

AN EXPLORATORY STUDY OF GENDER SWAPPING AND GENDER IDENTITY
IN *SECOND LIFE*

A dissertation submitted to the Wright Institute Graduate School of Psychology, in partial
fulfillment of the requirements for the degree of Doctor of Psychology

By

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Certification of Approval

I certify that I have read *An Exploratory Study of Gender Swapping and Gender Identity in Second Life* by Kyra Grosman, and that in my opinion, this work meets the criteria for approval of a dissertation submitted in partial fulfillment of requirements for the degree of Doctor of Psychology at the Wright Institute Graduate School of Psychology.

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The following study surveyed 174 users of the online multi-user online role-playing-game (MMORPG) *Second Life*. There were no significant differences between men and women regarding the percentages of each that gender swapped. There were, however, significant differences in the amount of time men and women spent gender swapping. Many more men than women gender swapped for over 80% of their time online. No significant correlations were found between a user's gender-identity, as assessed by Sandra Bem's (1979) Sex Role Inventory, and a tendency to gender swap. There were some significant correlations between gender identity as assessed via Michael Storms' Sex Role Identity Scale and a tendency to gender swap. Non-heterosexuals were not more likely to gender-swap than heterosexuals. There were many differences in beliefs regarding gender swapping between those who had never gender swapped and those who gender swapped a large portion (80% or more) of their time in *Second Life*.

Contents

CERTIFICATE OF APPROVAL	
ABSTRACT.....	I
CONTENTS	II
LIST OF TABLES	IV
CHAPTER 1: PRESENTATION OF THE PROBLEM.....	1
INTRODUCTION	1
STATEMENT OF PURPOSE	2
DEFINITIONS OF KEY TERMS.....	2
CHAPTER 2: REVIEW OF LITERATURE	5
GENDER SWAPPING ON THE INTERNET	5
<i>A Brief Overview</i>	5
<i>Amy Bruckman on Gender Swapping</i>	7
<i>Sherry Turkle on Gender Swapping</i>	8
<i>Jodi O'Brien on Gender Swapping</i>	10
<i>Lori Kendall on Gender Swapping</i>	11
<i>T. L. Taylor on Gender Swapping</i>	12
<i>Wu, Fore, Wang, and Ho on Gender Swapping</i>	15
<i>Tom Boellstorff on Gender Swapping</i>	15
THE RELATIONSHIP BETWEEN A USER'S IDEAL SELF, THE "REAL" SELF, AND THE CHARACTER	22
<i>Online Persona as Expression of the User's "Real" Self</i>	24
<i>Exploring One's "True" Self Online</i>	21
<i>Online Persona as Expression of the User's "Ideal" Self</i>	23
<i>Motivation for Gender Swapping</i>	24
<i>Attitudes towards Gender Swapping</i>	31
<i>Social Mores in Second Life Regarding Gender Swapping</i>	36
<i>Prevalence of Gender Swapping in MUDs and MMORPGs</i>	37
<i>Online Gender Swapping and Gender Identity</i>	37
BEYOND THE GENDER BINARY	41
<i>Gender as Performance: Opening Up Possibilities through Non-Binary Gender Performance</i>	43
<i>Hypergendered Avatars and the Gender Binary</i>	44
<i>Avatars in Cyberspace</i>	45
<i>Bodies in Cyberspace</i>	47
SECOND LIFE	48
HYPOTHESES AND RESEARCH QUESTIONS	51
<i>Prevalence of Gender Swapping</i>	57
<i>Gender Swapping Outside the Gender Binary</i>	59
<i>How Gender Identity Impacts the Presentation of Gender in Second Life</i>	60
<i>Sexual Orientation and Gender Swapping</i>	61

SUMMARY OF RESEARCH QUESTIONS AND HYPOTHESES.....	55
CHAPTER 3: METHODOLOGY	58
PARTICIPANTS.....	58
PROCEDURE	58
INSTRUMENTS	59
<i>Demographic Survey</i>	59
<i>The Bem Sex Role Inventory</i>	60
<i>Sex Role Identity Scale (SRIS)</i>	61
PLANNED ANALYSES	62
RESULTS	62
DISCUSSION	62
CHAPTER 4: RESULTS.....	63
DEMOGRAPHIC INFORMATION	63
PRIMARY ANALYSES.....	64
<i>How Common Is Gender Swapping?</i>	64
<i>Motivations for Gender Swapping</i>	64
<i>Motivations for Not Gender Swapping</i>	68
<i>Relationship between Gender Identity and Gender Role</i>	70
<i>Second Life as a “Queer” or “Fluid” Environment</i>	71
SECONDARY ANALYSES.....	76
<i>Percentage of Time Spent Gender Swapping, by Sex</i>	76
<i>Differences in Beliefs Regarding Gender Swapping Between Frequent and</i> <i>Infrequent Gender Swappers</i>	77
<i>Differences, by Sex, of Upset upon Discovering an Online Friend Was Gender</i> <i>Swapping</i>	78
<i>Differences in Beliefs Between Men and Women Regarding Gender Swapping</i>	80
SUMMARY OF RESULTS.....	80
CHAPTER 5: DISCUSSION.....	82
DEMOGRAPHIC INFORMATION	82
HOW COMMON IS GENDER SWAPPING.....	82
MOTIVATIONS FOR GENDER SWAPPING AND NOT GENDER SWAPPING	83
<i>SECOND LIFE AS A QUEER ENVIRONMENT</i>	84
ADDITIONAL THOUGHTS REGARDING GENDER SWAPPING.....	91
LIMITATIONS OF THE STUDY	89
FUTURE STUDIES	89
REFERENCES	90
APPENDIX A. THE BEM INVENTORY	98
APPENDIX B. DEMOGRAPHIC FREQUENCIES	100
APPENDIX C. ATTITUDES REGARDING GENDER SWAPPING.....	103
APPENDIX D. PARTICIPANT SURVEY.....	115

List of Tables

Table 1. Main Reasons for Gender Swapping	30
Table 2. Reasons for Gender Swapping, Current and Ex-Users.....	31
Table 3. Summary of Surveys Regarding Gender Swapping.....	57
Table 4. Reasons for Gender Swapping	71
Table 5. Reasons for Not Gender Swapping	75
Table B1. Frequencies for Demographic Variables	106
Table C1. Comparison of Attitudes Toward Gender Swapping in Those Who Have and Have Not Gender-Swapped	109
Table C2. Significant Correlates Between Percent of Time Spent Gender Swapping and Attitude Variables	112
Table C3. Differences Between Men's and Women's Mean Scores Regarding Beliefs Concerning Gender Swapping	113

Chapter 1: Presentation of the Problem

Introduction

There has been a recent increase in the popularity of multi-player online role-playing games (MMORPGs). Millions of people participate in them daily (Woodcock, 2004). As Yee (2006) demonstrated, MMORPGs are no longer the purview of adolescent boys. They are now being played by a much broader segment of society. Because they are such a new phenomenon, there is a dearth of empirical data even on basic questions about who is playing these games and their reasons for doing so. Basic information about “how often gender switching occurs, who is doing it, and why they are doing it is lacking” (Roberts & Parks, 1999). This dissertation addresses the lack of primary data by studying people who play the MMORPG *Second Life* (SL). In *Second Life*, there are no stated goals; most people appear to use it as a venue for socializing. Also, *Second Life* is unparalleled in the freedom it offers its users to construct their avatars, the visual representations of self through which residents navigate the world. Because of the great diversity of avatars possible, it becomes possible to study the ways in which people choose to represent their physical manifestations online.

One phenomenon much discussed in the theoretical literature of online games concerns gender swapping, the process whereby people play a character of a gender different from their biological sex. This dissertation will provide empirical data to add to the theoretical hypotheses concerning gender swapping by studying how adult users understand the choice they make whether or not they want to gender swap. Additionally, there exists within the psychological literature an awareness that the choice is probably related to a user’s gender identity in some way, but so far the relationship remains

untested. Another goal of the dissertation, then, is to test the hypothesis that a person's gender identity, their sense of his or herself as either masculine or feminine, is correlated with gender swapping. Finally, this dissertation will attempt to normalize an interest in experimenting with gender in an online environment.

Statement of Purpose

The purpose of this survey is to study the relationships between a person's age, gender, gender identity as measured by the Bem Sex Role Inventory (BSRI) and the Sex Role Identity Scale (SRIS), sexual orientation, and a tendency (or not) to gender swap in the MMORPG *Second Life*. Specifically, it will compare intergroup means of those who do gender swap, those who do not, and those who gender swap outside of the male-female binary (i.e., playing "androgynous" avatars), assuming that enough participants belonging to the third group can be found.

Definitions of Key Terms

Androgynous tends to be used in at least three different senses. In popular usage, it is often used refer to the physical appearance of someone who is neither highly masculine nor highly feminine. Thus, some residents in *Second Life* will refer to their own or another person's avatar as looking "androgynous." In psychology, the term androgynous is used to refer to someone who exhibits both a high level of masculine (i.e., instrumental) and feminine (expressive) characteristics. Hiestand and Levitt (2005) report that it can also be used to refer to someone's sense of *gender identity*; they report on a lesbian who reported her gender identity as "androgynous".

Avatar refers to any visual representation of self used in a computer environment.

Gender is a term used to “describe the changing set of qualities that are culturally assigned to social categories such as masculine or feminine” (Hiestand & Levitt, 2005). It is a social construct that divides people into “natural” categories of men and women that are assumed to derive from their physiological male and female bodies (Lev, 2004). It is commonly, although incorrectly, often used to refer to a person’s biological sex.

Gender Identity is a term used to encompass a multidimensional construct encompassing “an individual’s (a) knowledge of membership in a gender category, (b) felt compatibility with his or her gender group (i.e., self-perceptions of gender typicality as well as feelings of contentment with one’s gender, (c) felt pressure for gender conformity, and (d) attitudes toward gender groups” (Egan & Perry, 2001, p. 451). Most people’s gender identity is congruent with their assigned sex, but some people experience their gender identity to be discordant with their biological sex (Lev, 2004). Gender identity thus refers to a person’s self-concept of his or her gender, regardless of his or her biological sex (Lev, 2004). Chester (2004) implies that that this is what the Australian version of the BSRI measures. I’m not so sure that it’s that simple.

Gender Role refers to a person’s expression of masculinity or femininity (Lev, 2004). Gender roles are thought to be an expression of a person’s gender identity (Lev, 2004).

Gender Swapping describes a process whereby people play a character of a gender different from their biological sex. It is commonly used to refer to men who play women avatars or vice versa.

Gender Switching is used by some researchers as a synonym for gender swapping. In this text gender swapping is used unless another author is being quoted.

Massively Multiplayer Online Role-Playing Games (MMORPGs) are a genre of graphical, computer role-playing games in which players interact with one another in a virtual world (Wikipedia). Players assume the role of an avatar and take control over the avatar's many actions (Wikipedia).

Multi-User Dungeons (MUDs) are text-based version of online spaces in which users interact with one another through the use of online persona. These have largely been replaced in the last decade by MMORPGs.

Sex describes a person's physical traits (Hiestand & Levitt, 2005).

Sex Role Identity is a term used to describe "an acquired self-concept of being masculine or feminine" (Storms, 1979, p. 1779). It is closely related to sex role stereotypes and sex role attributes (Storms, 1979). Kohlberg (1966) posited that a person's sex role identity tends to be firmly established and relatively unchanging by a young age (Storms, 1979).

Chapter 2: Review of Literature

Gender Swapping on the Internet

A Brief Overview

Within the field of what Silver (2000) has termed cyberculture studies, a great deal of theoretical attention was paid in the early days to the phenomenon of “gender swapping,” in which people played characters that were differently gendered from their “real life” (RL) gender in their online interactions.¹ Most of the early literature about gender swapping (Bruckman 1993; Turkle 1995) was theoretical in nature and based on the authors’ experiences during their online interactions with other people; these studies tended to be qualitative and based primarily on case-studies. They were also based on Multi-User Dungeons (MUDs), text-based spaces in which people socialized and role-played online. Although most authors have treated these studies as if they were “representative of identity in cyberspace” (Robinson, 2007, p. 94), as Laura Robinson argues, the “Internet user base has radically changed since seminal postmodern accounts were written,” (Robinson, 2007, p. 94) and therefore seminal works may not be as relevant to understanding today’s Internet user.

Likewise, there has been a massive shift in the medium users prefer; users have switched from MUDs to Massively Multiplayer Online Role-Playing Games

¹ Silver (2000) divides the short history of the field of cyberculture studies into three distinct phases. The first is the “popular cyberculture” phase, consisting of descriptive journalism (Silver, 2000). The second phase produced more scholarly, though generally utopian works on the effects of the Internet in people’s lives, such as Sherry Turkle’s *Life on the Screen* (1995) (Silver, 2000). The third phase is made of “critical cybercultural studies,” and is characterized by a concern for contextualizing cyber-experiences and the emergence of a broader range of empirical studies of cyberworlds that are more theoretically nuanced and more empirically based than was previous research (Kennedy, 2006). Despite the recent increase in the number and complexity of empirical studies, relative to other areas in the social sciences, the body of knowledge concerning people’s experiences in online worlds is still in a “preliminary stage, as much of this information is based on speculations, non-objective data, unreplicated research and biased self-observations” (Barak, 2007, p. 304).

(MMORPGs), online, three-dimensional worlds which people navigate with the aid of an avatar, a visual representation of self.

Amy Bruckman, Sherry Turkle, Lori Kendall, T. L. Taylor, and Tom Boellstorff's work is based on qualitative research methods; their studies are ethnographic and immersive. In contrast, Nicholas Yee and Jeremy Bailenson are quantitatively driven in their search for knowledge concerning gender swapping. It is also worth noting that Bruckman, Turkle, and Kendall all research MUDs, or text-based worlds. Taylor, Boellstorff, Yee, and Bailenson conduct research on online worlds with avatars: visual representations of a user's online character.² It is important to keep these distinct forms in mind, since "new digital forms may result in new digital identities and...it is necessary to specify which aspects of new media are under examination in order to avoid the kind of 'conceptual leakage' that occurs when ideas about identity in one virtual context are applied to others" (Kennedy, 2006, p. 864). Currently, there is very little quantitative research on MMORPGs or MUDs (Yee, 2006). While researchers like Turkle (1995) and Bruckman (1993) contributed a great deal to psychologists' understanding of people who used MUDs, their approaches were more qualitative and relied on anecdotal stories, interview data, ethnography, and personal experience (Yee, 2006). Given that millions of people spend an average of 22 hours a week immersed in these worlds, navigating the world with an avatar, there is clearly need for more empirical data on who is playing these games and their experiences in so doing (Yee, 2006).

² Only about half of the influential authors involved in studying MUDs and MMORPGs are psychologists. Sherry Turkle trained as a sociologist and a personality psychologist and is a licensed clinical psychologist (<http://www.mit.edu/~sturkle/>). Yee was an undergraduate concentrator in Psychology and received his Ph.D. in Communications (<http://www.nickyee.com/cv.html>). Jeremy Bailenson received his degree in cognitive psychology (<http://communication.stanford.edu/faculty/bailenson.html>). The remainder work in the fields of sociology, anthropology, and computer science. Lori Kendall (2002) is a sociologist, Amy Bruckman (1993) teaches in the College of Computing at Georgia Tech, T. L. Taylor is head of the Media Technology and Games Program at the University of Copenhagen.

Amy Bruckman on Gender Swapping

The idea of gender swapping was first introduced into scholarly literature in 1993, when Bruckman, a graduate student at MIT and a member of the MIT Media Laboratory, gave a paper at a conference in which she described text-based virtual reality environments on the Internet called MUDs as “identity workshops” (Bruckman, 1993).³ She noted that in MUDs, the way gender structures basic human interaction is often noticed and reflected upon by participants (Bruckman, 1993). She stated that one fundamental cause of its impact was that it “allows people to experience rather than merely observe what it feels like to be the opposite gender or have no gender at all” (Bruckman, 1993). She argued that gender swapping was one example of how the Internet had the potential to change “culture and values” (Bruckman, 1993) and that gender swapping “is an extreme example of a fundamental fact: the network is in the process of changing not just how we work, but how we think of ourselves – and ultimately, who we are” (Bruckman, 1993). Noting the surprise men often feel when they log on as a female character as they often experience unwanted attention, sexual advances, and unrequested offers of assistance, she argued that phenomena that are subtle in real life (such as sexism) become obvious in MUDs (Bruckman, 1993).

³ The field of cyberculture studies is increasingly populated by more nuanced understandings of the ways in which people both do and do not use the Internet as an “identity workshop” (Bruckman, 1993). Kafai, Fields, & Cooks (2007) have argued, for instance, that Bruckman’s phrase assumes a conscious effort on behalf of players to examine aspects of who they are; these authors argue that the notion of the Internet as an “identity playground” might be more appropriate, and that the identity play can serve multiple purposes. Kafai, Fields, & Cooks (2007), argue that a more nuanced understanding of how players change their avatars gradually helps to support a fluid notion of virtual identity; users experiment with various looks (including using characters of different genders), and play with representations of one’s “real” self or a fantasy character (Kafai, Fields, & Cook, 2007).

