DIGITAL GENDER: CONSTRUCTION, PERFORMANCE

AND EXPERIENCE IN SECOND LIFE

by

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DISSERTATION ABSTRACT

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The purpose of this study was to address the social construction, performance and experience of digital gender in the 3D immersive environment known as Second Life. To do this, this study explored the digital experiences of 75 community college students using Second Life in the Simulation and Game Development Initiative (SGDI) of the Summer 2010 term. Analysis of data obtained via a multimethod approach, which included online questionnaires and forum posts, revealed the background and demographic information of the SGDI students. A focus group, consisting of seven of these students, provided the rich qualitative data that addressed the three research questions of this study. These research questions asked how digital gender was created in Second Life, what the effects of digital gender are in Second Life and what the effects of digital gender are in the physical world.

Issues of gender ideology, hypersexualization, gender social order, gendered media violence, and the commodification of digital gender provided context to the research questions of this study. Additionally, these issues pointed to a significant gap in the literature surrounding gender theory, media studies, and digital culture scholarship. They revealed an overlap between disciplines and illustrated a need for connection when examining the cultural intersection between digital and physical reality.

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For my family and friends.

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INTRODUCTION

> I believe that what fascinates me is the unstated question that lies behind
> much of our preoccupation with the computer's capabilities. That
> question is not what will the computer be like in the future, but instead,
> what will we be like? What kind of people are we becoming? (Sherry
> Turkle, 1984, p.13).

For many people living in industrialized societies, daily engagement through a

computer screen is constantly shifting and shaping all aspects of their reality. In 2001,

Manovich noted the descent into computer-mediated reality when he argued, "today we

are in the middle of a new media revolution—the shift of all culture to computer-

mediated forms of production, distribution, and communication" (Manovich, 2001, p.

19). Over the last twelve years, this shift continues to affect how culture exists, how we

communicate, and how we come to think and understand our own identity. Because of

the new media revolution, postmodernist questions like the ones Sherry Turkle (1984)

asked regarding what we will be like in the future and what kind of people we are

becoming continue to interest scholars observing this trend.

Turkle, an early scholar in digital culture and identity, once asked, "Are people

blank slates, malleable, infinitely perfectible, or is there a human nature that constrains

human possibility? And if there is a human nature, what is it? Are we gentle creatures ill-

equipped for the strains of life in society? Or are we brutish and aggressive animals

barely tamed by the demands of social life?" (Turkle, 1984, p. 11). When Turkle wrote

The Second Self in 1984 and *Life on the Screen* in 1997, she presented a much-needed

humanistic approach to examining human immersion into the hermetically sealed techno-

world. Turkle moved inquiry from a more quantitative and number-driven emphasis regarding computers and human interaction, into a philosophical exploration of the human psychology of computers and the integration of online virtual worlds. Inspired by this approach, this dissertation builds from Turkle's framework and offers another layer of scholarship to this still-emerging discipline.

Scholars like Turkle (1984), Dibbell (1999), Hardey (2002), Gere (2004), Deuze (2006), Corneliussen and Rettberg (2008) and Boellstorff (2010) significantly contributed to discourse surrounding identity, awareness and existentialism through a computer screen. They illustrated the theoretical significance of coding our physical world into a digital virtual space. More specifically, they presented discussions of how this transformation requires more than computer bits and algorithms; it requires an applied awareness of social constructions.

Social constructions are generally perceived as truths. We are born into societies that have pre-coded rules, categories and systems that assign identity attributes like class, race, ethnicity, gender and sex to each new birth. Before we can even take our first step or speak our first word, we are coded with these often everlasting social constructions. From the beginning, the announcement of a birth is often communicated by revealing whether the baby is a boy or a girl. This dichotomy is a crucial attribute that influences how we perceive others and ourselves and ultimately how we live our life. For many, gender performance, roles, expectations and issues are never questioned. But, for those that understand the fluid nature of this social construction, gender is a painter's palette. Constructing, performing and experiencing gender can significantly affect one's life. In the physical world, gender has been culturally coded for centuries and passed on from

generation to generation. But, because of the malleable nature of computer-mediated communication in the digital world, there is theoretical inquiry into how interactive media might change the social construction of gender and create a new type of gender: digital gender.

Digital gender is still evolving and prompting new inquiries from various disciplines to consider; therefore, the definition is best approached through an interdisciplinary lens. This chapter begins by establishing a working definition of digital gender, starting with gender theory. While gender theory is evolving and has expanded the definition of gender, even as this is being written, the intellectual history begins with the binary sex system. Identifying this system is necessary to understand how gender is digitized. From this, gender is presented as a continuum and multidimensional attribute that is still seemingly influenced by hypersexuality and hegemonic masculinity. Because gender, in the context of this study, begins as a social construction from the physical world, the coding process of gender is first and foremost a cultural process. This cultural process forms the basis for the construction, performance and experience of digital gender, but in order to digitize gender, it must also move through a process of computer-mediated communication. This process presents empirical inquiry into how gender was coded, who coded it and why it was coded.

