

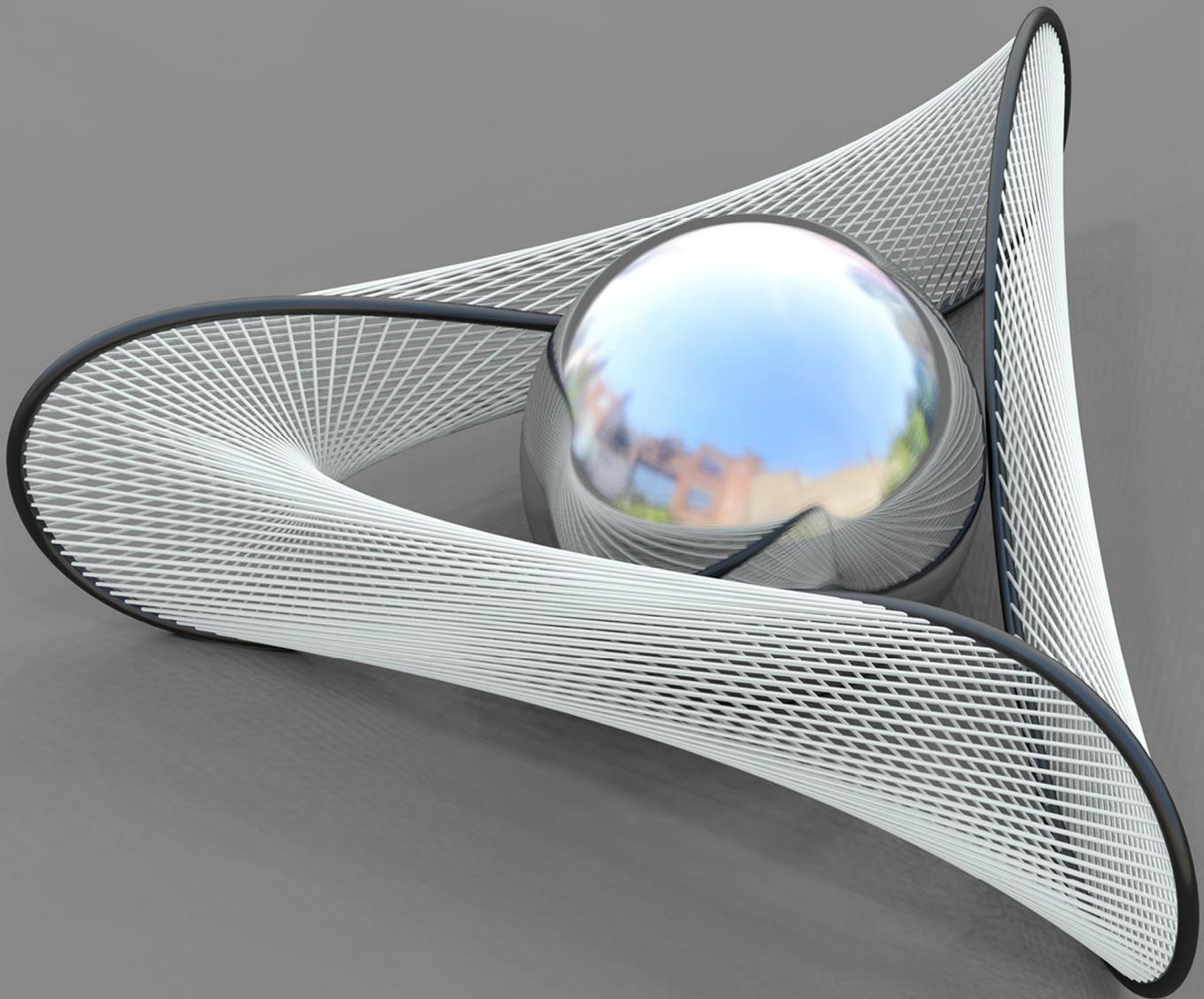
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Exploring Intrinsic Gender Identity Using Second Life