Sherry Turkle on Gender Swapping

Sherry Turkle took up Bruckman's theme of the importance of the Internet as "identity workshops" in a seminal 1995 book titled *Life on the Screen: Identity in the Age of the Internet*. Based on her ethnographic and clinical investigation of MUDs, Turkle argued that engagement with computers provided a series of second chances for adults to work and rework unresolved personal issues and more generally, to think through questions about the nature of self (Turkle, 1994). Since this text is considered by many authors to be the "starting point" for writing a history of Internet identity research, I review it in some depth (Kennedy, 2006, p. 862).

Turkle is not specific about how she operationalizes gender swapping; she sometimes defines it as a process "whereby men may play the roles of women and women the roles of men" (Turkle, 1994). At other times she refers to the process as playing either a "differently gendered" or "neuter" character (Turkle, 1994, 1995).⁴ She states that as MUD players talked to her about their experience with gender swapping they gave her reason to believe that through this practice they were working through personal issues that had to do with accepting the feminine and/or the masculine in their own personalities (Turkle, 1994).

According to Turkle (1995), gender swapping was a very frequent part of at least one online game called *Habitat*:

⁴ The characters need not be human and there are more than two possible genders, including neuter, plural, and several other genders garnered from science fiction (Turkle, 1994). B. Danet found in her study of MediaMOO and LambdaMOO that fully between 19% to 32% of players described themselves using an "unconventional gender" including neuter, spivak, either, plural, royal, splat, egotistical, 2nd, and person (Danet, 1996).

Gender swapping on MUDs is not a small part of the game action. By some estimates, Habitat, a Japanese MUD, has 1.5 million users....Among the registered members of Habitat, there is a ratio of four real-life men to each real-life woman. But inside the MUD the ratio is only three male characters to one female character. In other words, a significant number of players, many tens of thousands of them, are virtually cross-dressing. (p. 212; see also Stone, 1995)

Turkle noted that despite the different reasons people chose to gender swap, she found that “a virtual gender swap gave people greater emotional range in...real life” (Turkle, 1995, p. 222). She also argued that regardless of people’s motivations for gender swapping, the activity provided people with the opportunity to discover for themselves that “gender is constructed” (Turkle, 1995, p. 223).

By enabling people to experience what it “feels” like to be the opposite gender or to have no gender at all, the practice encourages reflection on the way ideas about gender shape our expectations. MUDs and the virtual personae one adopts within them are objects-to-think with for reflecting on the social construction of gender. (Turkle, 1995, p. 213)

However, as is shown in subsequent sections, this liberatory discourse concerning the potential of online worlds to show how gender is constructed and performed has subsequently been challenged by numerous feminists (see Kendall, 2002; Bergvall, 1999; and O’Brien, 1999 for considered examples problematizing this idea).⁵

⁵ This line of reasoning can be summarized as follows: since there are no markers of differences in cyberspace, there will be no isms – no sexism, no racism, no classism (Bergvall, 1999).

Jodi O'Brien on Gender Swapping

Feminist sociologist J. O'Brien (1999) noted the tendency of researchers and wishful thinking to suggest that cyberspace was a realm in which "physical markers such as sex, race, age, body type and size will eventually lose saliency as a basis for the evaluative categorization of self/other" (1999, p. 2). She challenges the idea that it is likely that online communication will be a site/occasion for "complicating" the customary gender dichotomy (O'Brien, 1999). She notes that most interactions online are gendered, and that most of those interactions "tend to reproduce conventional gender forms" (O'Brien, 1999, p. 7). There are some people who transgress the boundaries; the presence of gender "deviates" constitute a boundary event, but such boundary transgressions have the net effect of etching the boundaries deeper into the collective conscience (O'Brien, 1999). She also notes that interactional dynamics suggest that we are unable to interact with someone unless we have been able to categorize them in a meaningful way (O'Brien, 1999). Thus, people tend to be very uncomfortable when interacting with someone to whom they cannot assign a sex and approximate age (O'Brien, 1999). She notes that a frequently asked question in online chats is "Are you male or female?" (O'Brien, 1999). "Individuals who evade this question are not considered to be creative mavericks, they are assumed to be hiding something. Interaction with those who are gender-ambiguous is generally not supported. If someone persists in maintaining a gender-neutral position, others online will inquire of one another about what the person's gender 'really' is and why he/she is reluctant to reveal it. The failure to 'reveal' gender is viewed with suspicion" (O'Brien, 1999, p. 7).

This is not to say that all gender swapping is frowned upon. O'Brien (1999) argues that gender swapping is acceptable as long as it is understood as just play. However, this play does nothing to disrupt users' belief/trust in a 'natural' (i.e., physical/biological) referent/gender (O'Brien, 1999).

Lori Kendall on Gender Swapping

Kendall (2002) studied *BlueSky*, a small MUD in which gender swapping was "rare" (p. 101). She found that even when people did play an oppositely gendered character, other *BlueSky* members would refer back to participant's real life gender as their "true" gender (Kendall, 2002). Like O'Brien, she also notes that the user's "real" sex is information that is frequently often requested in the case where people are meeting each other online for the first time (Kendall, 2002). "The interconnection between specific gender identities and sexual identity, the expectation that both gender and sexual identities form a core part of the self, and the prevalence of homophobia in U.S. culture lead participants online to ask each other's 'real life' gender designations routinely" (Kendall, 2002, p. 72). Thus, in the MUD Kendall studied, swapping did not "disrupt existing understanding of identity norms" or call into question existing beliefs and assumptions about gender (p. 101). Perhaps gender swapping in *BlueSky* was a rare phenomenon because, as Kendall notes,

Issues of gender and sexuality relating to such masquerades can provoke particularly strong identity concerns....[Some participants] want to ensure that they are not interacting 'inappropriately' with the 'wrong' gender. The question, "Are you male or female?" has gained legendary status among members of various online cultures and appears frequently in MUDs where newbies are likely

to congregate. In such areas, it is often the first question asked of another participant. (p. 121)

Kendall (2002) notes that while works such as Turkle's and Bruckman's propose that gender swapping can lead to a greater understanding of gender as constructed and of the self as mutable, this assertion is problematic. "These accounts rely predominantly on participants' own assertions regarding the libratory potential of their online interactions" and are not sufficiently contextualized (Kendall, 2002, p. 11). She notes that many of these studies "fail to take into account potential discrepancies between what people say about the online experience and what they actually do online" (Kendall, 2002, p. 12). These studies therefore "tend to blur distinctions among identity performances, participants understandings of those performances, and the descriptions and assertions participants offer to outsiders" (Kendall, 2002, p. 12). While she is careful to not prematurely close down "whatever moment of disruptive possibility exists in the ambiguities of online identities" she believes that "it is important to examine the ways in which relationships of power influence online interactions and are reinscribed by them" (Kendall, 2002, p. 12).

T. L. Taylor on Gender Swapping

T. L. Taylor noted that in the 2 ½ dimension world that she studied called *The Dreamscape*, there was a common form of play termed "body swapping" (Taylor, 2002). This involved a group of avatars visiting "body-change machine" and altering their avatars (Taylor, 2002, p. 48). Quite often, this entailed some form of gender swapping (Taylor, 2002). Body-swapping thus frequently resulted in avatars that exhibit a "disjuncture" between the gender of heads versus bodies, and which become, for a while,

a focus of social interaction (Taylor, 2002, p. 48). Taylor noted that “these playful sessions are one of the few social spaces in which overt experimentation with gender is seen as a legitimate activity” (Taylor, 2002, p. 48).⁶

Taylor quotes a woman who created a male avatar who noticed that “people treat you based on how you present yourself, and, if you pay attention, you’ll notice that *you* change depending on how you present yourself” (Taylor, 2002, p. 56). In her discussion, Taylor notes that “the author felt that this [male] body legitimized a particular identity. The author wrote, ‘If Cosmocat had been female, I’ll bet not only would he not be accepted for his skills, but I wouldn’t have felt comfortable pretending I knew stuff I didn’t. As Cosmocat, it didn’t matter, I just did it anyway, because Cosmocat had guts that my ratava [avatar backwards = real life person] didn’t’” (Taylor, 2002, p. 56 – 57).

Taylor also argues, however, that “avatar systems also often limit and constrain interesting and progressive possibilities” (Taylor, 2002, p. 58). “While the social performance of gender can take on fascinating nuances...*The Dreamscape*...continues to operate within a very specific gender dichotomy which will always inform and structure the possibilities for identity in particular ways” (Taylor, 2002, p. 58).

Taylor cites Nakamura (1995), who found that often the kinds of experimentation people are engaged in amount to a form of ‘identity tourism’ in which users were not involved in progressive explorations of self construction but instead relied on stereotype and caricature that allow for unreflective appropriations of identities (Taylor, 2002, p. 58). “For example, the performance of queer identities (and bodies) is often quite

⁶ According to Taylor, an ‘illegitimate’ form of gender swapping involves creating a second character and using that without telling one’s online friends what one is doing (Taylor, 2002.) These sessions also provide a forum for people to try on and talk about “body types, reflecting on what feels ‘right’ or ‘like them’ ” (Taylor, 2002, p. 49).

contested in such spaces, either publically or privately through anxiety about the ‘real’ gender and sexuality of another user” (Taylor, 2002, p. 58).

Taylor (2006) also published a book-length study of *Everquest*, an MMORPG adventure game. Her work focuses on the “boundary work” that occurs in online games (Taylor, 2006, p. 1). She argues that “the boundary between online and offline life is messy, contested, and constantly under negotiations” and therefore calls for nondichotomous models (Taylor, 2006, p. 153). There is no simple unilateral direction in the relationship between online and offline lives. “Sometimes our ‘virtual’ spaces leak over into our ‘real’ worlds,” she notes, and sometimes it is the other way around (Taylor, 2006, p. 151).

Taylor (2006) also presents a more nuanced understanding of gender swapping than Bruckman (1993) and Turkle (1995). She argues that practices such as gender swapping should not just be considered a “bounded-off zone of experimentation” because “how people make sense of and experience who they are online is not inherently separate from who they are and what they do offline. What seems more to be the case is that people have a much messier relationship with their off- and online personas and social contexts” (Taylor, 2006, p. 18).

She also notes that gender swapping does indeed occur in *Everquest* and that “one of the more interesting aspects to consider is the way the game may allow access to gender identities that often are socially prohibited or delegitimized offline -- a simultaneously sexy and powerful or masculine and beautiful persona” being two such examples (Taylor, 2006, p. 97).

In Taylor's analysis, a body typically feels "right" if it "fosters connection to an avatar" (Taylor, 2002, p. 52). "A large part of this feeling of a body being right is tied to how well it allows people to construct, express, and perform the identity they are seeking" (Taylor, 2002, p. 52). She notes that "as with offline life, bodies come to serve as mediation points between the individual and the world (both social and material). What they are and, more important, what social meanings they are given matters" (Taylor, 2006, p. 110).

Wu, Fore, Wang, and Ho on Gender Swapping

Wu et al. (2007) published an interesting study of gender swapping in online marriages in Chinese MMORPGs. They note that in Chinese MMORPGs, men masquerading as women is generally accepted, as long as these men do not involve themselves with online love, marriage, or sex (Wu et al., 2007). Certain characters are called *renyao*, which translates to "human monsters," and refers to in-game gender swapping where male players play female characters in a "hyperfeminine way"; "aiming at getting married to male players and even representing themselves as real women to their online friends and husbands as well" (Wu et al., 2007, p. 78). Female gamers playing male avatars is not seen as a problem (Wu et al., 2007). Indeed, women's gender swapping in the game space are celebrated as displays of autonomy, individuality, and creativity (Wu et al., 2007).

Tom Boellstorff on Gender Swapping

In his ethnography of *Second Life*, Tom Boellstorff (2008) describes how one user used *Second Life* as a forum for discovering a transsexual identity in the offline

world. A woman he had known for over a year as a beautiful female avatar “sat [him] down” in his “virtual home for a talk” (Boellstorff, 2008, p. 138). The woman told him,

Tom, I’m not the person you have gotten to know. But at the same time I am. I’m a man in real life, but about three weeks ago I learned that I’m transsexual. I’ve pretty much known that I was different all my life....Here in *Second Life* I created something new in myself that I never realized was there before. As first it was just role playing, but then I grew to love Pavia [the user’s avatar]. I kept infusing myself into her, but then something unexpected started to happen; Pavia started coming out in the real world. I became her, she became me. (Boellstorff, 2008, p. 138)

Thus we see one example of a resident using the space in *Second Life* in order to explore her gender identity and to adopt a transsexual identity. What, if any impact this new-found identity had on the user’s real-world behaviors is not discussed in Boellstorff’s book.

The Relationship between a User’s Ideal Self, the “Real” Self, and the Character

Much of the writing about identity and cyberspace has focused on the impact of online self-presentations for offline identity (Chester, 2004). That is, people have been interested in studying how identity play in online worlds affects people’s “real” lives. Some descriptions provided by Turkle (1995) imply a separation between online character and the person’s offline “real” self. Other players talk about their characters as an entity separate from the person, who, as one informant in Taylor’s (1999) research described it, “have a mind of their own and grow in unexpected ways” (p. 441). Another group of players slide between references to their character and their offline self (Taylor,

1999). Distinguishing between a “real” self and constructed persona in such cases can be problematic (Chester, 2004). Slippages exist, “places where persona and self merge, places where the multiple personae join to comprise what the individual thinks of as his or her authentic self” (Turkle, 1995, pp. 185 – 186).

Reviewing the literature, Chester noted considerable variation in the extent to which players identified with their MUD character (Chester, 2004). Some players did not identify with their characters at all (Chester, 2004). Others saw their character as representing aspects of their identity and many identified strongly with their MUD character (Chester, 2004). Chester also notes that changes in the relationship over time are common (Chester, 2004).

The relationships between users’ personas, their “real” self, as other people understand them to be, and their “true” self are therefore important questions to be addressing. In some conceptual frameworks, researchers attempt to neatly separate the gaming situations from the rest of the player’s offline life (Kolo & Baur, 2004). However, Kolo and Baur (2004) believe that this separation may be misleading in the case of MMORPGs. As they show, even average players of such games simply play for too long and too frequently to be able to maintain this distinction (Kolo & Baur, 2004). For instance, a recent study by the Palo Alto Research Center found that *Second Life* residents played 4.55 hours per day (Std. = 3.56) and 5.91 days per week (Std.=5.91) (Duchenaute, Wen, Yee, & Wadley, 2009).

Online Persona as Expression of the User's "Real" Self

Many studies have focused on the online representations of a person's "real" self,⁷ which is considered to be located offline (van Doorn, van Zoonen, & Wyatt, 2007). In general, people tend to create avatars that physically resemble themselves. Kennedy argues that it can be useful to examine online selves to understand offline selves, since "online identities are often continuous with offline selves" (Kennedy, 2006, p. 871).

In a study of 85 sample profiles in which users displayed both an avatar and a photograph on Yahoo! Answers, Vasalou, Joinson, and Pitt found that online users "tended to customize their avatar to fit more closely to their physical appearance" (Vasalou et al., 2007). Additionally, they found that "none of the users chose a gender opposite to their own" for their avatar (Vasalou et al., 2007). This study, as they acknowledged, cannot perhaps be generalized as social computing users who include a photograph in their profile (which was a necessary criteria for inclusion in the study given its design) "might be more likely to develop a self-representative avatar" (Vasalou et al., 2007). However, it demonstrates that for most users of Yahoo!Answers with both an avatar and a photograph, people tend to create avatars that resemble themselves in "real life" (Vasalou et al., 2007).

In a different study, Kristine Nowak and Christian Rauh (2006) found that male participants overwhelmingly preferred choosing a human male avatar to represent them. Similarly, women preferred the choice of a human female avatar (Nowak & Rauh, 2006). Despite this, there are animal avatars within *Second Life*, although there is no known data

⁷ Turkle also argued that "the degree to which [a MUDer] brings the game into his real life is his choice" (Turkle, 1994). As one experienced player put it, "you are the character and you are not the character both at the same time" (Turkle, 1994). Another added, "You are who you pretend to be" (Turkle, 1994).

about how many people use animal avatars or their reasons for doing so. Because avatars are more flexible than the user's natural embodiment, Nowak and Rauh (2006) have suggested that an avatar might provide as much, if not more, insight into the user's personality than his or her offline body (Nowak & Rauh, 2006). This finding is somewhat contradicted by a study by Talamo and Ligorio (2001) in which only 6% of participants chose to use an avatar based on its physical similarity to themselves. However, as this is a somewhat early study, it is possible that this result may have been influenced by the fact that there were fewer avatars from which participants could choose, and therefore there were fewer avatars that might convincingly look like a user.