On a theoretical level, coding gender illustrates the significance of the intellectual computing process when constructing, performing and experiencing digital gender. In fact, the first recorded example of the computing process where gender was a factor (Alan Turing's "Imitation Test") points to the origins of digital gender and illustrates the deeply embedded significance of the gender/computer relationship. Following the

intellectual history of digital gender, the reasons for the study (why and how digital gender was chosen), significance of this study, research questions and overview are outlined to explain the organization of this study. The intention of this study is to be a philosophical and empirical exploration into the human psychology of computers, the integration of identity within online virtual worlds and to show the significance of digital gender in digital and physical environments.

Defining Digital Gender:

At the time of this study being written, there was no definitive meaning of "digital gender" currently being used within gender studies, media studies or digital culture scholarship. Therefore, for this study, it was important to include all three disciplines in an attempt to define this term, to provide meaning and to illustrate the overlap of these discourses in regards to digital gender. To begin this process, gender's intellectual history, which begins with the binary sex system, is used to establish the basis for how gender would eventually be coded through computing machinery.

Before the term "gender" was even coined, people were predominately categorized through the identification of their reproductive organs, otherwise known as sex. While the cultural significance of sex varied, issues of domination, repression and unequal treatment were often present. In 1949, Simone de Beauvoir, a foundational figure of contemporary feminism, published a book that would eventually revolutionize the public discourse of the binary sex system and the effects of this system specifically on women. The book, *The Second Sex,* presented ways in which women saw themselves, how they were represented and the social, economic and political future for women.

Because of this work, de Beauvoir became known as the founding mother of feminism.[1] According to Iris van der Tuin (2009), for the first time there was a written document that described women as second-class citizens in relation to men. In addition to the theoretical contribution that de Beauvoir made with this book, she also made a single statement that continues to be largely referenced when discussing sex, "on ne nait pas femme, on le devient" (translation by Tuin: "women were not born as women but became women"). For Tuin (2009), this social-constructivist statement suggested that women were not determined by biological sex; rather women were made female because femininity is a social construct (p. 8). The importance of the binary sex system, or separation of people based on sex, is necessary to discuss the culturally significant social injustices that were and still are done to women. Some gender theory scholars suggest that this separation is crucial because it offers more insight into the cultural constructions, thus the results of such constructions on individuals and society as a whole. Lorber (2005) argued, "With deeper probing into the pervasiveness of gender inequality, feminists have produced more complex views about gender, sex, and sexuality. Although there is considerable overlap among them, it is useful to separate the concepts of gender, sex, and sexuality in order to illustrate how gendering modifies bodies and sexual behavior" (p. 8). However, there is a larger group of scholars (Foucault, Butler, Connell, etc.) who challenge the binary categories used to frame gender, sex and sexuality separately. In relation to socialization and its connection with sexuality, Foucault (1978) noted that active power (knowledge) "transmits and produces power; it reinforces it, but

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[1] In 1974, German feminist Alice Schwarzer made a documentary film about de Beauvoir, exploring her personal relationships, her initial discontentment for the word "feminism" and her eventual acceptance as being the *mother of feminism*.

also undermines and exposes it" (p. 101). In the same tone, Judith Butler (1990), a post-structuralist philosopher and significant contributor to gender theory, argued "the distinction between sex and gender serves the argument that whatever biological intractability sex appears to have, gender is culturally constructed: hence, gender is neither the causal result of sex nor as seemingly fixed as sex" (p. 379). For such gender theory scholars, conceptualizing gender as a fluid identity that is neither exclusively "male" or "female" nor "fixed" or "essential" encourages a collective agreement that gender is cultural fiction. The importance is less on the binary sex system that exists and more on the movement to eliminate the system all together.

Australian sociologist Raewyn Connell, formerly Bob Connell, exemplified this call for movement in redefining gender as a fluid identity attribute. Connell had personally experienced the affects of the binary sex system when she had sex reassignment surgery. Whether this directly, or indirectly, influenced her work on gender, Connell (2002) wrote about the resiliency of gender roles and patterns of practices that continue to allow men's domination over women. According to Connell, this resiliency was a direct result of defining "sex" as the *biological* difference between "male" and "female" humans, and assigning "gender" to the *social* difference between males and females, thus revealing "roles for men's and women's personalities" (Connell, 2002, p. 33). Through a Marxist lens, Connell's work insinuated that the male dominance over women is due to the assertion that "the ruling ideas are the ideas of the ruling class," or what Gramsci coined "cultural hegemony" (Appelrouth and Desfor, 2011, p. 361). For Connell (2002), he would call this a process of marginalizing other through the binary sex system or what he coined as "hegemonic masculinity" (p. 363). Hegemonic

masculinity, as a concept, encapsulated significant social issues of gender performance, cultural expectations and global politics. In the article, "Change Among the Gatekeepers: Men, Masculinities, and Gender Equality in the Global Arena," Connell (2005) noted that:

> Moving toward a gender-equal society involves profound institutional change as well as change in everyday life and personal conduct. To move far in this direction requires widespread social support, including significant support from men and boys. Further, the very gender inequalities in economic assets, political power, and cultural authority, as well as the means of coercion, that gender reforms intend to change, currently mean that men (often specific groups of men) control most of the resources required to implement women's claims for justice. Men and boys are thus in significant ways gatekeepers for gender equality. Whether they are willing to open the gates for major reforms is an important strategic question (p. 363).

Ultimately, gender is historically connected to the binary sex system which influences the way gender is often perceived as a role, a performance, and a category. However, while gender is connected to the binary sex system, there are opportunities to blur the lines and challenge the roles and expectations. The continued evolution of gender theory scholarship and consistent redefining of gender symbolizes a cultural shift. Thus, the primary purpose of this study is to build from this foundation and explore gender in a new way. The foundation for coding gender in the digital world begins with gender theory discourse; however, contextualizing digital gender requires knowledge of the intellectual computing process.

Intellectual Computing and Gender:

The term *digital* typically is defined as the electronic technology that produces, archives and processes data through a positive (1) and non-positive (0) code (*Merriam-*

Webster Dictionary, 2012). As it relates to this study, the term "digital" includes this definition but also includes the more descriptive observation by Manovich. According to Manovich (2001), "all digital media (texts, still images, visual or audio time data, shapes, 3-D spaces) share the same digital code. This allows different media types to be displayed using one machine - a computer- which acts as a multimedia display device" (p. 50). The emphasis of "all digital media" being displayed on a computer is critical for defining digital gender in the context of this study, but also in validating the need to observe this phenomenon within computer-mediated 3D immersive environments such as Second Life. At the most basic level, computers are computing devices. But, for this study, computers are also windows into another world, a 3D virtual reality world where digital gender is experienced and explored.

The importance of computing machinery as it relates to digital gender begins by looking at the founding father of computer science. Alan Turing, who coined the terms "computation" and "algorithm," offered new ways to think about decrypting encoded language. More specifically, Turing was focused on exploring the computer's ability to compute information beyond numbers. He was interested in the computer's ability to manipulate words, concepts and ideas. Through the "Turing Machine" later to be considered a foundational model of a general purpose computer, Turing paved the way for recognizing computers' social, cultural and personal significance (Newman, 1955; Gray, 1999; Sipser, 2006).

In 1950, Turing broke ground for the first study in the human/computer relationship. He did this when he shifted his focus from computing numbers to a question about computing the notion of "being" and the ability to detect "being" through

a computer. As noted by Wardip-Fruin and Montfort (2003), "Turing replaced that

question with one that could be answered: can a computer, communicating over a

teleprinter, fool a person into believing it is human?" (p. 49). Through the "imitation

game," Turing established the sex/gender dichotomy as the primary characteristics (social

construction of identity) to test manipulation of words, concepts and ideas through a

computer. In 1950, the imitation game was played for the first time by three people, a

man (A), a woman (B) and an interrogator (C.) who could have been of either sex.

According to Turing (1950):

> The object of the game for the interrogator is to determine which of the other two
> is the man and which is the woman. He knows them by labels X and Y, and at the
> end of the game he says either 'X is A and Y is B' or 'X is B and Y is A'. The
> interrogator is allowed to put questions to A and B. 'Will X please tell me the
> length of his or her hair?' Now suppose X is actually A, then A must answer. It is
> A's object in the game to try and cause C to make the wrong identification. His
> answer might therefore be 'My hair is shingled, and the longest strands, are about
> nine inches long.' In order that tones of voice may not help the interrogator the
> answers should be written, or better sill, typewritten. The ideal arrangement is to
> have a teleprinter communicating between two rooms. Alternatively the question
> and answers can be repeated by an intermediary. The object of the game for the
> third player (B) is to help the interrogator. The best strategy for her is probably to
> give truthful answers. She can add such things as 'I am the woman, don't listen to
> him!' to her answers, but it will avail nothing as the man can make similar
> remarks. We now ask the question. 'What will happen when a machine takes the
> part of A in this game?' Will the interrogator decide wrongly as often when the
> game is played like this as he does when the game is played between a man and
> woman? These questions replace our original, 'can machines think?' (p. 1).