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Abstract

Virtual worlds (VWs) provide an environment to understand and explore notions of gender and identity, particularly given the ability for users to experiment with gender in online worlds. Our study analyses gender identity using the virtual space of Second Life (SL) to explore experiences and responses to gender in an avatar. We introduced 46 novice users to the VW of SL in order to see if real life gender influenced their choices of avatar. Participants selected the gender of their original avatar and once they were used to SL, they were then asked to change the gender of that avatar. We used mixed methods of research consisting of paper based questionnaires (n=34) and focus groups (n=46) conducted in SL. Nearly all participants chose an initial avatar that reflected their real-life gender with females (n=22) reporting higher levels of identification with this initial avatar. Females were significantly more concerned with the gender-specific appearance of their initial avatar. On swapping gender, females reported higher levels of discomfort and many changed back before 7 minutes. Males (n=24) did not report significant discomfort with their changed-gender avatar and did not revert back to their original avatar as quickly. Our findings suggest that female participants in this study tended to reinforce gender binaries through such things as clothing, hairstyles and behaviors of their avatars. Male participants were less likely to experience discomfort through changing the gender of their avatar (with the males noting they still perceived an avatar with a female appearance as male).

1. Introduction

1.1 Aims

This study aims to explore how intrinsic gender is to our sense of identity using avatars in SL. Fundamental to this study is the idea of how a user identifies with their online avatar and associated experiences of gender and gender identity.

1.2 Goals

1. To understand how important real life gender is in relation to avatars created in SL by new users (including the appearance of the avatar).
2. To explore the impact of changing the gender of their avatar, including connections (or lack of connections) with both avatars.
3. To explore the experiences of male and female users in relation to the above goals.

Our main goal was to explore whether a sense of gender identity translated across into an avatar in SL. This included how real life gender may (or may not) influence gender in a VW. We were also interested to see if participants would create avatars with a gender different to their own or even customize it to be genderless. We wanted to investigate the gender relationships that people had with their avatars, whether they perceived it to be a representation of themselves or as something different from themselves.

2. Background

2.1 Identity

Identity is a complex concept often experienced as fractured, fragmented and decentered in specific contexts (Turkle, 1995). Ideas about identity relate to how we see ourselves as a continuous project which we are constantly working on (Giddens, 1991). Thus we construct our gendered identities continuously through everyday actions (such as the clothes we choose to wear) (Butler, 2004) which reinforce a binary sense of gender.

2.2 Gender

Our gender is, arguably, a key part of our identity which affects how we perceive and interact with ourselves and others. Indeed Butler (1990, 2004) argues any discussion of identity has to include gender and challenges established essentialist interpretations, instead highlighting the instability of fixed genders. Fizek & Wasilewska (2011) argue how a sense of gender is “not determined by the body, but depends entirely on our choices” (p. 80). Avatars in VWs come close to the concept of a post-gender body (Haraway, 2004) and offer the possibility for users to change, modify, or free themselves from a gendered identity. As such they provide a fertile ground for investigations into experiences of gender. This study aims to explore how intrinsic gender is to our sense of gender identity through avatars in SL.

If gender is a key part of our sense of identity, and one feels a connection to the avatar created as a representation of oneself, then we would expect that avatar to reflect their real life gender. On changing the outward appearance, we could expect either a lack of identification with the avatar or a sense that the avatar retains the same fundamental gender and is simply passing as the other gender. A stable sense of gender could mean that the user does not have anxiety about pretending to be another gender as they do

not relate to that avatar in real life, and do not perceive it as connected to themselves. The internet and VWs in particular, have been seen as places for people to experiment with gender, highlighting discourses about gender fluidity. Armentor-Cota (2011) terms this as the debate between “gender fluidity and gender reproduction” (p. 24). Ensslin & Muse stress the duality of body/mind and subsequently of femininity/masculinity as having been superseded by a more fluid body/mind perception, which could be seen in VWs enabling users to display both masculine and feminine characteristics (Nowak and Rauh, 2006).