In a similar vein, L. Kendall (2002) found that in the text-based MUD she studied, *BlueSky*, "People do not play roles, and they expect that others will represent themselves much as they appear offline. Participants share information about their offline lives, and some sneer at role-playing MUDs where people act as if the mud were a reality separate from other aspects of their life.... *BlueSky* participants view the MUD as a means of communication that enables them to 'hang out' with a group of friends and acquaintances" (Kendall, p. 44). This is very different from *Second Life*, where the world is so large that it would be impossible to meet more than a tiny percentage of people in RL, and most residents do not offer personal information such as where they live or their real name (Boellstorff, 2008). Despite these differences between *Second Life* and *BlueSky*, however, in *Second Life* in particular, it is commonly accepted according to one scholar "your character...is, in large part, you" (Ludlow & Wallace, 2007, p. xv). However, in another study of *Second Life*, Boellstorff (2008) found that there was a

“broadly shared cultural assumption that virtual selfhood is not identical to actual selfhood” (p. 119).

Chester (2004) found that self-presentations were more likely to be based on actual identity rather than hoped for or feared selves. Likewise, contrary to expectations, she found little evidence of gender play in the MUD she studied (Chester, 2004). Other studies emphasize the “inextricable” relation between the “real” person behind the keyboard and the online persona that forms its representation in cyberspace (van Doorn et al., 2007).^{8 9}

Because of this relationship between the user’s “real” self and the user’s character, Kennedy argues that “it is necessary to go *beyond* internet identities, to look at offline contexts of online selves, in order to comprehend virtual life fully” (Kennedy, 2006, p. 861). Kennedy therefore stresses the importance of paying attention to both the persona presented and the “real” person behind the persona, and looks at the relationships between the two. Helen Kennedy quotes Baym as saying: “Judging from the scholarly attention paid to anonymous CMC (computer-mediated communication) interaction and its uses in identity play, one would think most online interaction is anonymous and few people ever interact as themselves. The reality seems to be that many, probably most,

⁸ Studies that emphasize the representational aspect of the relation between online and offline gender identity see the persona that is performed in cyberspace as rooted in a unified, embodied self that is located in the physical world (van Doorn et al., 2007).

⁹ Turkle views the online performance of “pretending to be the ‘other sex’ as a way for individuals to experiment with different identities to eventually learn more about their “real” self, the self that is offline and controlling the avatar (Turkle, 1995, cited in van Doorn et al., 2007). Other studies, they argue, have treated the possibilities for creating different online identities with greater enthusiasm (van Doorn et al., 2007). The idea of “being who- or whatever you want to be” in cyberspace, without being constrained by one’s “real life” physical body is welcomed by theorists who focus on the construction of alternative gender identities in an online environment (van Doorn et al., 2007). Van Doorn et al. (2007) state that research that emphasizes the “online construction of gender” sees the Internet as facilitating the creation of “disembodied” identities who gender is “disarticulated from biological sex,” allowing for the unbridled creation of fluid identities that transgress the binary gender system (O’Brien, 1999; Rodino, 1997, cited in van Doorn et al., 2007). However, in my reading of O’Brien and Rodino, it seems that the emphasis is precisely on the ways in which many users resist the idea of fluidity of gender.

social users of CMC create online selves consistent with their off-line identities” (Baym, 1998: 55, quoted in Kennedy, 2006, p. 864). Therefore, if people are playing gender-indeterminate characters or are gender swapping with any regularity online, this may reveal something about their gender-identity.

Exploring One’s “True” Self Online

Turkle’s work has often been read as celebrating fragmented and multiple identities, and thereby calling into question the notion of a fixed, or “true” self (Kennedy, 2006). Turkle argued that “identity play on the Internet destabilizes the very notion of a “true self” (Turkle, 1994)¹⁰ This was not always residents’ experience, however. In a study of *Second Life*, Boellstorff (2008) found that “some residents spoke of their virtual-world self as ‘closer to’ their ‘real’ self than their actual-world self” (p. 122).

The psychologists J. A. Bargh, K. Y. McKenna, and G. M. Fitzsimons explored the idea of the Internet as a place to explore one’s “true” self (Bargh, McKenna, & Fitzsimons, 2002). Following Carl Rogers’ concept of the true self, they argue that the true self represents parts of people “actually existing psychologically (i.e., a present, not a future version of self), but not fully expressed in social life (i.e., not the actual self) (Bargh et al., 2002, p. 34).

People have parts of themselves of which they are aware and which they would like to express, but that they find it difficult to express those hidden aspects of self in face-to-face communications (Bargh et al., 2002). It is easier for people to express those

¹⁰ However, as Kennedy points out, this is somewhat of a misreading (Kennedy, 2006). Turkle concluded her seminal study with the following words: “Virtual environments are valuable as places where we can acknowledge or inner diversity. But we still want an authentic experience of self. One’s fear is, of course, that in the culture of simulation, a word like authenticity can no longer apply” (Turkle, 1995: 254, quoted in Kennedy, 2006).

unrecognized parts of self in computer-mediated communication (Bargh et al., 2002). Bargh et al. therefore expected a person to use the Internet “first and foremost to express those aspects of self that he or she has the strongest need to express – namely the “true self”: those identity-important and phenomenally real aspects of self not often or easily expressed to others” (Bargh et al., 2002, p. 34). They also believed that people would take on “inner personae” in Internet social interactions (McKenna & Bargh, 2000, p. 63).

Bargh et al. found some support for this hypothesis in an experiment in which participants were asked to rate aspects of self after either a face-to-face conversation with a stranger or a conversation over the internet with a stranger. There were faster response times for characteristics of the actual self after face-to-face than after Internet interactions; the true self was more accessible following an initial interaction over the Internet (Bargh et al., 2002, p. 39). In a second experiment, where no communication took place with another person, there was no change in activation level of the participants’ true-selves (Bargh et al., 2002, p. 40). In a third experiment, they found that those in the Internet condition successfully presented their true selves to their partners to a significantly greater extent than did those in the face-to-face condition (Bargh et al., 2002, p. 42). One possible hypothesis to draw from this research is that if people are choosing to gender swap online it is possible that they are doing so in order to express a part of their true selves, a part that might otherwise not be acknowledged by other people.

This echoes a classic study on the positive effects of anonymity by Gergen, Gergen, and Barton (1973) in which individuals who met and conversed without being able to see one another disclosed much more intimate details of their lives and of the self than did those who met and conversed in a lighted room (McKenna & Bargh, 2000).

Online Persona as Expression of the User's "Ideal" Self

Others have argued that avatars will never be used to express a person's "true" self. Unlike in real world communications in which people emit both cues that are "given" (i.e., intentional) and "given off" (i.e., unintentional), in online worlds users control not only what they say but also the precise way they look and behave (Goffman, 1959; Geser, 2007).¹¹ Given this, Geser argues that "avatars will never be authentic expressions of their creators' true selves. To the contrary, they will be shaped by expectations of how avatars should look like for conforming to 'general norms' and for evoking widespread positive evaluations" (Geser, 2007, p. 5). However, Geser's assertion does not account for why some people do indeed choose to play androgynous avatars given the social desirability of easily readable gendered avatars.

Some people play a character who is their "ideal self" (Turkle, 1994). MUD characters thus serve as a projection of inner fantasies as well as an "ego ideal" (Turkle, 1994). Researchers found that people tend to present more of their ideal self-qualities to strangers than they do to their friends (McKenna & Bargh, 2000). When information presented has little chance of being called into question by another person, the tendency is to present an idealized version of self (McKenna & Bargh, 2000). Since the Internet is largely anonymous, there is a sense that on the Internet people are indeed seen as they wish to be seen (McKenna & Bargh, 2000). Thomas (2004) notes that for one participant she interviewed, "the self-identification...with her avatar is clear....She is her avatar in this context; she is the model that she dreams of becoming" (Thomas, 2004, p. 376).

¹¹ All face-to-face interactions are characterized by a complex interplay between intentional utterances over which individuals have conscious control ("cues given") and unintentional expressions ("cues given off") that occur "spontaneously" or as a consequence of non-manipulable factors (Goffman, 1959, cited in Geser, 2007). Thus, while we have conscious control over parts of our personas, there are other parts, the "true" selves over which we may not have as much control.

Motivation for Gender Swapping

Based on case studies, Turkle outlined a number of different reasons why people might choose to gender swap. Turkle found it more comfortable being a virtual man than a virtual woman (Turkle, 1994 p.10). Activities that were uncomfortable for her when she presented online as a woman, such as not participating in the frequent sexual banter that she encountered, were considerably more comfortable for her when she played a character who was a man (Turkle, 1994).

Turkle argued that “gender-swapping is an opportunity to explore conflicts raised by one’s biological gender” (Turkle, 1995, p. 213) and to “experiment safely with sexual orientation” (Turkle, 1995, p. 213). Other people she interviewed stated less serious reasons for gender swapping, such as improving the ratio of men to women in-game (Turkle, 1995). Another man found that it was more socially acceptable for him to present as a helpful female frog; when he presented as a helpful male frog his overtures were met with suspicion (Turkle, 1995).

As psychologist John Suler noted, gender swapping is an interesting cultural phenomenon because “More, and different type of people... are doing it online than in real life” (Suler, 2004, p. 323). He postulated, based on anecdotal evidence, that more males switch gender online than do than females and then wondered “why are males so interested in experimenting with a woman’s identity?” (Suler, 2004). He offered five hypotheses:

1. “It is difficult for some men to explore within themselves what society labels as ‘feminine’ characteristics. These males may rely on anonymity of cyberspace to

express their 'feminine' side. Some of these males may strongly identify with women" (Suler, 2004).

2. To draw more attention to themselves (Suler, 2004).
3. To investigate male/female relationships (Suler, 2004).
4. To act upon conscious or unconscious homosexual feelings (Suler, 2004).
5. Because they are transsexual or transvestite, or experience "gender confusion" – a "psychological disturbance where one's identity as a male or female has not fully developed" (Suler, 2004).

Suler (2004) also quoted an email from a heterosexual, "happily married mother" who gave the following reasons for sometimes playing a male character:

1. To find out how other females act with men (Suler, 2004).
2. To practice "writing" a seductive male character (Suler, 2004).
3. Because it was easier to run her group as a male character (Suler, 2004).
4. To experience "power" that she had not been able to experience in real life (Suler, 2004).

Griffiths, Davies, and Chappell (2003) are also interested in understanding in the disparity between the percentages of men and women who gender swap and note that this discrepancy requires further research. They speculate that it's possible that female players are more comfortable with their "gender image" or that male players are more adventurous in their gender roles (Griffiths et al., 2003, p. 88). Male players may be stimulated more by seeing a visual representation of themselves as female, in contrast to

female players represented as male characters (Griffiths et al., 2003). They believe that it could also be argued that most MMORPG favor “male” behavior, i.e., resource accrual, aggression, and risk-taking, although they then backtrack and rightly note that “this assumes that such a dichotomy exists” (Griffiths et al., 2003, p. 88). Alternatively, females may be less attracted to a male persona (e.g., violent criminal behavior) (Griffiths et al., 2003). In contrast, the female persona has a number of positive attributes, especially socially in a male-oriented environment, which may help to explain why more men gender swap than do women (Griffiths et al., 2003). For example, female characters often receive comments on their beauty during role-play and may well receive greater help and support during interactions (Griffiths et al., 2003).

Roberts and Parks (1999) identified a series of reasons why people either choose to gender swap or chose not to do so. These reasons were culled from the existent literature and exploratory studies (Roberts & Parks, 1999). Parks (personal communication) articulated the following reasons why one might choose to gender swap:

1. Gender-switching is a form of gender activism.
2. Gender-switching is a way to increase the range of emotions with which one is comfortable.
3. Gender-switching is a way to explore homosexual relationships.
4. It’s fun to play roles of people you are not by gender-switching.
5. People can avoid being sexually stereotyped by gender-switching.
6. Gender-switching gives an individual a form of power over others.
7. Gender-switching allows a person to explore the feminine and masculine aspects of self.

8. Gender-switching is a way to create trouble among members of the opposite-sex.
9. A person can truly experience what it feels like to be the other sex by gender-switching.
10. There is nothing deceitful about gender-switching.
11. By gender-switching people can work out their frustrations with the opposite sex.
12. Gender-switching is a way of signalling that gender on MUDs is not important.
13. I enjoy interacting with people when I am not sure what their “real life” sex is.
14. Gender-switching is simply a form of role-play.
15. People can learn a lot about how to interact with the opposite-sex in “real life” by gender-switching on line.
16. Gender-switching helps people avoid getting harassed by the opposite-sex.
17. Gender-switching allows people to explore their multiple sexual identities.
18. Gender-switching is a way to satisfy curiosity about how the other sex lives and what they think.
19. Gender-switching allows people to explore different identities.
20. People can get insights into the opposite-sex through gender-switching.
21. I would get more attention online if I gender-switched.
22. By gender-switching I could better represent my “true” gender.
23. Gender-switching is a test of interpersonal skills.
24. The presence of gender-switchers on the MUD makes MUD life more interesting.

These are the reasons that Roberts and Parks (1999) identified that people might choose to not gender swap:

1. It just never occurred to me to switch genders.
2. It would be against my ethical principles to gender-switch.
3. Gender-switching would just be too much work for me.
4. Gender-switching is dishonest.
5. I am not comfortable interacting with people who gender-switch.
6. I don't think I can fool anyone by gender-switching.
7. Gender-switching should be banned on MUDs.
8. I expect the people I interact with on MUDs to be the same gender in real-life as their MUD character.
9. I would be upset if I found a close friend on the MUD was gender-switching.
10. I think I can usually tell when a person is gender-switching.
11. Gender-switching is very manipulative.
12. Gender-switching is used to trap unwary people into having netsex.
13. I am always wary about the "real life" sex of MUDers.

Hussain and Griffiths (2008) found that people stated that they did it in order to play; "for fun and to see if it felt any different"; to avoid unwanted attention from men; because women characters tend to be treated far better than men characters and are sometimes given free items, and as a way of seeing how one is treated as a man. Especially in early MUDs, many people chose genders that were neither male nor female. Many of these "other" genders, such as spivak, neuter, or plural, were garnered from science fiction (Turtle, 1994). Miranda Mowbray (2001) hypothesized three reasons people might choose to have an online gender other than male or female:

1. Creativity -- These reasons were often frivolous and light-hearted, sometimes referring to an in-joke amongst friends (Mowbray, 2001).
2. Freedom from stereotyping and acceptance of nonstandard gender. Some participants used non-binary genders because they didn't subscribe to gender stereotypes. Five of eight respondents who gave this response were involved in women's studies or gender studies (Mowbray, 2001).
3. Freedom from harassment (Mowbray, 2001).

Wu et al. argue that the strong force of homophobia has extended into the game space (Wu et al., 2007). Accordingly, some male interviewees find it uncomfortable to acknowledge themselves as either *renyao* or as engaging in gender swapping online and so label their experience a way of learning differences between genders (Wu et al., 2007). However it's important to note that given the way the Chinese Internet works, and the large discrepancy between percentages of male versus female players (86% versus 14%), some players end up becoming *renyao* when they get female avatar accounts (Wu et al., 2007). For other male players, being *renyao* is their active choice (Wu et al., 2007).

Perhaps surprisingly, given the amount of theoretical literature in existence regarding gender swapping, very little empirical data exists in regards to the phenomenon (Griffiths et al., 2003). There is very little data even on the basics (Griffiths et al., 2003). Most discussions focus on controversial cases, anecdotal data, or on critical commentaries about limited data sets (Roberts & Parks, 1999). Basic information about "how often gender switching occurs, who is doing it, and why they are doing it is lacking" (Roberts & Parks, 1999, p. 522).

A few researchers have empirically attempted to answer the question of why people engage in gender swapping. Nick Yee (2003) asked players who had a character of the opposite gender to indicate their main reason for using such a character from a list of reasons given. The results of his research are summarized in Table 1.

Table 1

Main Reasons for Gender Swapping

Reason	% Users
Role-play purposes	27
Visual appearance of the opposite gender	26
Other	17
Gain advantage in-game	12
Gender exploration	7

Note: From “The Daedalus Project,” by N. Yee, 2003.

Yee found that female players who did gender-bend were significantly more likely to do so for gender exploration (Yee, 2003). Male players who did gender-bend were slightly more likely to do so because of in-game advantage (% male = 14.6, % female = 5.3, $p=.07$).

Yee (2003) also asked players to explain in their own words why they chose to gender swap. Again, many gamers cited visual appearances as a main reason for gender swapping (Yee, 2003). Several male respondents talked about the appeal of an aggressive

yet attractive female (Yee, 2003). Other male respondents said that they wanted to gain more in-game advantage; some players used a character for role-playing (Yee, 2003).

As shown in Table 2, Roberts and Parks were interested in researching if there were differences between people who were currently gender swapping and those who had done so in the past but were no longer doing so.

