamers to present themselves through their avatars in the cyber culture.

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