2.3 Avatars and Identity

Once the relationship between the avatar and the user has been established, we can use the avatar to understand the role gender plays in relation to identity. Avatars are a purely visual representation of ourselves, albeit imbued with our personality through behavior and interaction with other avatars. Others can only judge our gender through our appearance and behavior, though the user may also imbue the avatar with an intrinsic, self-understood, gender. This is particularly true in VWs in which non-human avatars are often possible although Nowak and Rauh (2006) suggest that the gender binary of masculine and feminine are exaggerated and reinforced in cyberspace. In fact, Nowak and Rauh (2006) suggest “a gendered avatar (whether masculine or feminine) was more credible than an androgynous avatar and more likely to be selected” (p. 174). It seems that we like and adhere to dualisms. Even if the outward appearance is nominally of a different gender to the user (gender-bending) the user may still attach an intrinsic gender to the avatar. For example, a male creating a female-looking avatar might still consider the avatar to be male, just with a female appearance. As Haraway (1991) points out “bodies are maps of power and identity...we are responsible for boundaries” (p. 180) and avatars are no exception. Gender switching has been found to be more common in online role playing games, although often those who changed gender actually reinforced caricatures and stereotypes through hyper-gendering (Armento-Cota, 2011).

VWs typically involve more customizable representations of avatars than other online arenas (Benwell and Stokoe, 2006). Suh et al. (2011) report “users build an identity in association with an avatar” (p. 715). This is an idea supported by Ratan and Dawson (2015) who argue “each element of the neurological framework of the self ... can be extended into the avatar” (p. 2). Kang and Yang (2006) found when creating an initial avatar, users tended to choose avatars related to themselves. As Song & Jung (2015) note, avatars themselves may be viewed as an ‘extension of the self’ (p. 1). In their study, Fong & Mar (2015) confirmed how individuals customized or chose avatars which reflected and represented themselves in some manner, including the very clothes that were chosen. For many users the actual gender chosen creates a connection with that avatar (Belk, 2013). Whilst gender swapping does occur in VWs (Ducheneaut et al., 2009), and it is easy to pass oneself off as the opposite gender, it could be significant as to whether these novice users chose a gender consistent (or not) with their real life gender.

Identification with an avatar is important in determining the relationship a user has with it. For example, Van der Land et al. (2015) found that if people did not identify with the avatar, there was a lack of responsibility regarding behavior. Identification here means they see the avatar as a representation of themselves, as comprised of “body schema, emotions, and the collective memory of past emotions” (Damasio, as 1999 cited in Ratan and Dawson, 2015, p. 2). It could be argued, though, that identification is a spectrum ranging from more to less identification with avatars. Strong identification (consciously or subconsciously) may influence appearance, including gender, as representative of the user. Users may also tend to view the avatar as a tool for game playing (Song &

Jung, 2015). The study by Van der Land et al. (2015) took place in a virtual laboratory created to explore virtual teams and how they worked together, analyzing the influences and relationships based on appearances of avatars. So whilst avatars tend to be described as representations of the self (Van der Land et al., 2015, p. 129), this may vary depending on whether that person perceives the avatar as a representation of themselves or as a tool to play games in an online world.

2.4 Avatars and Gender

Meadows (as cited 2008 in Belk, 2013) suggests that if people make an avatar “of the same gender, age, and race, it feels like you on a psycho-physiological level” (p. 481). If the avatar looks similar to our real life selves, it is more likely that we will have some attachment to that avatar. Alrayes & Sutcliffe (2011) suggest people often prefer to keep their real life identities when they venture into the online world. Given this, it is perhaps not unsurprising that most users tend to use their own gender as the gender inscribed onto the avatar in a recognizable way (Roberts & Parks, 2001).

There are instances of gender swapping, which is easier in VWs than in the real world. Despite this, Milestone and Meyer (2012) question how much this actually happens. Huh & Williams (as cited in 2009 in Yee et al., 2011) found that when females played as male avatars in virtual games, they identified less with the avatar than when playing their own gender. Likewise a study by Ducheneaut et al. (2009) found “female users [were] more likely to create avatars that are idealized versions of themselves compared to male users” (p. 1155). Some VWs have become havens for those wanting to experiment with concepts of identity and gender (Turkle, 1995; Alrayes & Sutcliffe, 2011). The work described here used disinterested users, those with no previous experience and who are less likely to have an active interest in exploring notions of identity in the VW (Kendall, 2011).

Although the longer-term Proteus effect is well understood (Yee & Bailenson, 2007), we predict that when the nominated gender of the avatar changes, users will, in the short term, experience unease with their changed avatar, either through a lack of identification or as a challenge to their sense of identity. This sense of discomfort implies that the user will not view their avatar as ‘passing’ as the other gender. We suggest that participants will be more comfortable confirming to gender binaries and reinforcing gender norms.