Table 2

Reasons for Gender Swapping, Current and Ex-Users

Reasons	% Users – Current	% Users – Stopped
Role-playing	24	13
Curiosity about gender	14	34
Fun	13	10
Avoid sexual harassment	7.3	7.5
Challenge	7.3	0
Sex	5.2	10.4

From “The Social Geography of Gender-Switching in Virtual Environments on the Internet,” by L. D. Roberts and M. R. Parks, 1999, *Information, Communication & Society*.

Attitudes Towards Gender Swapping

Attitudes towards gender swapping vary within online communities (Chester, 2004). Those who accept the practice typically see it as a legitimate behavior within

MMORPGs; it is after all just part of the game (Chester, 2004). Some *Second Life* residents believe that “most people don’t have a problem with it” (Boellstorff, 2008, p. 141). It is also viewed by some as a form of “gender activism,” an explicit provocation to reflect on the socially constructed nature of gender (Roberts, 2001, cited in Chester, 2004). As one user stated, “Not only do I not think it’s wrong, I think EVERYONE should do it” (Boellstorff, 2008, p. 141).

Those who reject gender swapping generally do so because it is perceived as dishonest and a form of deceptive self-presentation (Chester, 2004). Other people describe being “creeped out” when they find that someone they thought was female is male (Boellstorff, 2008, p. 141). In one study, Yee (2003) found that female *Everquest* players were significantly more bothered by gender swapping than were male *Everquest* players. Men playing female avatars was significantly more troubling than women playing male avatars (Yee, 2003). Male players also found women playing male characters significantly less troubling than the other three combinations (Yee, 2003).

Attitudes have also changed over time (Chester, 2004). Turkle (1995) observed that gender swapping used to be much less tolerated, although it may also have been more common. While it is now commonly accepted as a practice, there is still fear that the deception might spread into the offline world (Turkle, 1995).

In their qualitative study of *Second Life*, McKeon and Wyche found that reactions to online gender-bending were polarized (McKeon & Wyche, p. 25). Many thought it was acceptable (McKeon & Wyche). Two people that McKeon and Wyche interviewed were troubled by people being deceptive about their offline sex; one said that it made her “angry” and the other said that she found it “disgusting” (McKeon & Wyche).

Sonja Utz (2005) studied the motivations that people attribute to other people's gender swapping. She asked participants to rate how much they thought gender swapping would be motivated by four main motivations: privacy concerns, play, idealized self-presentation, and malice (Utz, 2005 p. 52). Gender swapping was mainly attributed to play generally (Utz, 2005). Specifically, it was attributed to resulting more from a desire to "test new roles" and "explore other aspects of [a person's] personality" than for "fun" (Utz, 2005, p. 53).

Gender swapping as deception. While Turkle (1995) and Bruckman (1993) were interested in the use of gender swapping to "work through" personal issues, other researchers have had a much less charitable view of it. In a study of "norms and conventions" in virtual environments, Pankoke-Babatz, Klockner, and Jeffrey deemed gender swapping a form of "disruptive behaviour" (Pankoke-Babatz, 1999) and a "deceptive act" which disrupted "explicitly documented behavioral conventions and social norms" (Pankoke-Babatz, 1999, NP).

In her discussion of gender swapping, Jodi O'Brien notes that in cyberspace, the "tacit agreement seems to be that crossing is acceptable – after all, this is a space in which one is supposed to 'experiment' – but the motives for crossing must not involve an intent to deceive" (O'Brien, 1996). Women who cross as men in order to avoid harassment or dismissal are "just being reasonable" (O'Brien, 1996). Men who create female characters with the intent of understanding the "female experience" are acceptable it seems, so long as they provide this as an account when they discuss the experiences of their female characters (O'Brien, 1996). According to O'Brien, users who appear to be using a gender swap as a means of eliciting behavior from another that would not be

forthcoming if the person's "true" gender were revealed are generally considered problematic and potentially dangerous (O'Brien, 1996).

This feeling was seconded by a resident in *Second Life* who opined that gender swapping was fine "unless you are trying to get involved with someone on a deeper level: then [he thought] it is important to be honest" (Boellstorff, 2008).

The ease with which an online identity may be fabricated generates fear and anger among naïve Internet users (Donath, 1999). For regular users, however, the creation of a persona for a number of purposes, including gender swapping that does not lead to harm, is considered legitimate (Suler, 2004). It may even be considered psychologically useful as a developmental task in identity experimentation (Suler, 2004; Roberts & Parks, 2001).

The distrust of identity play accepted by Pankoke et al. and commented on by O'Brien has precedence in the thinking of Howard Rheingold, a prominent early thinker on the potential of online worlds. As J. J. Bortle notes,

[People's efforts at connection online] are plagued by deception and distance....For Rheingold, even if I strive to communicate as honestly as possible online, the "real me" would not come across as if I were speaking to someone next to me. While Rheingold was skeptical of online relationships, he was vehemently opposed to [users] trying on different identities online, as players in some online role-playing games are encouraged by the medium to do. (Bortle, 2005, p. 8)

Authors of studies that emphasize the conception of the “real” gendered self as located in the physical offline world thus tend to see any discrepancy between the “real” offline self and the “virtual identity presented online as a form of deception” (van Doorn et al., 2007).

Gender swapping normalized. By 2008, at least in one person’s analysis, gender swapping has become normalized for most regular participants in online games. Esther MacCullum-Stewart notes that,

By the time of MMORPGs, the adoption of a female form was such a naturalised action that many [male] players now choose to move across gender for aesthetic pleasure, rather than from a need to experience a new form of being. Players are so used to this action that they do not see it as deviant. Rather, they celebrate it as a fan activity unique to them. (MacCullum-Stewart, 2008, p. 28)

In an interesting analysis of the gendered avatars in *World of Warcraft*, Esther MacCullum-Stewart found that male players justified their adaptation of female avatars based on aesthetic preference; they found the male avatars off-putting and “unrealistic”—“an interesting comment on a body which is as objectified as the females” in that “most of the males have traditional fantasy style bulging muscles and shoulders bigger than their heads” (MacCullum-Stewart, 2008, p. 35). MacCullum-Stewart found it “ironic” that male players “recognize the objectification of their own bodies and do not like it, whilst still responding to the over-exaggerated female forms as an object of desire” (MacCullum-Stewart, 2008, p. 35). Further, she noted that the statistics for avatar choice support the fact that more sexualised body forms are more popular than those deemed to be either less attractive or simply sexually absent (Rollie, 2007 cited in MacCullum-

Stewart, 2008). In her analysis, users usually choose avatars that represent idealized, hypersexualized and hypergendered bodies (MacCullum-Stewart, 2008). This should not, however, in her estimation obscure the fact that males are very comfortable playing female avatars, “with aesthetic pleasure overriding the potentate sexual anxiety of playing the opposite sex” (MacCullum-Stewart, 2008, p. 38).

Social Mores in Second Life Regarding Gender Swapping

As its *Official Guide* notes, in *Second Life* one can change one’s sex every 10 minutes if one desires (Rymaszewski, Au, & Wallace, 2007). However, despite the freedom that’s available to users, “most SL denizens choose to stay true to their real-life gender” (Rymaszewski et al., 2007, p. 76). The authors of the guide note a *Second Life* forum poll indicating that 42% of users were males playing males, 40% were females playing females, 14 % were males playing females, and 4 % were females playing males (Rymaszewski et al., 2007). Despite these statistics, which Rymaszewski and co-authors interpret to mean that that most people make a “conservative” choice in regards to their avatar’s gender, there is a general belief among users that many people swap sexes frequently and that everyone is free to choose whichever sex they fancy at any given moment (Rymaszewski et al., 2007). Rymaszewski et al. attempt to account for this apparent discrepancy by explaining to the presumably new user, “No one will mind if your avatar’s of a different gender than you really are as long as they do not have a close personal relationship with you” (Rymaszewski et al., 2007, p. 77). They encourage readers to experiment with gender swapping if the reader desires to do so, but suggest that the user also include some information about the “real-life you” in a *Second Life* Profile (Rymaszewski et al., 2007, p. 77).

There is often disagreement about what constitutes appropriate conduct regarding gender swapping in *Second Life* (McKeon & Wyche). Some residents with whom McKeon and Wyche spoke expressed disapproval of and even revulsion towards residents who “deliberately concealed their biological sex behind the opposite gender in an avatar” (McKeon & Wyche). Others believed that passing as the opposite gender was an important part of their online relationships (McKeon & Wyche).

Prevalence of Gender Swapping in MUDs and MMORPGs

Gender swapping has typically been assumed to be quite common, despite the dearth of empirical data to support this hypothesis. Research conducted over the past decade has found percentages of people who gender swap that range from between 4% (Chester, 2004) to 60% (Roberts & Parks, 1999; Hussain & Griffiths, 2008). Roberts and Parks (1999) found that less than 6% of social MUD participants spent over half their time as a gender-swapped character. Research on *Second Life* indicates that ratios tend to hover around 10% to 14% for men and about 4% for women (Rymaszewski et al., 2007; de Need & Attema, 2006).

Online Gender Swapping and Gender Identity

A possible, but unresearched predictor of online gender swapping is gender identity (Chester, 2004). Hussain and Griffiths note that future “research could be carried out to see whether gender swapping has an effect on the gamer’s gender identity or gender role when they are not playing online” (Hussain & Griffiths, 2008, p. 50). Gender identity refers to an individual’s perceptions of their femininity and masculinity (Chester,

2004). It is possible that gender identity impacts on the presentation of gender online (Chester, 2004).

Although gender is often culturally understood as a set of binary opposites, Sandra Bem (1974) proposed that masculinity and femininity were separate constructs. One can have both masculine and feminine traits (Bem, 1974). Accordingly, Bem proposed four categories of gender identity: feminine (high in femininity, low in masculinity), masculine (high in masculinity and high in femininity), androgynous (high in both femininity and masculinity) and undifferentiated (low in both feminine and masculine traits) (Bem, 1974).

Chester (2004) attempted to test whether there were correlations between users' gender identity and their tendency to either gender swap or avoid such behavior, but was hindered by a dearth of subjects who acknowledged having engaged in the behavior. Thus, the relationship remains untested (Chester, 2004).

Previous researchers (Chester, 2004; McKeon & Wyche; Yee, 2006) have called for the study of the relationship between a person's gender identity or gender role and their tendency to either gender swap or eschew such a practice. Yee (2006) calls for an answer to the question "Who is likely to choose avatars of the opposite gender and how does it affect their gender-identity or gender role?" (Yee, 2006, p. 37). I want to take up this call, while also providing a somewhat more nuanced way of thinking about the question.

Gender is a social construct that divides people into "natural" categories of men and women that are assumed to derive from their physiological male and female bodies (Lev, 2004). Most people's gender identity is congruent with their assigned sex, but some

people experience their gender identity to be discordant with their biological sex (Lev, 2004). Gender identity thus refers to a person's self-concept of his or her gender, regardless of his or her biological sex (Lev, 2004). It has been demonstrated that a surprisingly easy way of ascertaining a person's gender identity is to ask them six questions regarding how they see themselves in terms of their relatively masculinity and femininity (Storms, 1979). Gender identity will, accordingly, be assessed using a modified form of Michael Storms' 1979 measure.

Gender role, also referred to as a person's "sex role" is the expression of femininity and masculinity (Lev, 2004). Gender roles are thought to be reflections of one's gender identity (Lev 2004). In Western cultures, males are expected to be independent, logical, objective, active, competent, and instrumental, while females are assumed to be passive, dependent, emotional, warm, and nurturing (Lev, 2004). Gender roles will be measured using the Bem Sex Role Inventory.

Given that within *Second Life* one has the ability to modify one's avatar so that, with enough practice, one can make oneself look precisely how one desires, the possibility exists that an avatar's physical appearance will reveal much about the personality, including the gender identity and sex roles, of the person using the avatar.

It is also important to notice that most of the bodies that reside in *Second Life* tend to be hypergendered. Based on observation, D. E. Jones found that in *Second Life* "most users opt for an avatar that conforms to the ideal of beauty in American culture that is 20-something, toned/buxom and white" (Jones, 2006, p. 23). In particular, bodies are "highly gendered, with large breasts or broad shoulders" (Jones, 2006, p. 23). McKeon and Wyche found that "wandering through SL is similar to flipping through the pages of GQ,

Vogue, or Playboy. Tall, thin, muscular, and flawless avatars abound” (McKeon & Wyche).

Also, sex is written into the *Second Life* platform. Boellstorff (2008) notes that in *Second Life*,

[The] male/female binarism continued to predominate in graphical virtual worlds. Destabilizations of gender worked upon the ground of this binarism, which in most cases were embedded into the platform. When creating a new avatar in *Second Life*, one had to choose male or female gender. Gender could be changed at any time, but both the initial choice and the subsequent limitation of choice to the male/female binary were unavoidable—despite, for instance, occasional resident requests that gender be undefined, or on a sliding scale with male at one pole and female at the other. Like many virtual worlds, the *Second Life* platform worked in various ways, large and small, to reinforce gender norms. For instance, the default animations for sitting differed for women and men; men sat with their legs spread apart slightly, while women’s legs were closer together. (Boellstorff, 2008, pp. 140 – 141)

I am, accordingly, curious about users who create avatars that are more physically “androgynous” than hypergendered within *Second Life*. In terms of gender identity, are they more likely to report being closer to the center of the spectrum on a unipolar gender dimension (such as will be measured by Storms’ assessment tool) than those who play hypergendered avatars? Similarly, it seems to me that playing a non-human character is one possible way of escaping the gender binary altogether. People might choose non-human avatars as an alternative way to escape the sex binary imposed by *Second Life*’s

platform. A user who does swap within the sex binary, for instance, a male who creates a “buxom babe” as his avatar, may still be strongly entrenched in the gender binary.

McKeon and Wyche conclude their paper calling for more research into how a user’s real-life gender manifests in his or her avatar. They also wonder if having the ability to play a sex different from one’s biological sex impacts a user’s offline life (McKeon & Wyche). They therefore seemingly indicate the bi-directionality of a user’s experience with an avatar. That is to say, they presume that there is something about a person’s gender identity that might make a person want to gender swap, and also that the experience of gender swapping will likely have an effect on a person in real life. McKeon and Wyche “were only able to demonstrate that participant’s gender identity plays a real and meaningful role in their SL experience.”

Beyond the Gender Binary

Although it is common to think of sex as existing in a binary, and everyone in Western culture is assigned a sex at birth, approximately 2% of the population are intersexed and do not easily fit into a dimorphic division of two sexes that are ‘opposite’ (Lev, 2004). Thus for instance, the Brown University biologist Anne Fausto-Sterling has argued that it makes as much sense, biologically speaking, to talk about the “five” sexes as it does to talk about there being two sexes (1993).¹²

Gender is a social construct that divides people into “natural” categories of men and women that are assumed to derive from their physiological male and female bodies (Lev, 2004). Most people’s gender identity is congruent with their assigned sex, but many

¹² Fausto-Sterling identifies “true hermaphrodites” (“people who possess one testis and one ovary”), male pseudohermaphrodites, who “have testes and some aspects of the female genitalia but no ovaries and the female pseudohermaphrodites, who have “ovaries and some aspects of the male genitalia but lack testes” (Fausto-Sterling, 1993, p. 20) as additional sexes above and beyond male and female.

people experience their gender identity to be discordant with their biological sex (Lev, 2004). Gender identity thus refers to a person's self-concept of his or her gender, regardless of his or her biological sex (Lev, 2004). Gender role, also referred to as a person's "sex role" is the expression of femininity and masculinity (Lev, 2004). Gender roles are thought to be reflections of one's gender identity (Lev 2004). In Western cultures, males are expected to be independent, logical, objective, active, competent, and instrumental, while females are assumed to be passive, dependent, emotional, warm, and nurturing (Lev, 2004). Despite the restrictions on extreme cross-gender expression, gender-role behavior is probably the most flexible variables of identity (Lev, 2004).

Many cyber enthusiasts hope that identities in digital environments may be "fluid and 'queer'" (Boler, 2007 p. 150). These fluid and queer identities, it is hoped, will "avoid the traps of binary and oppressive assumptions about identities" by "transcending binaries" (Boler, 2007, p. 150).

The gender binary is also used to rationalize oppression (Bem, 1993, Bing & Bergvall, 1996, cited in Rodino, 1997). In an androcentric system, those who are "other" to heterosexual, masculine men face oppression (Bem, 1993; Rodino, 1997). Thus, reproducing the binary gender system sustains patriarchy (Rodino, 1997). Binaries, as feminist thinkers have pointed out, are troublesome because they represent hierarchies (Boler, 2007). One term in every pair (black/white; male/female/ good/bad) becomes privileged over the other (Boler, 2007).

Gender as Performance: Opening up Possibilities through Non-Binary Gender Performance

Some feminist cyber-theorists hope that the absence of the physical body in online interactions will allow for “the possibility of a life beyond the dichotomous categorizations of Enlightenment epistemology” (Sunden, 2002).