On multiple levels, Turing's emphasis on the sex/gender dichotomy allowed for a

measurable observation of the computing process's ability. Turing's imitation test not

only acknowledged the significance of human identity in the computing process; it also

used the social construction of sex/gender as the independent variable in the assessment

of words, images and concepts through a computer screen. Just like the imitation test

being a possibility because of the computing machinery's coded language of 1 and 0,

gender is a social and cultural code. More specifically, gender is a socially constructed phenomenon that builds from the binary sex system present in most cultures. This acknowledgement is not only important in defining digital gender but also in the grounding of this study. As such, the operational definition of "digital" and the social construction of "gender" combine the complexity of both terms into one concept. Therefore, digital gender, as it applies to this study, is a culturally coded system constructed, performed and experienced through computer-mediated reality.

This dissertation examines the application of digital gender within the 3D immersive virtual world of Second Life to provide an example of this phenomenon and to encourage more academic investigation of digital gender. To support this intention, the following section will explore the purpose and significance of digital gender more thoroughly.

Why Examine Digital Gender?

Computer-mediated reality is shaping humans just as much as humans shape it, or as Castells (1996) put it, "fundamentally altering the way we are born, we live, we sleep, we produce, we consume, we dream, we fight or we die" (p. 31). As we evolve with computer-mediated reality, we continue to experience new effects. While this immersion is often taken for granted, there hasn't been enough scholarship about these experiences, specifically in 3D immersive environments (Coleman, 2010). According to Bartle (2008), a gaming researcher and co-founder of the first Multi-User Dungeon/Multi-User Dimension (MUD), "people came to virtual worlds with an incomplete understanding of what they are, conducted some half-assed surveys, gave unsupported and occasionally

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damaging explanations, and then left." In this argument, Bartle not only suggested better research strategies, he referenced a foundational piece of digital gender research by Amy Bruckman (1993).

Bruckman (1993) presents the performance of gender swapping through computer-mediated reality. According to Bruckman, gender swapping illustrates "the ways in which gender structures human interactions, and, more importantly, the way in which MUDs help people to understand these phenomena by experiencing them" (p. 1). Furthermore, "MUDs evoke gender issues which are of concern at a broad, societal level. For many, the exploration of gender issues is also deeply personal and psychological" (p. 4).

The experience of gender, both offline and online, is basically about behavior and/or appearance, otherwise known as anthropomorphism. According to Nowak and Rauh (2007), "in behavioral terms, anthropomorphism implies the assignment of human qualities, such as mental abilities and behavior (DisSalvo & Gemerle, 2003), to objects that are not human. With an emphasis on appearance, anthropomorphism defines an object that has human morphology or visual characteristics (DiSalvo & Gemperle, 2003; Nowak, 2003; Nowak & Rauh, 2005; Shapiro, 1997)" (p. 5). For the online experience of gender, Bruckman's piece was successful in drawing academic attention to the growing trend of playing with digital gender (or gender swapping). But, as noted by Bartle (2008), the research primarily focused on "how awful it is to be female online." Bartle argued for more research that explored gender, sex and sexuality in MUDs and other immersive worlds more broadly. In 2008, a study did just that by examining "gender-bending" in a more visual, interactive and 3D immersive world. This world was known as

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a Massively Multiplayer Online Role-Playing Game (MMORPG). According to Hussain and Griffiths (2008), the MMORPG "evolved out of the text-based multiuser domains (MUDs), and they have utilized the Internet as a new gaming forum that allows people to link up and play together. The nature of MMORPGs is to offer a rich three-dimensional world that is populated by hundreds of thousands of gamers" (p. 47).

In Hussain and Griffiths' (2008) study, they observed gender swapping as a means to address (a) the impact of online gaming in the lives of online gamers; (b) the effect of online socializing in the lives of gamers; and (c) why people engage in gender swapping (p. 47). Their findings suggested that some gamers engaged in gender swapping as an experiment while others used gender to achieve better tools and experiences in the game. According to Hussain and Griffiths (2008), "what makes these findings important is that in most instances, the gamer has the opportunity to choose the gender of his or her character and to develop other aspects of the character before beginning to play. Choosing to gender swap may have an effect on the gamer's style of play and interaction with other gamers and could even have an effect on guild membership" (p. 52).

Similar to Hussain and Griffiths' study, Nowak and Rauh (2007) examined gender presence in a 3D immersive environment. Through anthropomorphic avatars, the effects of androgyny were studied in a northeastern public American university with 255 students. Their study found that the gendered avatars were engaged with more because they were considered more credible, interesting and approachable (p. 18). According to Nowak and Rauh (2008), "these data support the prediction that people continue to generate impressions of others based on visible characteristics, whether those

characteristics are computer generated (avatar) or natural (physical body)" (p. 9). Nowak and Rauh provided context for examining digital gender. Thus, the focus here is to examine gender in a 3D immersive environment, but more specifically to examine the construction, performance and experience of digital gender through computer-mediated communication.