2.5 Second Life (SL)

SL is a 3D graphical environment developed by Linden Labs (Alrayes & Sutcliffe, 2011). This VW is available through the internet and enables users to construct an avatar and to interact through a variety of mechanisms, such as flying, walking, driving, teleporting and chatting. Whilst Brookey (2011) noted that SL is useful for studying gender in cyberspace, we use SL to explore real life gender by analyzing the gender relationship with their avatar. As a well-known VW environment, part of the appeal of SL is the ability to challenge traditional roles and expectations (Alrayes and Sutcliffe, 2011) making it as Brookey (2011) suggests “a valuable space in which to study gender and sexuality in cyberspace” (p. 571). Users can customize their avatar in relation to how they want their avatar to look. The gendered distinctions on offer are clearly defined with the three categories currently of avatar choices being described as *people*, *classic* or *vampires*. Nearly all of these avatars are identifiable in terms of gender. One is able to customize the avatars and make changes to the avatar at any time through the tools provided in SL.

In SL, the participants can customize the appearance of their avatar in terms of body shape and clothing (amongst others) and there has been debate about whether the stereotypes that exist in the

offline world do, or do not, continue in the online world (Kapidzic and Herring, 2011). SL provides tools which conform to offline stereotypes. For example, a nominally female avatar may not appear, in terms of body shape and clothing, ostensibly male. However, users can customize their avatar to have less gender associations including non-human avatars. Despite this, Ducheneaut et al. (2009) found users had freedom only in relation to “those parts of their virtual bodies that will be immediately visible and recognizable by others” (p. 1160). Appearance and clothing is a clear marker of gender in SL as it arguably is in real life (Crane, 2000). How the avatar looks, the clothing and body shape all convey information about the avatar, and potentially also about the user (Fong & Mar, 2015).

2.6 Goffman and Performance

Goffman highlighted the presentation of self as a performance for others (Goffman, 1990) where an individual puts on a performance or show for the benefit of other people. As Goffman (1990) noted “when the individual presents himself [or herself] before others, his [or her] performance will tend to incorporate and exemplify the officially accredited values of the society” (p. 45). Thus we conform to norms as part of this performance. Goffman (1990) suggests this includes such things as “sex, age and racial characteristics, size and looks; postures; speech patterns; facial expressions; bodily gestures” (p. 34). Thus, appearances are a key part of this performance and may influence constructions and relationships with avatars in Second Life. We found it particularly relevant to explore attitudes to the changed avatar in terms of connections, appearances and associated performance. It will also be interesting to see if this applies to both male and female participants in equal measure, especially as Mulvey (1991) notes how females are “born to be defined by their physical attributes” (p. 3) and are constantly confronted with their image. This is especially true in online environments such as social media or virtual worlds where images are presented very often in exchanges. The ability to like an image on Facebook has perhaps increased the concept of judgement based on image alone (Richardson & Wearing, 2014). Thus, we hope to explore whether females do focus on the appearance of their avatars more so than males.

3. Methods

3.1 Outline

Two cohorts of students, who participated in the study, were from a small UK university. Both cohorts of students were taking a module then called Introduction to New Media. There were 46 students in total with a split between males (n=24) and females (n=22) not familiar with SL (i.e. did not have an existing account and were required to create an online avatar). They were given little direction as to how they should create their avatar beyond the constraints of the software. The participants were initiated into this virtual world through the establishment of a private island created by the university. This island had a café, meeting place and virtual seminar room. They were trained in the basics of the VW through a series of challenges including navigation (sit, stand, run and fly), chatting, teleportation and drinking coffee.

Participants who gave consent (the research adhered to the university ethics policy), were then asked to attend a session in a communal computer room at the university. The session lasted for two hours. Participants were asked to complete a series of challenges and exercises within the VW such as finding egg-like shapes that were hidden around the island. One hour into the session participants were asked to change their avatar to the opposite gender. They were allowed to design their new avatar (i.e.

they could also change the appearance, body shape/size and clothing). Participants were also allowed to revert to their original avatar at any point to see whether they stayed with their changed avatar.