One example of these hopes is exemplified in Miranda Mowbray’s (2001) work in which she theorizes that users’ freedom to use non-standard genders may have liberatory potential for those users, open up other user’s understanding of gender as performative, and ultimately create a world that is more tolerant of non-binary gender expressions (Mowbray, 2001).

Mowbray (2001) argues that once people understand that gender is constituted through performance (Butler, 1999), they have more freedom to enact non-normative, non-heterosexual gender performances. Thus, she reads Judith Butler as suggesting that by ‘making gender trouble’ through complex gender performances, one can potentially open up possibilities in society for other gender options (Mowbray, 2001). Users who socialize with characters with non-standard genders might construct new mental gender categories in their minds (Mowbray, 2001). Or, more simply, it’s possible that encountering characters with genders other than ‘male’ and ‘female’ and having the freedom to assume such online genders themselves, might stimulate users to think about gender and question their previous assumptions on its construction and limitations (Mowbray, 2001).

Mowbray quotes Butler’s introduction to the 1999 edition of *Gender Trouble*. “One might wonder what use ‘opening up possibilities’ finally is, but no one who has

understood what it is to live in the social world as what is ‘impossible,’ illegible, unrealizable, unreal, and illegitimate is likely to pose that question (Butler, 1990/1999, viii).

As Mowbray notes, some people who are choosing non-binary genders are doing so because neither the idea of being a man or a woman fits their actual, real-life sense of themselves, and these users might enjoy the experience of getting to reveal their “true, real-life gender” (2001).

T. M. Senft criticizes this liberatory discourse. She writes,

If I had a dime for every paper I received from enthusiasts announcing that participating in a MUD “breaks down gender barriers” because of its “performance elements,” I would be the next Bill Gates. This line of thought, generally described by my friends on the Net as “gender fucking,” has the following levels of naïveté: first, it carries a wrong assumption that only an online textual body is performative, whereas a biological body at the end of the terminal is stable. Second, it presents gender fucking primarily as an issue of choice, thus reinforcing an idea that you put on gender, like a change of clothing, and that gender doesn’t wear you. (Senft, 1997, p. 6)

Hypergendered Avatars and the Gender Binary

Femininity and masculinity are frequently exaggerated in cyberspace (Bioca & Nowak, 2002, cited in Nowak & Rauh, 2006). Gender performances online tend to be “hypergendered,” frequently becoming “ritualized, dichotomized often burlesque portrayals of ‘female’ and ‘male’” (O’Brien, 1999; Bergvall, 1999). Although the hegemonic, binary gender system may not accurately describe the array of multiple

un/gendered traits that individuals exhibit, this system of binary genders are frequently reproduced online (Epstein, 1990; Bem, 1993; Bornstein, 1994/1995, cited in Rodino, 1997).

M. Dodge, from the University College London, noted that in the virtual world he studied, *AlphaWorld*, “all the avatars are based on conventional human body shapes,” characters are restricted to being male or female, and they all resemble a “virtual Barbie and Ken” (Dodge, 1998, p. 8). A. Thomas found that in *AlphaWorld* “children were more inclined to exaggerate their real gender, and perform, as Butler termed, ‘hyperbolic exhibitions’ of gender, with girls giggling incessantly, and boys talking about decidedly masculine topics” (Thomas, 2004, p. 369).

Avatars in Cyberspace

Researchers such as Turkle, Bruckman, and Kendall researched text-based MUDs. More recent research has centered on studying worlds with a graphical interface, characters represented by avatars (Kolo & Baur, 2004).

Avatars have been variously defined. They are defined by the social psychologist Jeremy Bailenson as “any digital representation of self (made of 1s and 0s)” (Bailenson, n.d.) and by A. Barak as “individually selected graphic representations of users” (2007, p. 307). A. Thomas understands them to be “a representation of the desired self” (Thomas, 2004, p. 363). T. L. Taylor understands them as “pictorial constructs used to actually inhabit the [online] world” (Taylor, 2002, p. 40) and as “our bodies in virtual spaces” (Taylor, 2006, p. 155).

Avatars in online worlds are players' key representations in interactions with others (Kafai, Fields, & Cook, 2007) Accordingly, avatars are the "richest form of identity expression" (Scheidt, 2001) and "a significant part of projecting the image of that self that participants want...others to see" (Thomas, 2004, p. 369). Avatars have been understood by some commentators as "simulated people...supposedly expressing the identities of their human owners" (Bainbridge, 2007, p. 475).

The use of avatars representing people alters the range and nature of possible experiences for users in virtual environments (Nowak & Rauh, 2006, p. 154). Avatars "provide a further communication channel to express the self, both in terms of body and identity" (Talamo & Ligorio, 2001: 111). Boellstorff (2008) noted in his study of *Second Life* that avatars can "express durable aspects of self-identity.... For some, virtual embodiment is understood as more authentic than actual-world embodiment"; as one *Second Life* resident put it, his avatar represents 'how I see myself on the inside'" (Boellstorff, 2008, p. 134).

Because they are a recent phenomenon, there are few studies about avatars. This will likely change, however. As Kafai, Fields, and Cook (2007) note, avatars are not ephemeral and spurious creations: players spend considerable time selecting and customizing them and then interacting with others online.

Recently, social psychologists have begun to research the effects of digital avatars on users. Nick Yee and Jeremy Bailenson, researchers at Stanford University, studied how avatars affect users' behaviors (Yee & Bailenson, 2007). They found that individuals' behavior conforms to their digital self-representation independent of how others perceive them, even after only 45 seconds worth of exposure to their new identity

(Yee & Bailenson, 2007, p. 271). After looking at “themselves” in a virtual mirror for between 45 and 60 seconds, participants assigned to more attractive avatars in immersive virtual environments were more intimate with confederates in a self-disclosure and interpersonal distance task than participants assigned to less attractive avatars (Yee & Bailenson, 2007). Similarly, participants assigned taller avatars behaved more confidently in a negotiation task than participants assigned shorter avatars (Yee & Bailenson, 2007). Both of these behaviors mimic real-life situations.¹³

H. Harris, A. Nielsen, and Bailenson have also conducted research in which users are assigned various avatar conditions, including being assigned an avatar of the “opposite” sex and then their engagement in online behaviors, real-world behaviors, and personality characteristics (as, for example, the Big Five) are measured (Harris, Nielsen, & Bailenson, 2008, manuscript in progress). The results of this research have yet to be published, however.

Bodies in Cyberspace

Early researchers and observers often lauded the Internet as a space where users could be totally disembodied, jettisoning off their real-life bodies to reconstruct themselves anew (Bell, 2001, quoted in Thomas, 2004). According to D. E. Jones, “virtual worlds feed societal fantasies developed within the mind/body discourse of transcending the deficiencies of human flesh” (Jones, 2006, p. 13). However, Boellstorff (2008) challenges “any ‘supposition conflating online interaction with bodily

¹³ People deemed more attractive have higher confidence levels, are more extraverted and more friendly (Langlois et al., 2000). Taller people are perceived to be more competent (Yong & French, 1996), more desirable as romantic partners (Freedman, 1979; Harrison & Saeed, 1977), and more likely to emerge as leaders (Stodgill, 1948).

transcendence' (Campbell, 2004: 5) and argue[s] for the reality of virtual embodiment” (p. 134).

As A. Thomas reminds us, to think of cyberspace as only a playground for the mind is to forget that intimate connection between body and mind (Thomas, 2004). A. Barak notes that people experience emotions as a result of internet-based communications; these emotions are authentic and “regularly lead...to certain behaviours and/or bodily reactions” and therefore must be “regarded as powerful, prime moderators in the attempt to understand, explain and control human phenomena in cyberspace (2007, p. 304). In short, “emotional arousal of any sort stemming from incidents encountered in cyberspace with virtual partners is as meaningful and experiential as those with actual, real world partners” (Barak, 2007, p. 313).¹⁴ Bodies matter, even when they are only virtual bodies.

Second Life

Every day, millions of people participate in MMORPGs (Woodcock, 2004). These games appeal to both men and women in a wide variety of age groups and income brackets (Yee, 2006). Because they do not require advanced computer skills like the older text-based games, MMORPGs are being played by a much larger and broader segment of Internet users (Kolo & Baur, 2004). Online games can no longer be considered the purview of adolescent boys (Yee, 2006). They are being played more and by more

¹⁴ Yee (2006) found that a substantial minority of respondents (between 25% and 32% depending on age range) had experienced their “most rewarding or satisfying experience” over the past seven days while playing a MMORPG. Likewise, between 27% and 39% of respondents had experienced “the most annoying infuriating experience over the past 7 days” in an MMORPG (Yee, 2006). These findings highlight the high degree of emotional investment among many MMORPG users as well as illustrating the ability of these virtual environments to elicit a large amount of emotional investment (Yee, 2006).

different types of people as they become increasingly popular. A recent study found that the average age of a *Second Life* resident was 41.1 (Std. = 9.64) (Duchenaute et al., 2009).

Second Life has shown extraordinary growth since it was launched in June 2003 (Boellstorff, 2008). By August 2008, 14.7 million residents had registered (*Second Life*, 2008) and it was the norm for over 50,000 users to be online at any given time.

A survey performed by Linden Labs, the makers of *Second Life*, indicated that residents spend an average of about 16 hours per week in the world (McKeon & Wyche). McKeon and Wyche's interviews indicated that especially active content creators often logged 25 to 40 hours per week. A more recent study by the Palo Alto Research Center found that *Second Life* residents had a mean experience of 1.71 years (Std. = 1.01); they played 4.55 hours per day (Std. = 3.56) and 5.91 days per week (Std.=5.91) (Duchenaute et al., 2009).

Second Life is a three-dimensional world constructed by its users and based entirely on player-generated content (Boellstorff, 2008; Jones, 2006; Kafai, Fields, & Cook, 2007). There is no way to "win" in *Second Life*; users create avatars to enhance socialization between players (Kafai et al., 2007). Accordingly, the game is focused on fostering "self-expression" (Ondrejka, 2004, p.1). *Second Life* residents frequently use the liberatory rhetoric described above, regarding it as a space in which residents can "create new lives free from societal and physical limitations of ethnicity, gender geography, sexual orientation or status" (Jones, 2006, p. 4). The promise is that *Second Life* "blurs and fragments boundaries and sense of self" and functions as a "virtual microcosm for identity recombination" (Jones, 2006, p. 4). Despite this rhetoric, it still

“manifests significant aspects of society (American, capitalist, gendered) from which is sprung and therefore is more reflective than transcendent” (Jones, 2006, p. 4).

There are over 150 sliders that residents use to craft their avatars' appearances. In creating an avatar, the default height translates to being roughly six feet tall in the real world (Rymaszewski et al., 2007). This is considered to be a “safe middle-of-the-road value” (Rymaszewski et al., 2007, p. 84). The default “body thickness” is “waif-like” and the default “body fat” option is set at 0 (Rymaszewski et al., 2007, p. 84). This results in most *Second Life* residents being “unbelievably lithe and slender; rather the way we'd all like to be in real life” (Rymaszewski et al., 2007, p. 84). Torso-editing options thus collectively default to create the “ideal torso: knockout busts for the females, broad shoulders and rippling muscles for the men” (Rymaszewski et al., 2007, p. 93).

In one qualitative study, participants were asked about how similar or how different their *Second Life* avatar was from the user in real life (McKeon & Wyche). McKeon and Wyche found that “most made themselves more attractive. For females this meant being skinnier while for men it meant being more muscular” (McKeon & Wyche, p. 23). Jodi O'Brien interprets this process of “hypergendering” as an attempt to reduce the uncertainty of online interaction by making sex overly apparent (McKeon & Wyche). In this way, *Second Life* does not differ from similar online environments in that avatars tend to replicate typical stereotypes of gender and desirability (McKeon & Wyche).

In a quantitative survey, Messinger, Ge, Stroulia, Lyons, Smirnov, and Bone (2008) found that “on average, people report making their avatars similar to themselves, but somewhat more attractive”. This data was corroborated by qualitative data from open-ended questions (Messinger et al., 2008). They also argued that in constructing an

avatar, users worked to strike a balance between “competing motives for self-enhancement and self-verification” by customizing “the image of their avatars such that the avatars bear similarity to their real selves, but with moderate enhancements” (Messinger et al., 2008). Users on average also made their avatars younger, weigh less, and taller than they were in real life (Messinger et al., 2008).

Hypotheses and Research Questions

Prevalence of Gender Swapping

Research indicates that anywhere from 4% to 60% of people surveyed report having gender swapped online. Most studies indicate that men are more likely to gender swap than are women (see Kolo & Baur, 2004; Griffiths et al., 2003; Yee, 2003; but also see Hussain & Griffiths, 2008; Roberts & Parks, 1999). The table below lists a number of studies showing percentage of people who gender swapped, and where available, the percentages of male and females who report gender swapping.

Table 3

Summary of Surveys Regarding Gender Swapping

Game Studied	Author	N	% People	% Males	% Females
Thirty-five games	McKenna (1996)	199	20 ^a		
“Popular social” MUDs	Roberts (1999)		40 ^a	40 ^a	40 ^a
Role-playing MUDs	Roberts (1999)		56.7		
<i>Everquest</i>	Griffiths (2003)	10,350	15 ^b		
<i>Everquest</i>	Griffiths (2003)	8,694	15.5 ^b	17	10

<i>Everquest</i>	Yee (2003)	1236		47.9	23.3
German <i>Ultima Online</i>	Kolo (2004)	104		14 ^b	0 ^b
<i>Everquest</i>	Griffiths (2004b)	452		52.2	9.6
Chester's MUD	Chester (2004)	75	2.7		
<i>Second Life</i>	De Nood (2006)	246	10	16	2.7
Online Poker games	Wood (2007)			12	20
<i>World of Warcraft</i>	Yee (2007)	1,023		23 ^c	3 ^c
Chinese MORPGs	Wu (2007)	14	50	57.1	42.9
Various MMORPGs ^d	Hussain (2008)	119	57	54	68
<i>SL, WoW and Maple</i>	PARC (2008)	157	24.2	21.7	2.6
<i>Story</i>					
<i>Second Life</i>	Bell (2009)	2094	28		

^a Approximate value

^b For main character only

^c Most enjoyable character

^d Includes *Everquest 1* and *2*, *Final Fantasy XI*, *World of Warcraft*, *Star Wars Galaxies*, *Dark Age of Camelot* and *Lineage II*.

Note that surveys are listed in chronological order, earliest to latest. Studies are given by lead author only.

In a 2006 survey, Dutch surveyors found that 10% of 246 participants (n = 24) surveyed had engaged in gender swapping on the MMORPG *Second Life* (de Nood & Attema, 2006). A study by the marketing firm Global Market Institute polled 479 *Second*

Life users and found that 23% of users were currently “play[ing] as another gender” (New World Notes: Surveying *Second Life*).

A 2008 survey of 50 *Second Life* users (25 male and 25 female) by the Palo Alto Research Center (PlayOn: Avatar Survey: Gender Demographics) had 41 users downloaded avatar screenshots. Of these 41 screenshots, 30 (73%) users played using a female avatar and only 11 (26%) users played using a male avatar (PlayOn: Avatar Survey: Gender Demographics). Although this would seem to indicate that males users swapping to woman avatars is more common than female users swapping to man avatars, the percentages at which this occurs cannot be computed with the data given.

Gender Swapping Outside the Gender Binary

Most text-based MUDs allowed users to select a sex other than male or female, and users accordingly chose them with some frequency, at a rate between 11% and 32%, depending on the MUD under study (Schiano & White, 1998; Danet, 1999; Mowbray, 2001).

Possible “unconventional” genders that users selected were garnered primarily from science fiction and included “neuter,” “spivak,” “plural,” “royal,” “splat,” “egotistical,” “2nd” and “person” (Danet, 1999).

In *Second Life*, one is forced to choose between having a male or a female avatar (Boellstorff, 2008). This is problematic for many reasons discussed above. However, it also may be in due in part to the fact that many of the genders in text-based MUDs were linguistic in nature (Boellstorff, 2008). As Boellstorff (2008) notes, it’s not clear what a “spivak” avatar would actually look like.

A possible way to create avatars outside the gender binary is for users in *Second Life* to use either an “androgynous-looking” or non-human avatar. Personal observation

indicates that this happens with some regularity in *Second Life*. I am interested in exploring two ideas. First, how frequently does gender swapping outside the gender binary occurs? Second, are those who play either “androgynous-looking” or non-human avatars different in terms of their gender identity than those who either do or do not gender swap?

How Gender Identity Impacts the Presentation of Gender in Second Life

Few studies have reported predictors of online gender play (Chester, 2004). For her 2004 dissertation on identity play in MUDs, Andrea Chester attempted to study a correlation between gender identity as measured on the Australian adaptation of the Bem Sex Role Inventory and a tendency to gender swap (Chester, 2004). This effort was hindered, however, by a lack of people engaged in the activity compared to what she had anticipated (Chester, 2004). Of 75 university students studied in a mock MUD, only 2 people chose to gender swap (Chester, 2004). Accordingly, she was not able to test a correlation due to the sample size.