How to Examine Digital Gender:

An opportunity to examine digital gender emerged during the Spring term of 2010 at a local community college. From 2009 to 2012, the National Science Foundation (NSF) funded a program at Lane Community College in Eugene, Oregon. This program was designed to stimulate enrollment in computer science classes, and specifically to increase the percentage of such under-represented groups as women and minorities. The Lane Community College Simulation and Game Development Initiative (SGDI) program used the 3D immersive environments of Second Life and Open Sims for the operationalization of their study. During the four-year duration of the program, there were 985 participating students (829 college and 156 high school). All students were required to create an online identity to engage through a 3D virtual environment throughout the entire term.

In the Spring term of 2010, I was asked to be an outside evaluator of data that had been collected and to participate as part of the female population of the program in Second Life. During this time, a working relationship was established with the two Primary Investigators (PI), Dr. Jim Bailey and Dr. Jonathon Richter. Throughout the SGDI program, data were collected on student experiences with Second Life and online

identity. Because of this, I requested permission to analyze the SGDI data for the purpose of this dissertation.

In the summer term of 2010, the PIs granted permission to analyze quantitative and qualitative data collected from two of the computer science classes participating in the SGDI program. In total, there were 75 college students, both male and female, that provided information through questionnaires and forum threads. These data sets were collected to obtain demographic and background information of the students. The qualitative data, which was collected during the focus group, showcased seven students who provided personal narratives about their experiences with digital gender. These two data sets provided adequate context for the parameters of this study. In the end, this dissertation provides context not only to the emerging trends of computer-mediated communication but also to the social construction of digital gender and the human/computer relationship.

Why Second Life:

For this study, digital gender is constructed and performed within the 3D immersive virtual environment known as Second Life. Second Life, launched on June 23, 2003, was developed by Linden Lab to be a place for creation and exploration and a hub for engagement within digital culture.   According to Philip Rosedale, founder of Linden Lab,

> When Second Life launched in 2003, running on just 16 servers with barely 1,000 dedicated users, it was the culmination of a kind of dream for me. One of the things I'd always been interested in, ever since I was a young boy was how we manipulate the world around us. The world had so much stuff in it; there was always something I wanted to change, something I wanted to add, something I wanted to build out of the things I saw around me. That, to me, was magical:

seeing the world change shape in response to the ideas in my head. One of the things I wanted to do when we started developing Second Life almost a decade ago was to give anyone a chance to work that same magic (Rymaszewski, 2007, p. iv).

By 2007, Second Life had millions of users and more than 3,000 servers. The popularity of Second Life was on a rapid incline and digital culture scholars moved in to examine what made this digital space so interesting. In 2007, Stanford University's Virtual Human Interaction Lab (VHIL) produced a new concept known as the "Proteus Effect." According to VHIL, the Proteus Effect is when a person's behavior adapts to conform to their digital persona. Yee (2007) noted that, "In addition to gaining social advantages, our avatars (digital representations of ourselves) can also change how we behave. This occurs via conforming to expected behaviors of the avatar, a process referred to as the Proteus Effect" (p. iv). In 2008, "Coming of Age in Second Life: An Anthropologist Explores the Virtually Human" by Tom Boellstroff, provided a portrait of Second Life through an ethnographic lens. By becoming part of a virtual community, Boellstroff observed and participated in the inner workings of digital life. He experienced layers of awareness and concluded, "It is in being virtual that we are human" (Boellstroff, 2008, p. 29).

According to "Second Life-The Official Guide," published by Linden Lab in 2007, the idea of being virtual and human is similar to being a mythological god with power that "enables you to fly, teleport wherever you like in an instant, change your appearance whenever you want to, and do whatever you like" (Rymaszewski, 2007, pp. 7-8). According to Rymaszewski (2007), "Second Life is and always will be a representation of the world as we know it. It has been conceived by and is being created

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by humans, and people tend to do things in a certain way. It doesn't matter whether the world they're in is virtual or 'real'" (p. ix). For Rymaszewski, Second Life offers an opportunity for people to move beyond their physical world and into a virtual space that allows and encourages creation, exploration and engagement. However, Boellstorff (2008) argued, "Virtual worlds are not just recreations or simulations of actual-world selfhoods and communities. Selfhood, community, even notions of human nature are being remade in them" (p. 63). For Boellstroff, virtual worlds are more than a representation of the physical world. These virtual spaces are creating new forms of human nature.