3.2 Data Collection

Data was collected in two ways using a mixed methods approach to include both quantitative and qualitative methods of research. This included a paper-based questionnaire (Appendix I) and focus groups (8 focus groups were conducted in Second Life) that lasted for approximately 30 minutes each.

3.3 Questionnaires

The questionnaire consisted of 14 closed questions and 6 open ended questions about their experiences of the SL avatar. Participants completed the questionnaire one week after the exercise in SL had taken place. 34 participants chose to complete the questionnaire of which 55% defined themselves as males and 45% females. 97% were between 18-21 years of age and 3.0% were aged between 22-29 years. The closed questions on the questionnaire focused on aspects of identification: "Did you perceive the original avatar as, an alternative creation of you, someone separate from you, other?" and gender: "Did you consider the original avatar to be it, him or her?" as well the importance of appearance and behavior. The questionnaire enabled information to be captured about relationships to the avatar as well as self-reported levels of identification with both avatars.

3.4 Focus Groups

Focus groups were used to explore the emotional relationship, behavior and experiences in more depth. This was particularly relevant for the relationship with the changed-gender avatar, which we predicted would cause some level of unease. The focus group also allowed for anonymous discussions between participants leading to a greater qualitative understanding and adding to the questionnaire data. Eight focus groups were conducted at the café area of the Island which was a useful environment for discussion (Minocha et al., 2010), where the avatars were invited to sit at a table. One of the authors of this paper was also present at the café as an avatar and conducted the research through using this avatar. The participants did not use their real names in order to protect their anonymity, although their real gender was disclosed during the focus groups.

The participants were asked questions about their avatar from a focus group schedule of questions, or "discussion guide" (Sweet 2001, p. 132). Themes discussed included identity, appearance and behavior and participants were invited to comment on the experience of changing their avatar's gender. Participants were able to see the questions and responses from the whole group as these were typed using the chat function available in SL. A number of participants commented that they saw SL in a similar manner to *The Sims* and other popular games. Of those who participated in the focus groups, 6 of the 24 males and 4 of the 22 females identified themselves as gamers.

3.5 Thematic Analysis

The focus groups and questionnaires were then analyzed to discover emerging themes using thematic analysis (Ross and Green, 2011). A Braun and Clarke (2006) approach to thematic analysis was adopted involving "searching across a data set...to find repeated patterns of meaning" (p. 86). The transcribed data was read and re-read five times (Fielden, Sillence and Little, 2011). Both authors participated in this activity to ensure the accuracy and validity of the emerging themes. Four main themes emerged: initial choice of avatar, appearance of avatar, identification with avatars and responses to changing gender of avatars.

4. Findings

4.1 Initial Choice of Avatar



Female avatar used by a participant



Male avatar used by a participant



Gendered non-human avatar used by a participant

Figure 1: Avatars

Participants overwhelmingly initially chose a human avatar of the same gender as their real-life gender (see Table 1). For the non-human avatars, all were nominally the same gender as their real-life user, and indeed several showed evidence of gender in body shape, clothing and hairstyles.

Table 1: Initial avatar selection

	Same Gender	Different Gender
Human	38	1
Non-human	7	0

n=46

One female participant noted: “I was more comfortable having the gender of the avatar the same as my own because it felt strange pretending to be someone I wasn’t.” The notion of identification itself was difficult for participants to ascertain as it may happen at a more subconscious level. For example, one female participant noted: “although I did not feel any connection to my avatar, I felt that it would be deceiving to alter it completely differently to my realistic features. My avatar was therefore female.” So despite not feeling connected, there was some level of relationship to the avatar which was based on gender.

4.2 Appearance of Avatar

In relation to identification with the avatar, females cared more than males about the appearance of their avatars but both males and females cared considerably less about the appearance of their changed-gender avatar.

Table 2: Importance of avatar's appearance

Was it important to you what the avatar looked like	Males	Females
Original		
Yes	39%	73%
No	61%	27%
Changed-gender		
Yes	6%	27%
No	94%	73%

n=34

This was supported by the thematic analysis of the open ended questions in the questionnaire. Females chose physical attributes and clothing similar to themselves often preferring aspirational body shapes (e.g. thin) and hairstyles. “For my original character it was because it was an extension of myself but for changed-gender not so much because it wasn't really me” (female participant). Males, on the other hand, typically reported using (self-defined) normal or average body shape and physical attributes. “Just a normal looking man and a normal looking woman” (male participant). One female participant noted that they were less conscious about the resemblances of the avatar to themselves, noting that they had not initially thought their avatar resembled themselves but when they “thought about it in more depth [I] realized that in creating my female avatar, I actually created it to resemble myself [as] I chose clothes that I would wear.” Appearance was therefore important in relation to these avatars, particularly for females.