In their qualitative study of gender identity and *Second Life*, McKeon and Wyche “demonstrate[d] that participant’s gender identity plays a real and meaningful role in their SL experience” (McKeon & Wyche, p. 25). They offered “anecdotal accounts to support the idea that participants use their *Second Life* avatars to express gender atypical traits that are difficult to express in real life (McKeon & Wyche, p. 25). They conducted interviews with users who had avatars who appeared non-normative in terms of their gender presentation. Based on interviews, McKeon and Wyche concluded that residents using avatars with non-normative gender presentations constructed avatars that represented how they wanted to appear in their first life (McKeon & Wyche).

McKeon and Wyche conclude that future research is needed. They call for an answer to the question, “How does a user’s real-life gender manifest in their avatar?” McKeon and Wyche “were only able to demonstrate that participant’s gender identity plays a real and meaningful role in their SL experience” but did not “engage in larger debates on the relationship between participants’ avatar ‘self’ and their sexed bodies” (McKeon & Wyche, p. 32). Similarly, Nick Yee (2006) calls for an answer to the question “Who is likely to choose avatars of the opposite gender and how does it affect their gender-identity or gender role?” (Yee, 2006, p. 37).

Sexual Orientation and Gender Swapping

It is hypothesized that people who identify as gay, lesbian, or bisexual are more likely to gender swap than do people who identify as heterosexual. There has been very little research done on whether or not people who identify as gay and lesbians are more likely to gender swap than are people who identify as heterosexual (Roberts & Parks, 1999). Roberts and Parks (1999) found that heterosexuals were significantly less likely to have swapped than MUDers with non-heterosexual sexual orientations.

Summary of Research Questions and Hypotheses

1. Based on the results of previous studies, it is hypothesized that more biologically male participants than biologically female participants will endorse an item indicating that they gender swap in *Second Life*.
2. Motivation for gender swapping. Borrowing from a list of possible reasons amassed by Roberts and Parks (personal communication) describing why

someone might choose either to gender swap or not gender swap, I will be particularly interested in seeing how people understand their reasons for why they gender swap. It is hypothesized that people who do gender swap are more likely to see it as part of role playing.

3. Motivation for not gender swapping. Just as it is interesting to understand why people might want to gender swap, it will be equally interesting to understand why people who do not gender swap abstain from doing so. Based on Roberts and Parks' (1999) preliminary data, it is hypothesized that people who do not gender swap will believe that it is more dishonest than those who do gender swap.
 - a. Women who report gender swapping within the gender binary (i.e., playing male characters) will be more likely to be categorized as masculine in the BSRI.
 - b. Men who report gender swapping within the gender binary are more likely to be categorized as masculine on the BSRI as their staying within the gender binary demons.
4. In what ways is *Second Life* a “fluid” or “queer” online environment?
 - a. Some residents in *Second Life* avoid the hypergendering that is so common within *Second Life* despite the fact that these avatars are generally deemed less trustworthy than avatars that are more-obviously gendered. I will find out how

- common this practice is, and what percentage of time users who do use “androgynous-looking” avatars spend with that avatar.
- b. Some residents may be willing to engage in romantic relationships with avatar configurations that are different from their real life sexual orientations.
5. Based on previous research, it is hypothesized that people who identify as gay, lesbian, bisexual or queer are more likely to gender swap than people who identify as heterosexual.

Chapter 3: Methodology

Participants

The participants for this dissertation will comprise users who play the massive multiplayer online role-playing game (MMORPG) *Second Life*. Participants will be divided into at least two groups of users, with at least 30 members in each group. These groups will consist of 1) users who have never gender swapped and 2) users who gender swap to a gender different from their biological sex. Additionally, members of two other groups will be sought: 3) users who play “androgynous-looking” avatars and (4) users who play non-human avatars. It is anticipated that there may be some trouble getting enough participants for the third and fourth groups; if this is the case, analysis of the first two groups only will be performed. There are no geographical restrictions to participate in this study. Participants will not be paid to participate in the study.

Procedure

Participants will be recruited from Second Life’s Forum (<http://forums.secondlife.com>). A brief synopsis of the purpose of the survey will be posted. Potential participants will be given instructions as to how to access the study online at SurveyMonkey.com. Due to the design of the study, participants are afforded complete anonymity.

Upon accessing the study online, participants will be instructed to read a letter of introduction to the study, including a brief statement of purpose and a description of the study. Participants will not be required to sign a written consent form because of the

minimal risk involved in their participation and increased risk to participants' confidentiality if they were to sign a document associating them with this study. Those who elect to continue their participation in the study will give their consent by completing the study and submitting their questionnaires. Participants will be instructed to read the informed consent procedure in the information provided prior to starting the study.

It is anticipated that the online survey will take approximately 30 minutes to complete.

Subjects will be given an email address to contact the researcher if they have questions or concerns or want a copy of the results of the study when these become available.

Instruments

Participants in this study will be asked to complete a comprehensive demographic section. They will also be asked to complete two measures: (1) the short form of the Bem Sex Role Inventory (BSRI, 1984) and (2) Michael Storms' (1979) scale, which assesses self-ascribed masculinity and femininity.

Demographic Survey

The demographic questions will ask users about how long they have been playing *Second Life* in particular and MMORPGs in general; amount of time spent playing *Second Life*; biological sex and gender; sexual orientation, age, marital status, race/ethnicity, education, occupation, and income level. The survey will allow subjects to enter their answers for some questions (for example, for profession). For other questions,

it will allow subject to pick from a drop-down menu of choices. For other questions, such as gender and sexual orientation, subjects will be given the choice to write in a response under “other” if they cannot find an answer that suits them in the drop-down menu.

The Bem Sex Role Inventory

The Bem Sex Role Inventory (see Appendix A) measure consists of 30 items on which a subject rates various psychological qualities on a continuous scale of 1 – 7, one representing “never or almost never true,” and seven representing “always or almost always true.” Of the items, 10 have been standardized with college students as being masculine, or most desirable for males; likewise, 10 of the items are considered feminine, and 10 as neutral. A subject attains both masculinity and a femininity score, which are seen as parallel, not opposing qualities. Subjects scoring above the mean on both the masculine and feminine scales are labeled androgynous. Subjects scoring below the mean on both scales are labeled undifferentiated in sex role. A score above the mean on one scale and below the mean on the other scale is labeled the sex role of the above-mean scale (i.e., either masculine or feminine).

Bem (1974) reported high internal consistency and test-retest reliability of the BSRI. Coefficient alphas computed for masculinity and femininity revealed high reliability (Masculinity alpha = .86; Femininity alpha = .82). The BSRI test-retest reliability within a sample of 28 males and 28 females was demonstrated to be highly reliable over a four-week period (Masculinity $r = .90$; Femininity $r = .90$; Androgyny $r = .93$) (Bem, 1974).

Sex Role Identity Scale (SRIS)

This scale consists of six questions. It asks participants to rate their masculinity and femininity in a completely straightforward way (Brown, 1985). Each item is followed by a 31-point scale with the endpoints labeled *Not at all masculine (feminine)* (scored as 0) to *Extremely masculine (feminine)* (scored as 30) (Storms, 1979).

There are six items on this scale:

“I see myself as someone who has a masculine personality”

“I see myself as someone who has a feminine personality”

“I see myself as someone who acts, appears, and comes across to others as masculine”

“I see myself as someone who acts, appears, and comes across to others as feminine”

“In general, how masculine do you feel you are?”

“In general, how feminine do you feel you are?”

The scale shows strong internal consistency: the three masculine identity items intercorrelated positively better than .66 for men and .68 for women (all $ps < .001$) (Storms, 1979). The three feminine identity items intercorrelated positively better than .80 for men and .70 for women (all $ps < .001$) (Storms, 1979). In terms of validity, the mean score for men was 24.43 (Beere, 1990). The mean score for women was 7.9 (Beere, 1990). This is a significant difference ($ps < .001$) (Beere, 1990). Additionally, this scale demonstrates that subjects tended to conceptualize their sex role identities along a single dimension (Storms, 1979).

The scale will be modified in that an additional category of “androgynous” will be added to the questions. In the interest of making the questionnaire shorter, the question regarding masculine and feminine personality will be eliminated. Additionally, we will use a 5-point Likert scale instead of the 31-point scale originally used by Storms (1979).

Planned Analyses

Data will be analyzed using SPSS. It is anticipated that data will involve using correlations, T-tests, and one-way ANOVA statistical analysis.

Results

This section will include the results of the data analyses.

Discussion

This section will include a discussion of the statistical findings, limitations of the study, and implications for future research.

Chapter 4: Results

There was some initial concern that recruiting enough participants for the survey would be difficult. This was due, in part, to the perception by many Second Life residents that “some of the first educators and researchers in SL were a bit clumsy in their research approach[es]. There were early incidents in which Residents felt – rightly -- that they were being spied upon or treated like guinea pigs rather than human beings” (Rufer-Bach, 2009). The author made two separate posts on the Second Life Forum, about six weeks apart, requesting that users complete the survey. There was initial protest to the request, as exemplified by one user replying “Omfg!!!!!!!!!!!!!!!!!!!!!! Noooooooooo Never!!!!!!!!!!!!!!!!!!!!!!” However, once several users posted in the Forum that the survey seemed “well-thought out,” the number of respondents increased. In both cases, the post remained active on the Second Life Forum for several days and new respondents completed the survey. After this time the post was relegated to the archives. Over 1,300 people opened the post regarding the gender swapping survey. In total, 56 messages were posted about the topic and about the survey. One hundred seventy-four users completed the survey. (Unfortunately, due to a user error, incomplete surveys were deleted without tabulating how many were started but not completed).

Demographic Information

Table B1 (see Appendix B) shows the demographic characteristics of the sample. A small majority of users (51.5%) were male. A large majority of users (81.1%) had gender swapped. About three-quarters of the users (72.4%) identified as heterosexual. More than four in ten users (44.8%) were married or cohabitating. Whites/Caucasians

accounted for over 90% of the users. The mode of annual income was between \$75,000 and \$100,000.

The average age of participants was just over 43 years of age ($M = 43.03$, $SD = 10.78$).

Users played almost 4 hours a day, 6 days a week ($M = 3.87$, $SD = 2.78$; $M = 5.75$, $SD = 1.61$).

Primary Analyses

How Common Is Gender Swapping?

Over eight in 10 respondents (81.1%) indicated that they had gender swapped while playing *Second Life*. The number of users indicating that they had gender swapped was higher than in many previous studies.

Based on the results of previous studies, it was hypothesized that more biologically male participants than biologically female participants would endorse an item indicating that they gender swap in *Second Life*. This hypothesis was not supported at a statistically significant level. Eighty-three percent of men reported gender swapping. Seventy-one percent of women did. Of those who endorsed the item indicating that they were neither male nor female, 100% indicated that they gender swapped.

Motivations for Gender Swapping

I was curious to understand why people might choose to either gender swap or not gender swap. This was assessed using two different methods. First, respondents were asked to supply one or two main reasons for their behavior around gender swapping. These reasons were then grouped into more general categories, and are presented in Table 4. A total of 142 respondents reported gender swapping, and together they provided 202

reasons for gender swapping. Nearly a fifth of the reasons for gender swapping included curiosity about gender (18.3%). Almost another fifth (17.3%) of respondents reported that they gender swapped because the gender-swapped character was a truer representation of their identity. Nearly one-eighth of respondents (11.4%) indicated that they gender swapped so that they could try on the clothing or products that they were developing. Just under 10% of respondents (9.9%) indicated that they gender swapped because it was “fun.” Other reasons for gender swapping included: enjoying the experience of shopping for a character of a different gender, enjoying looking at the rear end of a female character more than that of a male, getting or avoiding attention, role play, for sex, because it was possible, and for anonymity.

Table 4

Reasons for Gender Swapping

Reason given	Responses (%)
Curiosity about gender (<i>Example: ‘To see how I’m treated as a guy’</i>)	18.3%
Transgender (<i>Examples: “I identify as transgendered in real life.” “Lets me live out the person that is inside me”</i>)	17.3%
Content Development (<i>Example: “Design/ market clothing for opposite gender”</i>)	11.4%
Fun (<i>Example: “Enjoy playing something I am not”</i>)	9.9%
Prefer Clothing Choices/More Options (<i>Example: “More women’s clothes”</i>)	7.9%

Prefer Looking at Differently Gendered Character (<i>Example: “Tired of looking at the back of my male avatars :)”</i>)	5.9%
Get/Avoid Attention (<i>Examples: “Females do not have to initiate a chat. They get more attention from both genders without as much effort.” “Men move around more freely in world than women. Women are always deflecting unsolicited attention.”</i>)	5.9%
Role Play (<i>Example: Creating Role Play scenarios not possible with my Real Life Gender”</i>)	5.0%
Sex (<i>Example: “Easy CyberSex”</i>)	3.5%
Because It’s Possible (<i>Example: “Because the possibility existed”</i>)	2.5%
Anonymity (<i>Example: “To hide out as another avatar, having nothing to do with gender”</i>)	2.0%

Second, respondents were asked to indicate the extent to which they agreed or disagreed with a series of statements regarding gender swapping. The respondents were given a Likert-scale ranging from 1: Strongly Disagree to 7: Strongly Agree. In accordance with the results of Roberts and Parks’ (1999) data, it was hypothesized that people who do gender swap are more likely to see it “simply as a form of role-play” than people who do not gender swap. That is, it was hypothesized that users would see gender swapping in *Second Life* as an extension of other role-playing games or online environments where one would create a fictional character with a fictional history and play that character through a series of other fictional events. In these games, playing someone who is very different from oneself is expected behavior and the norm. In fact,

“role-playing, including the role-playing of opposite gender characters, [was] the primary purpose of” (Roberts & Parks, p. 536) some older role-playing spaces online.

However, this hypothesis was not supported. Although people who gender swapped did rate the item higher than those who had never gender swapped, ($M = 5.07$; $SD = 1.72$; $M = 4.59$; $SD = 1.59$; $p=.23$), the difference was not significant (see Appendix C, Table C1). This is likely due, in part, to the fact that the modal user of online games such as *Second Life* are now quite different from the modal user even 10 years ago.

Although the hypothesis concerning gender swapping as “simply a form of role play” was not supported, there were statistically significant differences regarding many beliefs concerning gender swapping between those who did gender swap and those who had never done so. People who had gender swapped, on average, endorsed items indicating that they more strongly believed that the following statements were true:

1. Gender swapping is a way to increase the range of emotions with which one is comfortable.
2. Gender swapping allows a person to explore the feminine and masculine aspects of self.
3. A person can truly experience what it feels like to be the other sex by gender swapping.
4. Gender swapping helps people avoid getting harassed by the opposite-sex.
5. Gender swapping allows people to explore different identities.
6. People who gender swapped enjoyed “interacting with people when I am not sure what their ‘real life’ sex is.”

7. People can learn a lot about how to interact with the opposite-sex in “real life” by gender swapping on line.

Thus, people who gender swapped were more likely to see it as a vehicle for self-exploration, exploration of alternative identities, increased growth, and as a useful tool for avoiding unwanted attention. These are all different from role-play in that role play implies the donning of a fictional persona with a created history in which everyone knows that the character is fictional and there is no expectation that it will be any different.

Motivations for Not Gender Swapping

It is equally important to understand why people who do not gender swap abstain from doing so. People who had not gender swapped were asked to give one or two reasons why they did not do so. A total of 28 respondents indicated that they had never gender swapped, and together they provided 37 reasons for not gender swapping. As shown in the table below, by far the most common reason given was that respondents simply had no interest in doing so, with over 50% of responses including this reason (51.4%). A tenth of respondents voiced the opinion that the idea of gender swapping made them uncomfortable; many had tried it once but found the effect startling and unpleasant (10.4%). A twelfth of respondents indicated that they doubted their ability to gender swap successfully (8.1%) and another twelfth expressed a desire to present themselves accurately online (8.1%).

Table 5

Reasons for Not Gender Swapping

Reasons given	Responses (%)
No interest in or reason to gender swap. <i>Example: "The idea just doesn't have any appeal to me."</i>	51.4%
Makes user uncomfortable. <i>Example: "Tried it once, was too freaked out."</i>	10.8%
Doubts ability to gender swap successfully. <i>Example: "I can't fake being a man."</i>	8.1%
Desire to present "real" self online. <i>Example: "Wanted to extend real-life partnership to virtual world."</i>	8.1%

Respondents were asked to indicate the extent to which they agreed or disagreed with a series of statements regarding gender swapping. The respondents were given a Likert scale ranging from 1: Strongly Disagree to 7: Strongly Agree. Based on Roberts and Parks' (1999) preliminary data, it is hypothesized that people who do not gender swap will believe that it is more dishonest than those who do gender swap. This hypothesis was supported.