Every day, Second Life summons nearly 60,000 people globally to log in and experience virtual reality (Second Life Stats, 2013). Through decrypted language that simulates light, color, sound, motion, 2D and 3D dimensions, a real economy with an international currency exchange rate sustains the grid of Second Life. For example, for every one US dollar, 275 linden dollars provide the currency to buy intangible items like virtual land, buildings, toys, clothing, and ultimately one's identity. This currency exchange is so significant that it has generated hundreds of millions of US dollars annually. Second Life keeps a pretty tight lid on financial statistics. The last publicly released form was the *2009 End of Year Second Life Economy Wrap Up*. In this form, "The Second Life economy totals $567 million US dollars in 2009 – 65% growth over 2008" (Second Life, 2010). Though it is a tightly guarded secret to how the dollars break down into profit for Linden Labs and the residents in Second Life, data in the *Second Life Economy* report indicates continued and growing monetary interest in 3D immersive worlds.

Though people face a steep learning curve, an array of technical issues, and even some difficulty convincing others of the advantages of engaging with 3D immersive environments, there is continued interest in 3D immersive environments. As will be presented throughout this dissertation, Second Life provides an ideal place to observe digital gender. Essentially, this study identifies the encoding, decoding and transmitting process of digital gender within a 3D immersive environment and examines the affects and effects of this phenomenon.

Significance and Purpose of Study:

For computer science scholars like Turing and Turkle, there is a significant relationship between humans and computers. We construct, deconstruct and reconstruct our world and existence through a coded language that activates our technological devices and pulls us in. We seek connection to other people and communities that facilitate, replicate and enhance our everyday life. According to Donath and Boyd (2004), "Use of the internet has greatly expanded and today it is much more likely that one's friends and the people one would like to befriend are present in cyberspace. People are accustomed to thinking of the on-line world as a social space. Today, networking sites are suddenly extremely popular" (p. 71).   By 2010, Eric Schmidt, CEO of Google, noted that "there was 5 exabytes of information created between the dawn of civilization through 2003 but that much information is now created every two days and the pace is increasing…People aren't ready for the technology revolution that's going to happen to them" (Kirkpatrick, 2010).

Current trends in social networking sites make it easier to create online presence

to connect and engage with other people, seemingly without much resistance or critical

thought. Through social networks like Facebook, LinkedIn, YouTube, and various 3D

immersive environments, millions of people are connecting with each other through a

computer every minute of every day. This act continues to blur the arbitrary lines

between virtual and physical reality and to shape the global village McLuhan talked

about in the late 1960s. According to McLuhan (1962), "the new electronic

interdependence recreates the world in the image of a global village" (p. 31). The

cultural, social and individual significance of digital gender in this study ultimately

addresses the changing landscape of our global village and awareness of our social

constructions.

Gender, one of the most culturally shared social constructions among humans,

provides a way for people to organize and partake in a shared experience. As has been

noted from foundational scholars in feminist studies and gender theory, the act of "doing

gender" sorts, classifies and assigns lifelong expectations to individuals almost

immediately from birth (Beauvoir, 1949; West & Zimmerman, 1987; Butler, 1999). As

previously noted, with the new births of our babies we often declare their sex first. This

simple declaration not only announced the baby's sex; it is culturally announcing gender

expectations. According to Fausto-Sterling (2000),

> Both children and adults learn through direct feedback from others to 'do gender'.
> Classmates, parents, teachers, and even strangers on the street evaluate how a child
> dresses. A boy who wears pants conforms to social norms, while one who dons a
> skirt does not. And he hears about it right away! Gender, then is never merely
> individual, but involves interactions between small groups of people. Gender
> involves institutional rules (pp. 243-244).

Digital gender, in the context of this study, is significant because it is governed by

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institutional rules created in physical and virtual reality alike. As previously noted, digital gender has a rich history with embedded social cues and expectations. As will be discussed further in this dissertation, these cues and expectations have substantial outcomes and effects on people and their society. In other words, gender through computer-mediated reality has personal, cultural and economical significance. With the added component of fluid and malleable technology, gender in a digital context has the ability to further blur the lines of the sex system. On a large scale, digital gender addresses the relationship between computers and humans but more specifically, this study provides a new context for considering digital gender. Therefore, the following research questions are presented to frame the inquiry of digital gender as a social construction that influences both our digital and physical lives

Research Questions:

The following research questions were designed to addresses the phenomena of digital gender from the beginning of gender construction within 3D immersive environments and then to reveal how the performance and experiences of digital gender, through both deliberate and unintentional choices, affects people in virtual and physical reality alike. The first question is intended to identify the social and personal reasons involved with the creation of an online, animated, 3D representation of themselves, known as an avatar. On a larger scale, this question addresses their relationship to the virtual space as well as to the quandary about the computer/human relationship proposed by Turkle. The second question provides an inquiry into the performance of gendered avatars and how these experiences play out virtually. The third questions builds from the

second by asking how these virtual experiences affect or influence their physical lives. Ultimately, these questions are addressing the evolution of computer-mediated reality and the impact that digital gender has on people and society as a whole.