4.3 Identification with Avatars

From the questionnaire, around 30% of males reported identifying with the original avatar and this did not change when the gender of the avatar changed. However, females identified more strongly with the original avatar and this dropped significantly for the changed-gender avatar (see Table 3 and Table 4)

Table 3: Identification with original avatar

	Males	Females
An alternative creation of you	28%	53%
Someone separate from you	67%	33%
Other	5%	13%

n=34

Table 4: Identification with changed-gender avatar

	Males	Females
An alternative creation of you	29%	20%
Someone separate from you	71%	80%
Other	0%	0%

n=34

This was supported by the thematic analysis which found females identified more with their original avatar as compared with males. Females tended to see it as a virtual representation of themselves. For example, one female focus group participant commented: “I see my avatar as an extension [of me].” Similarly another female participant commented: “My avatar was created as an extension and perhaps an exaggeration of me.” On the other hand, a male focus group participant noted: “I don’t think the avatar has any relation to me” highlighting some of the disparities between connections with the avatars and differences based on real life gender.

4.4 Responses to Changing Gender

In the focus groups males generally reported feeling no difference on changing gender (65%), whereas females reported a wide range of emotions, including positive, negative and strange with 60% having described feeling odd or awkward. One female noted: “My avatar is the same gender and when we changed it earlier this week it didn't feel right.” Significantly more females quickly changed back to their original avatar (31%) compared with males (7%) typically in less than 7 minutes. One female commented that: “When I changed the gender of my avatar, my feelings towards it did change. For example, when changing my female avatar’s clothes I did feel slightly embarrassed if others were around. However, once I changed it to a male avatar, its behavior and the changing clothes did not bother me as I could not relate to this avatar and did not see it as a reflection on me.” Thus, they did not see the changed avatar as a representation of themselves.

5. Discussion

5.1 Gender as Part of Identity

Despite over 70% of males and 50% of females indicating they did not identify with their avatars, only one participant chose an avatar not representative of their real life gender. Even those who chose non-human avatars still identified these avatars as having a gender, which might support the idea that gender is an integral aspect of identity, even in non-human form. For example, one male participant asserted: “Firstly, even though my avatar was a tin robot design and therefore technically genderless, I still considered it as a male character. This is probably due to the fact that I myself am male, and despite the avatars robotic appearance, still saw it as a representation of myself.”

5.2 Female Identification with Avatars

Females reported identifying more with their original avatar than males and there was a clear association between their real-life persona and the associated avatar: “I created an avatar myself and found that I have become quite attached to it. To me, it depicted myself but online.” This identification with the avatar was broken when they changed the avatar to male. One female commented: “I had

changed the gender of the avatar, it didn't feel as though it was me anymore and I was not as bothered about the appearance of the avatar because I didn't feel as connected to it." Ducheneaut et al. (2009) note that "users do not enjoy changing their personality "in-avatars" too much" (p. 1157) and I suggest that this included the gender of avatars, particularly as appearance has become so integral to female identity (Mulvey, 1991).

One female respondent noted that they "tried to fit in with other avatars rather than be different... One example of this is the color of my avatar's hair." Another participant commented during the focus group they noticed some people "had chosen an avatar based on a more socially acceptable look, for example, the tall, muscular male" which another participant chose. When given freedom to choose, novice users of SL did not vary too far from their real life gender. Instead, these participants chose to perform their gender through identifiable means such as appearance, which reinforced gender as a performance (Goffman, 1990). For example, one female commented: "I like red hair, and have never been brave enough to have very red hair but in SL I did have bright red hair." Perhaps the avatar was also viewed as a project to be worked on, as Gddens (1991) suggests.