There were other differences in beliefs between those who gender swapped and those who had never gender swapped that were statistically significant. As shown in Appendix C, Table C2, people who had never gender swapped agree more strongly with the following statements when compared to people who had gender swapped:

1. Gender swapping is dishonest.
2. I don't think I can fool anyone by gender swapping.
3. Gender swapping should be banned in *Second Life*.
4. Gender swapping is very manipulative.
5. Gender swapping is used to trap unwary people into having sex.
6. I would be upset if I found a close friend on *Second Life* was gender swapping.
7. I expect the people I interact with in *Second Life* to be the same gender in real-life as their *Second Life* character.
8. It just never occurred to me to swap genders.
9. It would be against my ethical principles to gender swap.
10. Gender swapping would just be too much work for me.
11. I am not comfortable interacting with people who gender swap.

Thus, people who said that they had never gender swapped were more likely to view it as dishonest, manipulative, and ethically suspect than people who had gender swapped.

They were more likely to believe that it should be banned in *Second Life* and that it was used to trap unknowing people into having sex. Finally, they tended to be uncomfortable interacting with people who gender swap and to believe that it would require a lot of work.

Relationship between Gender Identity and Gender Role

Hypothesis 4 explored the relationship between a user's gender identity and gender role, asking if either create a statistically significant impact on the presentation of sex in *Second Life*. I hypothesized that residents who reported never having gender

swapped would be more gender-normative as assessed by their responses to the Bem Sex Role Inventory (BSRI—Short Form) and/or by Michael Storms' Sex Role Identity Scale (SRIS). Additionally, I hypothesized that people who played androgynous characters would score significantly higher on the Androgyny subscale of SRIS. Accordingly, simple Pearson r correlations among the percent of time spent gender swapping (with zero inserted for those who report not gender swapping at all) and the Bem Sex Role Index and Storms' masculinity, femininity, and androgyny indices were calculated.

No statistically significant results were found using the Bem Sex Role Inventory.

A significant correlation was observed between percent of time spent gender swapping and Storms' Masculinity Average and Femininity Average. For masculinity, this correlate was $R(117)=.46$, $p < .0001$. For femininity, the correlates were $R(118)=-.31$, $p=.0005$. This indicates that high Masculinity and low Femininity, as assessed by Storms' Sex Role Inventory, are associated with spending a lot of time gender swapping.

Multiple regression analysis indicates that those two Storms indices account for approximately 21% of the variance observed in percent of time spent gender swapping, $F(2,117)=15.20$, $p < .0001$. Accordingly, 79% of the variance in amount of time spent gender swapping is caused by something other than high masculinity or low femininity. But we don't know what that is.

Second Life as a "Queer" or "Fluid" Environment

Hypothesis 5 examined the ways in which *Second Life* was a "queer" and "sexually fluid" environment. Nearly three in ten users identified as being not heterosexual (either bisexual, homosexual, or asexual). However, I operationalized queerness as different from users' sexual orientation.

First, I was interested in seeing the percentage of people who used avatars that were androgynous, which I conceived as being conceptually similar to “gender queer,” a term that is gaining valence in many queer spaces to describe people who understand themselves to be somewhere between male and female or between man and woman or as both man and woman. Thus, I assessed what percentage of users chose avatars that they deemed androgynous, and what percentage of time they spent using that resident. Nearly three-tenths of users (28.9%) stated that they used androgynous residents. However, the vast majority of users (84.4%) played androgynous characters less than one-fifth of the time that they were in *Second Life*. Of those who did play androgynous residents, users spent an average (mean) of one-fifth of their time (21.0%) playing androgynous characters.

I operationalized the complex idea of *Second Life* as a “fluid” sexual environment by wondering if Residents had engaged in a romantic and/or sexual relationship with avatar configurations that were different from their real life sexual orientations during their most recent sexual or romantic encounter. To this end, I asked respondents to record their sex and the sex of their in-world partner in their most recent sexual and romantic pairing in *Second Life*. (Over 85% of Residents stated that they had had a romantic or sexual relationship in *Second Life*.)

In *Second Life*, 58% of men gender swapped in their most recent romantic relationship, versus 7% of women. This result is statistically significant, $\chi^2(1) = 13.47$, $p < .0002$. In the most recent *Second Life* sexual encounter, 56% of men gender swapped, versus 7% of women. This difference is also statistically significant, $\chi^2(1) = 15.09$, $p < .0001$.

More than half of men had gender swapped during their most recent sexual or romantic encounter. I was curious to see if users were also experimenting with partnering with another avatar of a different gender than one might expect given his or her real life sexual orientation.

Sexual orientation was used as a proxy variable for real life. Thus, a man who identified as heterosexual was expected, during his last sexual or romantic relationship in *Second Life*, to engage in sexual activity with a female avatar, regardless of whether or not he himself had gender swapped during that encounter.

For all participants combined, the predicted sex of a resident's last romantic partner (based on stated sex and sexual orientation in real life) was discrepant from the reported *Second Life* encounter one third (33.33%) of the time that a female partner was expected. The reported discrepancy between predicted sex of a resident's last romantic partner was 12.50% of the time that a male partner was expected. This difference is statistically significant ($\chi^2_{(2)} = 20.49, p < .0001$).

The predicted sex of a user's sexual partner (based on stated sex and sexual orientation in real life, as stated above) in *Second Life* was discrepant from the expected sex 36.59% of the time that a female partner was expected. An example of this would be when a female, homosexual-identified woman stated that in her most recent sexual relationship in *Second Life* had been with a male avatar. This percentage was significantly smaller than the 9.38% of the time that there was a discrepancy when a male partner was expected (as for example, when a female heterosexual user had a sexual relationship with a woman avatar). This statistic was also statistically significant ($\chi^2_{(2)} = 22.47, p < .0001$).

The sample sizes of male and female homosexuals and bisexuals were small. However, I include some information about them because I think it is interesting. None of the three homosexual identified women had gender swapped during their latest sexual encounter; however, 2/3 had a man as a partner. Only two male homosexuals responded to the questions regarding gender and partner. Of the two respondents, one indicated that he had not had a romantic or sexual relationship in *Second Life*, and the other indicated that his avatar had been a man, as was that of his partner.

The majority of bisexual females (85.7%) had not gender swapped during their most recent romantic encounter. Of the six bisexual users who had not gender swapped, five (83.3%) had a man as a partner in their most recent romantic encounter. The lone user who had gender swapped had a woman partner.

For bisexual men, only one in four users gender swapped. His partner was also female. For the men who had men as avatars, two had men as partners and one had a woman as a partner. An additional bisexual male user did not state whether or not he had gender swapped, but indicated that his partner had been a “hermaphrodite.”

Heterosexual identified women were less likely than heterosexual men to experiment with a different gender configuration from their real lives. Almost 85% of female heterosexual respondents (84.4%) indicated that they had played a female avatar having sex with a male avatar during their most recent sexual encounter. Less than one-tenth of heterosexual female respondents (7.4%) indicated that they had used a female avatar to have sex with another female avatar during their last encounter. An additional 7% (7.4%) indicated that they had used a male avatar to have sex with a female avatar.

Heterosexual men were the most likely to gender swap. About 40% (42.4%) of heterosexual men used a male avatar and had a female partner in their last romantic or sexual encounter. Nearly three-tenths (27.2%) used a female avatar and had a female partner. Just over three-tenths (30.3%) played a female avatar and had a male partner. No heterosexual male users reported having used a male avatar to have a sexual or romantic relationship with another male avatar.

This data hints at the possibility that *Second Life* may indeed serve as a somewhat fluid, queer environment. *Second Life* appears to be a place where users are experimenting with sexual orientations and gender configurations in both their romantic and sexual relationships that do not correspond with their sexual orientations as experienced in real life. It's interesting to note, however, that while a sizable minority of heterosexual men reported having played female avatars who were involved romantically/sexually with a male avatar, none reported having played a male avatar who was romantic/sexual with another male avatar. It appears that the taboo against gay male sexual expressions continues even in *Second Life* except for gay- and bisexual-identified users.

Hypothesis 6 predicated that lesbian, gay, and bisexual users were more likely to gender swap than heterosexual people. This hypothesis was not supported. Of 78 respondents who self-identified as heterosexual, 73.1% had gender-swapped. Of six users who identified as homosexual, bisexual or "other," just over 80% (80.6%) of respondents gender-swapped. This difference is not statistically significant.

Secondary Analyses

Because of some interesting patterns observed from the data, additional analyses were run that were not part of the original hypotheses.

Percentage of Time Spent Gender Swapping, by Sex

Although there wasn't a statistically significant difference between the percentages of men and women who reported gender swapping, there was a significant difference in the amount of time spent gender swapping. Males reported gender swapping for a greater proportion of the time that they were playing *Second Life*. Over three quarters of females reported gender swapping for 20% or less of the time that they were playing *Second Life*. Fewer than one in five men reported gender swapping for this amount of time. Conversely, a little over 10% of females reported gender swapping for 80% of the time that they played or more. Over half (50.9%) of men reported playing a character with a gender different from their biological sex for more than 80% of the time they were in-world.

Of those who reported being "Other" than male or female in real life, about a quarter reported gender swapping for 20% of the time or less. Nearly 60% of respondents reported gender swapping 80% of the time or more.

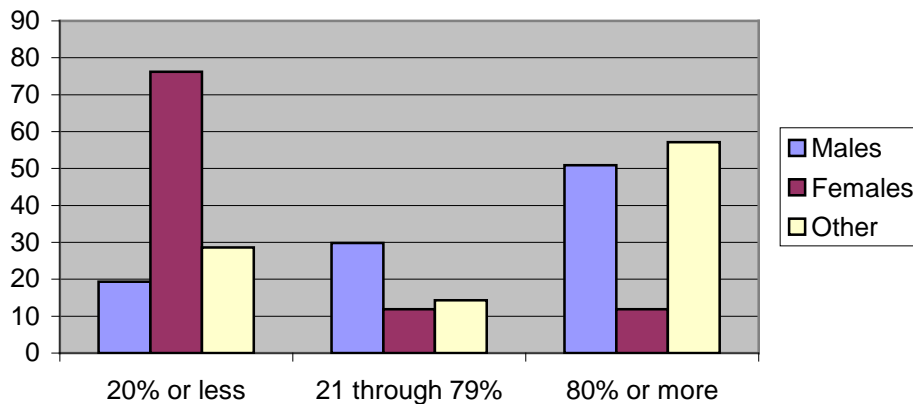


Figure 1: Percentage of time spent gender swapping, by sex

Differences in Beliefs Regarding Gender Swapping Between Frequent and Infrequent Gender Swappers

Given that there appeared to be numerous significant differences between those who gender swapped and those who had never gender swapped, I next ran analyses to see if there were significant differences in beliefs regarding gender swapping between people who gender swapped much of the time that they were in *Second Life* (in this instance 90% of the time or more) and those who had done so briefly (less than 20% of the time). Percentage of time gender swapped was used as a covariate. Table C2 displays the significant correlates.

The strongest correlation ($N = 94$, $r = .65$, $p < .0001$) was for the statement “By gender swapping I could better represent my ‘true’ gender”. This finding indicates that for many people in our sample who are gender swapping for a large percentage of the time in *Second Life*, they are doing so because it allows them to better express their “true” gender as compared to those who have never gender swapped or have done so for only a small percentage of total in-world time. This is consistent with the finding, above,

that many people who gender swap do so because it allows them to express “how they feel on the inside.”. Other positive correlations indicate that those who gender swap frequently endorsed items indicating that

1. “Gender swapping is a way to increase the range of emotions with which one is comfortable.”
2. “A person can truly experience what it feels like to be the other sex by gender swapping.”
3. “I enjoy interacting with people when I am not sure what their ‘real life’ sex is.”
4. “I would get more attention online if I gender switched.”

As shown in Table B2, users who spent 20% or less of their time in *Second Life* gender swapping rated some items significant lower than users who spent 90% or more of their in-game time gender swapping. Those who gender swapped one-fifth of the time or less were more inclined to think that they didn’t think they could fool anyone by gender swapping and that gender swapping would be too much work. Additionally, respondents in this group indicated that they did not believe that gender swapping was “simply” a form of role-play, or that they could “usually tell when a person is gender swapping”.

Differences, by Sex, of Upset upon Discovering an Online Friend Was Gender Swapping

Previous research (Yee, 2003) indicates that men and women are bothered significantly different amounts upon discovering that someone with whom they had grown “quite close” had been gender swapping. Accordingly, we provided hypothetical situations to users, asking them to rate on a scale of 1 (“not at all”) to 5 (“quite a lot”) how upset they would be if that happened to them in *Second Life*. The results, in Figure 2,

demonstrate that men were less bothered by finding out that a resident with whom they had grown close in *Second Life* was gender swapping. Men were slightly more bothered by a woman playing a male resident in *Second Life*, but not to a degree that was significant. On average, women were more bothered upon discovering that a male user was playing a female avatar than vice versa.

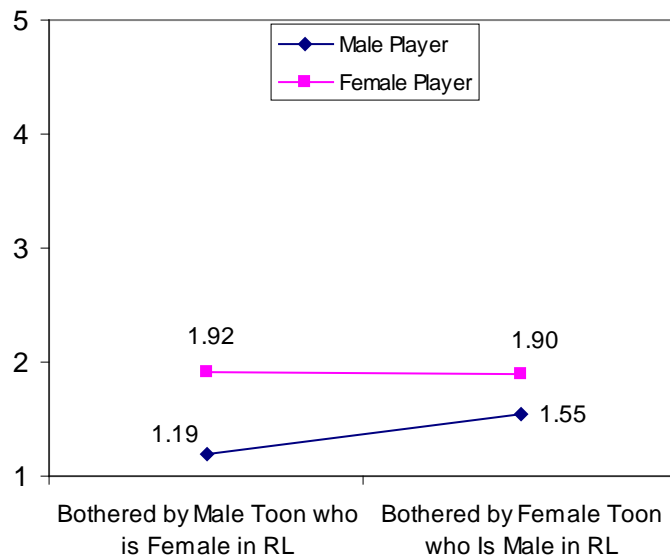


Figure 2: Men and women bothered by gender swapping, by sex of gender swapper

Differences in Beliefs Between Men and Women Regarding Gender Swapping

We ran unpaired t-tests to compare the mean differences between men and women regarding a series of beliefs concerning gender swapping. The results can be found in Table C3. Women were more likely than men to endorse items indicating that they didn't think they could fool anyone by gender swapping, that gender swapping should be banned in *Second Life*, that it is very manipulative, that gender swapping is used to trap unwary people into having cybersex, that they can usually tell when someone is gender swapping, that they expect the residents they interact with to be the same sex as their real life gender, it never occurred to them to gender swap, gender swapping is against their ethical principles, it would be too much work, and that gender swapping is a good way to explore homosexual relationships. Men, for their part, endorsed items indicating that they more strongly agreed with the following statements: that one can increase the range of emotions available to a person through gender swapping, it allows users to explore different identities, that they would get more attention by gender swapping and that gender swapping provides a means of exploring one's true gender.

Summary of Results

The data obtained did not support the hypothesis that men gender swap more frequently than do women. Men do, however, play gender swapped residents for significantly longer than women. The data also did not support the hypothesis that people who spent more time gender swapping would see it as a form of role play. Indeed, a negative correlation held true. Namely, people who gender swapped were statistically less likely to consider it to be a form of role play. This is likely due to the fact that people who gender swap for large periods of time are doing it because it represents a "truer"

expression of their inner selves; a self that is harder to display in Real Life. The hypothesis that those who did not gender swap were more likely to believe that gender swapping was dishonest was supported. Additionally, when given a chance to write in a response indicating why they did not gender swap, the majority of users stated that they never gender swapped due to the fact that it held no interest for them. The hypothesis concerning a possible relationship between gender identity and gender role was supported, but the data was far from conclusive. The hypothesis regarding homosexuals and bisexuals as being more likely to gender swap than heterosexuals was not supported.

The hypothesis regarding *Second Life* as a “queer” or “fluid” environment was supported in the sense that a significant percentage of users were engaging in romantic and sexual relationships contrary to what would be expected given their stated real life gender and sexual orientation.

Chapter 5: Discussion

Much of this study is exploratory in nature. The objective of this study was to get some basic information regarding people who gender swap in the MMORPG *Second Life*. Because MMORPGs and resident behavior within MMORPGs are emerging as fields of study within psychology, many of these hypotheses are being explored for the first time.

Demographic Information

The average age of participants was just over 43 years of age. Users played almost 4 hours a day, 6 days a week. These statistics are similar to those found in a study conducted by members of the Palo Alto Research Center; the study found that the average age of *Second Life* users was 41.1 and that users, on average, played 4.55 hours per day and 5.91 days per week (Duchenaud et al., 2009). The modal user of *Second Life* is solidly middle-age and middle-class.

How Common Is Gender Swapping?