1.   **How is gender constructed in Second Life?**

This question examines the registration and customization process of the avatar. The purpose of this question is to present the technical and sociological factors that go into the construction of digital gender.

2.   **How does the performance of digital gender in Second Life affect the experiences people will have in the 3D immersive environment?**

This question explores the reasons for performing digital gender and provide insight into how these choices affect the experience of being in Second Life. From aesthetics choices in virtual bodies, clothing and accessories to scripting/programming of Second Life, this question will also explore the hypersexualized components used for creating and performing digital gender.

3.   **What are the effects of digital gender in Second Life for people in their physical reality?**

The purpose of this question is to better understand how the virtual and physical realities overlap. Essentially, this question illustrates the potentially "real" outcomes that result from the construction and performance of digital gender.

Overview of Study:

Each chapter in this dissertation is designed to support and address the questions surrounding the construction, performance and experience of digital gender in the 3D immersive environment of Second Life. To begin, Chapter Two presents a literature review that provides contextual and intellectual discourse about the elements presented throughout this study. More specifically, the literature review presents the intellectual history of the computer, computer-mediated communication, computer-mediated reality, gender construction and the encoding/decoding process of digital messages. It is suggested that this framework will support the primary concept of digital gender while also providing insight into the computer/human relationship.

Chapter Three presents the methodology. During the summer term of 2010, data were collected through questionnaires, forums and a focus group from the two SGDI program computer science classes at the community college. The questionnaire and forum data were coded and run through SPSS to establish this terms SGDI program demographic and background information. While this data set doesn't answer the research questions, it was necessary to analyze it in order to provide deeper context for who the focus group students were and how their experiences in the SGDI program affected this study's findings. Therefore, the focus group data were analyzed, coded and interpreted to provide emerging themes, personal narratives and provide insight to the research questions of this study.

Chapter Four presents the findings and analysis of the quantitative data. Through the analysis of the three questionnaires (Background, Starting Out and Exit Survey) and the three forum posts ("Who am I and why am I here," "What's in a name," and "Should

avatars really look like you"), demographic and background data summarizes the culture of the 75 SGDI program students. Additionally, and more importantly, these findings locate the seven focus group students. Chapter Five continues the findings and analysis of the study by presenting the qualitative data collected from the focus group. It is from these data that themes emerge to address the research questions. For example, to address the question of how digital gender is constructed in Second Life, *the construction of digital gender through the avatar* and the *hypersexualized makeover* are presented to illustrate this process. Through these accounts, deeper insight into the roles of gendered ideology, cybertypes, and hypersexualiztion in the coding process of digital gender is presented. The second research question is presented through *digital gender experiences in Second Life* that bring attention to issues of media aesthetics, gendered social order, hegemonic masculinity and gendered expectations. Lastly, the *effects of digital gender in physical reality* recount scenarios of virtual sexual harassment, pedophilia, sexual violence and the commodification of gender.

Chapter Six, the conclusion, begins with a recap of the SGDI program data. The primary themes that emerged from the discussion chapter are then summarized in three sections, "Binary Sex System, Cybertypes and Hypersexualiztion", "Media Aesthetics, Social Order and Animation Override", and "Blurring of Virtual and Physical Experience." Following this, the contributions, limitations and suggested future studies and presented. Within the "Concluding Thoughts" section, the study is summarized and references Turkle's question about what kind of people we are becoming.

CHAPTER II

LITERATURE REVIEW

According to Hongladarom (2011), "the rapid advances in information and communication technologies have created tremendous changes all over the world, not least among which concern a number of new philosophical problems and ways to solve them. During the last few years social networking websites such as Facebook and Twitter seem to throw much of the traditional thinking about the self and the object into confusion" (p. 534). The traditional thinking about self that Hongladarom noted has a similarity to Turkle's theoretical work on communication technologies and the human spirit. As Turkle (1984) had noted, "the computer is a 'metaphysical machine,' a 'psychological machine,' not just because it might be said to have a psychology, but because it influences how we think about our own" (p. 16). Because people have been and will continue to use computers, the relationship to the machine as well as the influences it has on us physically, intellectually and spiritually are of greatest significance to this literature review.

Therefore, this chapter presents interdisciplinary literature and theories that frame the research questions and approach to computer-mediated human interactions. More specifically, this literature touches on the intellectual history of the computer, computer-mediated communication, computer-mediated reality and gender theory. This framework will not only address the primary concept of digital gender but will also provide insight into the computer/human relationship.