Females reported more discomfort on changing gender than males and this correlated with a noticeable drop in identification with the avatar. For many (31%) the discomfort was strong enough that they felt the need to change back as soon as possible to their original-gendered avatar. Changing the gender of the avatar also significantly changed its appearance. If clothing, hairstyle and body-shape were intrinsically important in the original avatar, then this could lead to this apparent distantiation (Goffman, 1990) as these elements are intrinsic to our perceptions of gender. It could be argued that *any* change of appearance might lead to some element of distantiation (such as changing to an avatar with a radically different appearance but the same gender). Female participants however, did not report the same level of discomfort when experimenting with clothing and hairstyle on their original avatar. It does appear that, for female participants particularly, this discomfort went beyond simple appearance, for example: "...just as simple as walking, the male avatar had a completely different stance to the female" (female participant), but appearance itself is so important in relation to female gender identity that it seemed to encourage discomfort when they had a male avatar. The female participants experienced "self-distantiation" (Goffman 1990) in which a "person comes to feel estranged from himself [or herself]" (p. 87) as a result of the gender change.

5.3 Male Identification with Avatars

Despite assertions that they did not identify with their avatar, most males typically chose a standardized and recognizable male avatar. This suggests that gender identification is rather complex and may be subconsciously associated with an avatar. They also reported more incidents of breaking rules and social norms than female participants. This might fit with Goffman's idea of performance with avatars conforming to stereotypically male behaviors (Connell, 2002; Milestone and Meyer, 2012). This is emphasized by the comment: "I was ashamed of my avatar and made many jokes regarding this subject with my friends" (male participant).

Males, on the other hand, typically have far more experience with characters that do not represent them physically through video games which males play significantly more than females (Quandt et al., 2014). One male affirmed: "This experience was not something new for me, changing my gender or wear[ing] different clothes because I play a lot of games where I can customize my character." Only 6 out of the 24 males identified themselves as gamers and 4 out of the 22 females. Despite this, all those that played games still tended to opt for avatars that reflected their real life gender. For example, the above gamer noted they "still put their character "in a suit" because " when I finish university and

receive my degree I want to have a good job where I wear a suit, because it gives me confidence and it looks nice” (male focus group participant). So even though he saw this as a game, he was still concerned about appearance and still had a connection with the avatar as a representation of a future or aspirational self.

These previous experiences have perhaps led to a lack of identification with computer representations of themselves, and thus, gender and appearance are less important: “I started out as male and ended up female but I didn't feel any different because I didn't believe it was me.” Males may be more used to playing characters rather than being characters, evidenced in this study by around 50% who viewed the avatar as *it* rather than *him/her*. This was also highlighted in the following comment by a male participant: “It wasn't anything weird, it just felt like I was playing a video game and I was still myself.” This highlights that an avatar could have the appearance of a different gender (such as female) but still be considered to be male. Thus, whilst some binaries of gender are reinforced, this does highlight that there is some fluidity in relation to gender at least for some (mostly male) participants.

6. Conclusion

Our primary goal was to explore how intrinsic gender is to our sense of identity using avatars in SL. We also wanted to focus on people who were not actively participating in SL or VWs to see if they would play with their gender identity. These novice VW users were introduced to SL and asked to create an avatar. Once familiarized to the environment they were given a series of tasks to complete with their avatar. They were then asked to change their avatar to one of the opposite gender. Eight focus groups were conducted in SL with 46 participants and 34 of those completed a paper based questionnaire one week later. This data was analyzed to understand the relationship participants had with their avatars.

Four themes emerged from the questionnaires and interviews as being important. These were the motivations behind the initial choice of avatar, appearance of avatar, identification with avatars and responses to changing gender of the avatars. We found that participants tended to inscribe the same gender on their avatar as their real life gender, including those who identified themselves as gamers. Females in our study tended to identify more strongly than males did with their original avatar, and cared more deeply about how their original avatar looked. Both males and females tended to identify less with the changed avatar and felt less connected to that avatar. The appearance of the avatars was much more important for females, whereas males were more likely to imbibe a female looking avatar with a male gender – a male avatar that just happened to look female. We had not expected females to identify so strongly with appearance that it influenced their responses to the changed avatar. Nor had we expected to find males identifying with a female looking avatar.