Gender swapping was quite common in this sample. Seventy-one percent of women and 83% of men indicated that they had gender swapped at some point in *Second Life*. These numbers are much higher than percentages of users in previous surveys. Three possible reasons for this discrepancy come to mind. First, it is possible that gender swapping has become more common, and therefore the numbers are higher than previous research indicates. Second, it is also possible that due to the self-selecting nature of the survey, people who were interested in gender swapping (and had participated in the

activity) were more likely to open the post inviting them to participate in a survey concerning gender swapping. Finally, different online environments have different cultures and social mores. It is possible that *Second Life* is more permissive of gender swapping, and therefore users are more likely to try it, at least once or twice.

Motivations for Gender Swapping and Not Gender Swapping

Hypothesis 2 stated that there would be statistically significant differences in beliefs about gender swapping between those who had and those who had not gender swapped. Particularly, following up on the work of Roberts and Parks (1999) it was hypothesized that people who did gender swap would see it as a form of role play. This hypothesis was not supported.

However, based on the observation, reported above, that users who did gender swap tended to cluster around the extremes of the poles, either gender swapping for less than 20% of the time or 90% of the time or more, additional analyses were run to see if there were differences between these two groups as well. Again, differences were found between these two groups, although not as many significant differences as between the first two groups described. This indicates what future research on gender swapping may do to categorize and research three different groups of users: those who have never gender swapped, those who have gender swapped less than one-fifth of the time in-game, and those who gender swap a large majority of the time that they play.

Hypothesis 4 showed that there was a correlation between one's gender identity as assessed by Storms' Sex Role Identity Scale and gender swapping. People with high scores on masculinity and low scores on femininity were more likely to gender swap than other users. It is possible (although unlikely) that there is some link between highly

masculine men gender swapping more than other users, perhaps as a means of escaping the constraints of their normatively gendered lives. In other words, men who identify as highly masculine may feel somewhat trapped by that identity, leading them to gender swap.

A more likely explanation for the above finding is that men (who tend to be more self-identified as masculine) on average gender swap for longer periods of time than women (who tend to be self-identified as feminine). It is therefore possible that this result tells us nothing more than that men tend to be masculine and that men tend to gender swap for longer periods of time than do women. The reasons for this discrepancy should be considered in future research. It seems likely, although my hypothesis lacks empirical data, that heterosexual men feel the most constrained by normative gender roles. Accordingly, they are the most frequent participants in gender swapping.

Another problem with this question may be the nature of the instruments used. The Bem Sex Role Identity Scale and Storms' Sex Role Identity Scale both have adequate reliability and validity; however, they were both developed in the 1970s and may not be adequate for assessing gender identity in people today. It is also possible that there is not a straightforward relationship between gender identity and gender swapping.

Second Life as a Queer Environment

Perhaps the most surprising results were those regarding the ways in which *Second Life* was a “queer” or fluid environment. We found that users tended to experiment with sexual configurations that to a large extent did not mimic the sexual and gendered orientations of their partners in “real” life. This may indicate that, at least in some ways, the prophesized fantasies of earlier Internet researchers that the Internet

could be a space in which people could begin to transcend the limitations of their bodies is indeed taking place. As O'Brien (1999) is quick to point out, however, research on user's identity experiments need to be adequately contextualized and understood. Additional research might do well to begin to explore in further detail the whys and hows of the sexual and gender experiment in which residents are engaging. The fear of gay male homosexuality continues even into spaces like *Second Life*; it was telling that no heterosexually-identified men were willing to have "gay sex" online.

Additional Thoughts Regarding Gender Swapping

I asked respondents if they had additional thoughts regarding gender swapping that they wanted to share. I was particularly interested in what their experiences had been like gender swapping; things that they had learned or difficulties that they had encountered. Some of their responses are below.

Some users described feeling hurt when they found out someone that they had trusted with personal information had been gender swapping without their knowledge or acknowledged that it made them feel uncomfortable:

When I played *EverQuest*, I had just gone through a bad romantic breakup and preferred to just chat with females for a time. I met a woman when we were both soloing. She suggested that we partner to fight the monsters. We began chatting and I enjoyed her company. Over the next few days I told her about my recent romantic breakup and that I was a bit distrustful of men right now. She didn't say anything at the time, but later told me she was a man in RL playing a female character. I never thought of her in the same way again. (Woman, 55 years old)

SL is made up of so many different types of people...that is its charm. As long as I know who my close friends are, I really don't care why others gender swap and can usually take them at face value. Personally I may think it's weird... but I can see why some would do it especially if they are gay and not out in RL. (Woman, 45 years old)

I behave socially certain ways towards certain genders. I would be greatly upset if I had found out the opposite to be true of who they are. I really see no basis personally to gender swap. (Woman, age unknown)

Gender swapping doesn't bother me but I have a very negative reaction to androgynous (not asexual) avatars, such as those with male faces and breasts. (Woman, age 54)

Some users generally thought gender swapping was fine, but talked about the motives for gender swapping mattering in their assessment of it:

My reaction to gender swapping in others depends entirely on their motives for doing it. Generally I'm very sympathetic, but I have met those who do it with the intention of revealing their physical gender with the intention of shocking a sexual/romantic partner. I also met a man presenting as a lesbian who wouldn't tolerate other men doing the same, a double-standard I find disheartening. On the whole I'm extremely tolerant of gender swapping, online and in the real world. I

don't mind that many people hide that they are doing it, although sensitivity to other people's reactions & expectations is more commendable. (Transwoman, 39 years old)

Through its limitless possibilities of 'becoming' different genders or even different species, it provides an opportunity to explore different facets of our personalities and to explore human nature in ways never dreamed of before. Gender is only the tip of the iceberg. Recognizing all that, one still has a huge responsibility for the feelings of the very real people on the other side of the network, and to be very careful not to hurt them in any way. This is why, though I may not care about real genders, I am very careful not to get too involved in any relationships. I would NEVER pretend to be female (or anything else) and get involved with someone without telling them up front. That crosses the line from fantasy and exploration into reckless disregard of others. (Man, 53 years old).

Some questions asked if I thought gender swapping was dishonest or wrong or whatever. To me, it is not, what IS wrong is being asked and lying about your gender. That is dishonest. (Man, age 38)

Other users professed to not care at all if other people gender swapped:

"I really just don't care... I take people as they present themselves." (Intersexed woman, age 34)

“Second Life is like a work of fiction. Who cares what the gender of the author is?” (Man, 60 years old)

Some people talked about gender swapping as being liberating:

“I and several people I know who are gender swapping don't hide it, and are perfectly comfortable using voice... I don't pretend to be a real man, my best SL friend doesn't pretend to be a real woman. When gender swapping, we become sexually neutral, we feel freed from the social weight of our real gender, without giving up on seduction.” (Woman, 47 years old)

“People make way too much fuss about it....[H]ere is a perfect opportunity - albeit perhaps only in a limited way - to partially experience the persona and emotions of another gender (or species)” (Woman, age unspecified)

“I could never live the gender I am inside because of my RL avatar that I was born with. SL allows me to live and find a relationship of who I am inside.” (Man, age 56)

“I don't connect role-playing my female avatar having sex with another avatar of either sex controlled by a male player as a homosexual encounter. I have never had any desires for males in RL. I have a hormone imbalance that means I am female in a male body, but settle for being heterosexual in RL. SL gives me a release to act female, but I would never go as far as a relationship thereby deceiving another.” (Man, age 41)

“I enjoy my gender-swapped avatar and have had a lot of fun using it. I have only been found out and confronted once and that resulted in a lot of hurt feelings from both directions. I play a female avatar as a form of escape.” (Man, age 53)

Limitations of the Study

There are some obvious limitations to the study. Particularly, the recruitment method for participants and the limited nature of the MMORPG studied must be acknowledged. Participants were recruited from *Second Life's* Forum, an Internet discussion board related to *Second Life*. Forum lore informs us that the modal user of the Forums may well be older than the model *Second Life* user. Additionally, participants were recruited by creating a post entitled "Gender Swapping Survey." Users who had strong feelings regarding gender swapping or were interested in gender swapping for whatever reason were more likely to open the post and therefore perhaps feel interested enough to take the survey. This convenience sample may not be representative of *Second Life* users. Second, it is important to realize that different MMORPGs have different value systems. Therefore, even if the beliefs regarding gender swapping in this sample are representative of a larger *Second Life* population, this finding should not be unilaterally extrapolated to other online games. Third, the sample is relatively small. Finally, there is no way to ensure that survey respondents were telling the truth.

Future Studies

Future studies may want to continue to explore the relationship between gender identity and gender swapping. Researchers will likely benefit from more nuanced ways of assessing such a difficult concept as gender identity. Forty years after it was created, the Bem Sex Role Inventory is perhaps one of the best means we have of assessing gender identity. However, it is likely not adequate to the task.

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Appendix A: The Bem Inventory

Bem Inventory

Developed by Sandra L. Bem, Ph. D.

Name _____ Age _____ Sex _____

Phone No. or Address _____

Date _____

If a student: School _____

If not a student: Occupation _____

Below, you will find listed a number of personality characteristics. We would like you to use those characteristics to describe yourself, that is, we would like you to indicate, on a scale from 1 to 7, how true of you each these characteristics is. Please do not leave any characteristics unmarked.

1 = Never or almost never true

2 = Usually not true

3 = Sometimes, but infrequently true

4 = Occasionally true

5 = Often true

6 = Usually true

7 = Always or almost always true

Defend my own beliefs	Adaptable	Flatterable
Affectionate	Dominant	Theatrical
Conscientious	Tender	Self-sufficient
Independent	Conceited	Loyal
Sympathetic	Willing to take a stand	Happy
Moody	Love children	Individualistic
Assertive	Tactful	Soft-spoken
Sensitive to needs of others	Aggressive	Unpredictable
Reliable	Gentle	Masculine
Strong personality	Conventional	Gullible
Understanding	Self-reliant	Solemn
Jealous	Yielding	Competitive
Forceful	Helpful	Childlike
Compassionate	Athletic	Likable
Truthful	Cheerful	Ambitious
Have leadership abilities	Unsystematic	Do not use harsh language
Eager to soothe hurt feelings	Analytical	Sincere
Secretive	Shy	Acts as a leader
Willing to take risks	Inefficient	Feminine
Warm	Make decisions easily	Friendly

Appendix B: Demographic Frequencies

Table B1

Frequencies for Demographic Variables

Variables	N	%
Biological Sex		
Male	70	51.5
Female	59	43.4
Other	7	5.1
Gender Swapped		
No	33	18.9
Male	11	16.2
Female	17	28.8
Other	0	0
Yes	142	81.1
Male	57	83.8
Female	42	71.2
Other	7	100
Sexual Orientation		
Heterosexual	97	72.4
Homosexual	9	6.7

Bisexual	22	16.4
Other	6	4.5
Marital Status		
Single, never married	39	29.1
Married or cohabitating	60	44.8
Separated or divorced	28	20.9
Widowed	2	1.5
Other	5	3.7
Race		
Asian	1	.71
Black/African descent	0	0
East Indian	0	0
Latino/Hispanic	4	2.9
Middle Eastern	0	0
Native American	2	1.4
Pacific Islander	1	.7
White/Caucasian	126	90.6
No Answer	5	3.6
Other	0	0
Annual Household Income		
< \$25,000	17	13.7
\$25,001 - \$35,000	11	8.9
\$35,001 - \$50,000	19	15.3

\$50,001 - \$75,000	25	20.2
\$75,001 - \$100,000	26	21.0
\$100,001 - \$150,000	19	15.3
> \$150,001	7	5.6

Appendix C. Attitudes Regarding Gender Swapping

Table C1

Comparison of Attitudes Toward Gender Swapping in Those Who Have and Have Not Gender-Swapped

Attitude Variable	Have Gender- Swapped (n=95)		Have Not Gender-Swapped (n=22)		t	p
	M	SD	M	SD		
Dishonest	2.56	1.55	3.45	1.77	2.38	0.0188
Increase Range of Emotions	5.40	1.19	4.68	1.29	-2.51	0.0133
Cant Fool Anyone	2.83	1.89	5.19	1.78	5.23	<.0001
Explore Masculine Feminine Aspects	5.81	1.21	4.86	1.55	-3.14	0.0022
Truly Experience	4.25	1.64	3.14	1.39	-2.95	0.0039
Banned	1.12	0.41	1.67	1.32	3.44	0.0008
Enjoy Interacting Not Sure	5.02	1.43	3.86	1.67	-3.31	0.0012
Role Play	5.07	1.72	4.59	1.59	-1.20	0.2307

Very Manipulative	2.49	1.36	3.91	1.72	4.15	<.0001
Learn Real Life	4.87	1.37	3.82	1.50	-3.20	0.0018
Trap Unwary Sex	2.85	1.40	3.77	1.38	2.79	0.0062
Avoid Harassment	4.72	1.41	4.00	1.11	-2.25	0.0266
Explore Different	6.03	1.10	5.27	1.20	-2.87	0.0048
Identities						
Upset	1.88	1.24	3.27	2.16	4.03	0.0001
Can Usually Tell	3.71	1.36	4.09	1.44	1.16	0.2475
Expect Same As	2.58	1.35	3.91	1.95	3.81	0.0002
Real Life						
More Attention	3.42	1.77	2.77	1.45	-1.60	0.1122
True Gender	3.60	2.09	2.09	1.48	-3.20	0.0018
Never Occurred	1.68	1.04	4.59	2.26	9.09	<.0001
Ethical Principles	1.57	1.02	3.14	2.10	5.16	<.0001
Too Much Work	2.16	1.55	5.09	1.48	8.08	<.0001
Explore	3.59	1.67	3.77	1.60	0.47	0.6406
Homosexual						
Relationships						
Gender Activism	3.90	1.32	3.95	0.79	0.17	0.8643

Not Comfortable	1.53	0.97	3.50	1.95	6.87	<.0001
Interacting						
Test Interpersonal	5.14	1.23	4.77	1.31	-1.23	0.2200
Skills						

Table C2

*Significant Correlates Between Percent of Time Spent Gender Swapping and Attitude**Variables*

Attitude Variable	N	r
Increase Range of Emotions	95	0.21*
Can't Fool Anyone	95	-0.5*****
Truly Experience Other Gender	95	0.34***
Enjoy Interacting Not Sure	95	0.32**
Role Play	95	-0.34***
Can Usually Tell	94	-0.28**
Expect Same As Real Life	95	-0.21*
More Attention	95	0.27**
True Gender	94	0.65*****
Never Occurred	95	-0.44*****
Ethical Principles	95	-0.25*
Too Much Work	95	-0.53*****
Not Comfortable Interacting	94	-0.22*
Dishonest	95	-0.05

Note: Correlations are one-tailed correlations to test hypotheses.

* $p < .05$ ** $p < .01$ *** $p < .001$ **** $p < .0001$

Table C3

Differences Between Men's and Women's Mean Scores Regarding Beliefs Concerning Gender Swapping

Belief	M M	SD M	M F	SD F	t	p	df
Dishonest	2.53	1.60	3.00	1.65	1.41	0.1612	94
Increase Range of Emotions	5.51	1.28	4.98	1.25	-2.05	0.0427	94
Can't Fool Anyone	2.83	1.85	4.08	2.17	3.02	0.0032	93
Explore Masculine Feminine Aspects	5.77	1.37	5.51	1.37	-0.91	0.3632	94
Truly Experience	4.34	1.67	3.76	1.55	-1.78	0.0782	94
Banned	1.04	0.20	1.46	1.01	2.77	0.0068	93
Enjoy Interacting Not Sure	5.13	1.54	4.61	1.48	-1.67	0.0983	94
Role Play	5.11	1.78	5.12	1.56	0.05	0.9626	94
Very Manipulative	2.46	1.43	3.27	1.62	2.58	0.0114	92
Learn Real Life	4.70	1.65	4.80	1.34	0.31	0.7602	94
Trap Unwary Sex	2.60	1.42	3.49	1.32	3.19	0.002	94
Avoid Harassment	4.38	1.42	4.69	1.39	1.06	0.2934	93
Explore Different Identities	6.13	1.08	5.67	1.09	-2.06	0.0425	94
Upset	1.93	1.29	2.55	1.81	1.90	0.061	93
Can Usually Tell	3.28	1.38	4.29	1.26	3.71	0.0004	93
Expect Same As Real Life	2.49	1.40	3.27	1.64	2.49	0.0146	94
More Attention	4.17	1.74	2.43	1.17	-5.78	<.0001	94

True Gender	3.68	2.09	2.43	1.54	-3.35	0.0011	94
Never Occurred	1.55	1.25	2.98	2.03	4.13	<.0001	94
Ethical Principles	1.51	1.08	2.43	1.72	3.12	0.0024	94
Too Much Work	1.91	1.67	3.71	1.88	4.95	<.0001	94
Explore Homosexual							
Relationships	3.13	1.68	4.06	1.59	2.80	0.0061	94
Gender Activism	3.74	1.31	3.88	1.05	0.55	0.5845	94
Not Comfortable Interacting	1.72	1.19	2.31	1.72	1.94	0.0555	93
Test Interpersonal Skills	5.19	1.36	5.10	1.25	-0.34	0.7376	94

Appendix D: Participant Survey