When participants did identify with their avatar (even if unaware of such identification), its gender was deemed to be an important factor in its initial construction. Gendered representations included elements of body-shape, hairstyle, clothing and behavior. On changing the gender of their avatar, females reported distinct disruption to their association with their avatar and they experienced real life discomfort. Males did not experience the same levels of discomfort, perhaps because appearance is such an integral part of female identity. Thus, males appeared more able to associate with an avatar of female appearance whilst still identifying it as male. Females were less likely to associate an avatar of male appearance as female. Whilst many participants did change back to their original avatar (although how quickly this happened varied), this study raises questions about subconscious and conscious identifications with avatars in relation to gender and thus how people perceive their gendered self and in some cases selves. It also highlights how important appearance still is for females (and less so for males) even when represented by an avatar.

Other VWs, such as The Sims, and more recently Pokémon Go, tend to ask users to choose styles rather than gender (Denham, 2016), although gender may still be apparent to the user. Perhaps one difference between something like Pokémon Go and SL is that the latter consists of virtual communities where avatars are clearly seen and interact with each other in a variety of settings. This suggests that the notion of performance and the presentation of self are important in VW communities, compared to online worlds where users do not interact in the same way. It also reveals how gender can influence choice of avatars when seen as a representation of a person. Our experiences with gaming, online worlds and more recently augmented reality, may determine whether we see an avatar as a representation of ourselves or as something completely different. Maybe Goffman's notion of performance of self is more applicable for females than it is for males in our image saturated environment. Thus, it is our perceptions of gender, as well as our performances of gender, including appearances, (even when an avatar) that are important, in relation to identity.

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APPENDIX I: Questionnaire



QUESTIONNAIRE

A Joint Research Project between Information and Learning Services and the Institute of Humanities and Creative Arts

New communication technologies play a large part in our lives. We are very interested in your thoughts, feelings, opinions about the use of Second Life now that many of you have used this on MECS1008.

All information provided by you will be kept anonymous and confidential. The findings from this research will be used to inform future developments in teaching and in information and learning services. We thank you in advance for completing this questionnaire.

1. Please describe how you felt about using an avatar in Second Life _____

2. How did you feel about changing the gender of your avatar? _____

3. Did you perceive the **original** avatar to be

An alternative creation of you	
Someone separate from you	

Other (please specify) _____

4. When you changed the gender of the avatar, did you perceive it to be

An alternative creation of you	
Someone separate from you	

Other (please specify) _____

5. Did you consider the **original** avatar to be one of the following?

It	
----	--

Him	
Her	

Other (please specify) _____

6. When you changed the gender of the avatar, did you consider it to be

It	
Him	
Her	

Other (please specify) _____

7. Was it important to you what either of the avatars looked like?

Original avatar

Yes	
No	

Avatar with changed gender

Yes	
No	

Please give

details for your answer above (i.e.

why/why not) _____

8. Was it important to you how either of the avatars behaved?

Original avatar

Yes	
No	

Avatar with changed gender

Yes	
No	

Please give

details for your answer above (i.e.

why/why not) _____

9. What physical attributes did you give each of the avatars and why?

10. How did you dress the avatars and why?

11. What body shape did you give the avatars and why? _____

12. Please tick any of the following that influenced your choice of the avatar

	Male avatar	Female avatar
Film		
Television		
Fashion		
Comic book		
Fantasy figures		
Friends		
Similar to other avatar(s)		
Different from other avatar(s)		
Gender		
Attractiveness		

13. Please give details how any of the above influenced your avatar (please be as specific as possible). _

YOUR DETAILS

(Please tick the relevant box for each question)

14. Please tell us the full name of your course	
15. Is your degree? Single honours <input type="checkbox"/> Joint honours <input type="checkbox"/>	16. Are you? Full time <input type="checkbox"/> Part time <input type="checkbox"/>
17. What is your age? 18 – 21 <input type="checkbox"/> 22-29 <input type="checkbox"/> 30-39 <input type="checkbox"/> 40-49 <input type="checkbox"/> 50-59 <input type="checkbox"/> 60+ <input type="checkbox"/>	
18. What year are you? Undergraduate year one (Level 4) <input type="checkbox"/> Undergraduate year two (Level 5) <input type="checkbox"/> Undergraduate year three (Level 6) <input type="checkbox"/>	19. What is your gender? Male <input type="checkbox"/> Female <input type="checkbox"/>