We Shape our Tools and They in Turn Shape Us:

We have grown accustomed to mediated messages as a means to share, connect and communicate within our growing global village. Specifically, we have used visual, audible and textual channels to represent our surroundings, what we know and who we think we are. Media has factored significantly in our shared existence and ultimately changed many things in our culture, including who we think we are. According to McLuhan and Powers (1989), "an artifact pushed far enough tends to reincorporate the user'" (p. 3). For McLuhan, and his media scholar disciples, the human/technology relationship is more than superficial. The relationship is a "four-fold pattern of transformation" or a "tetradic metaphor." Essentially, the "tetradic" schema illustrates how human "artifacts" intensify something within a culture. According to McLuhan, the artifact of electronic technology not only intensified the mode of communication but also intensified the metaphorical experience of the artifact within a culture. Building from McLuhan's theory, Barone and Bresler (2005) suggested that the "tetrad" enacted four simultaneous questions about interaction with the artifact. "What does the medium enhance? What does it retrieve from the past? What does it reverse into? What does it make obsolete?" (p. 2). Thus, the artifact is a means to produce multiple channels of communication, which in return shapes human existence and creates cultural change. The tetradic schema highlights how the artifact adds dynamic and social impact within the society. For example, the message and the computer (the artifact from which the message is sent) create and sustain the significant social and cultural impact within a society because of a human/computer relationship. For example, Griffin (2000) noted that McLuhan saw media as an extension of our body. Referencing a book as an

extension of the eye, the wheel as an extension of the foot, and the electronic circuitry (computer) as an extension of the central nervous system, McLuhan suggested, "media are anything that amplify or intensify a bodily organ, sense or function" (Griffin, 2000, p. 315). Therefore, because a significant overlap of media and body exists through this lens, computers are much more than a computing processing device. They are extensions of humans.

The Communication Revolution:

The communication revolution is based on a series of communication technological innovations that have significantly changed the way people communicate and interact on a global scale. McChesney (2007) noted transformative digital communication technology as fundamentally responsible for changing and modifying social interactions, functions of economics and reshaping political institutions. For McChesney, the future of transformative digital communication technology is unclear, especially the impact it will have on journalism, culture, politics, economics and self. But, by identifying and understanding the evolution and intellectual history of the communication revolution, we will be more prepared to analyze and predict the effects of the communication revolution on our society (McChesney, 2007, p. 3). To better understand how the communication revolution is affecting society, this section will deconstruct the computer as an "object of study" and identify multiple computing history timeline moments of significance as it relates to digital gender.

According to Mahoney (1988),

Since World War II 'information' has emerged as a fundamental scientific and technological concept applied to phenomena ranging from black holes to DNA,

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from the organization of cells to the processes of human thought, and from the management of corporations to the allocation of global resources. In addition to reshaping established disciplines, it has stimulated the formation of a panoply of new subjects and areas of inquiry concerned with its structure and its role in nature and society (p. 113).

For Mahoney, these new subjects and area of inquiry have emerged because of the ways in which technology is influencing, shaping and changing our society. Thus, the computer is not just an electronic device for the purpose of sending, receiving and storing data. The computer bridges the gap between space and time, and acts as a hub for our modern age of technology.

Understanding our modern age of technology is informed by the intellectual history of computers. Computer Science scholars Carlson, Burgess and Miller (1996) created an expansive evolution-of-computing and computer-technology timeline that has been republished, linked and shared through various online sources since its creation in 1996 (e.g., Rutgers.edu, OSU.edu, Columbia.edu, smithsonianeducation.org, Virginia.edu, etc.). In this timeline, the evolution and intellectual history of the communication revolution began in 4,000-1,200 B.C. It was during this time that early civilizations kept records of commercial transactions on clay tablets. The act of recording information for the purpose of calculating remained the primary purpose for advancing communication tools. The multitasking ability of a communication tool wasn't developed until the 1600s, when calculating tools like the "calculating clock," designed by William Schickard in 1623, refined the process of adding, subtracting and multiplying numbers. In 1822, Charles Babbage developed the automatic computing engine. Babbage is credited with inspiring further evolution in calculating and analyzing numbers because of his innovation with the "analytical engine." Through most of the early 1900s, the focus

remained on computation and it wasn't until the 1950s, when the first internet system was commissioned by the US government, that the notion of connecting people through a programmable data processor was realized. With this shift and the work presented by Alan Turing, the father of Computer Science, the 1950s marked the beginning of the communication revolution as it applies to this dissertation.

As previously noted, the communication revolution is based on a series of communication technological innovations that have significantly changed the way people communicate and interact on a global scale. According to Bucy (2005), "information technologies and entertainment media literally saturate modern life to the point where it has become difficult to imagine life without them" (p. 1). The computer's role in the ways we think, communicate, connect and exist is what drives the theoretical framework in this study. Thus, the point in which the communication revolution became intertwined with computer-mediated human interactions is where this literature review focus narrows.

Computer-mediated Communication:

In 1975, when the first "personal computer" was introduced by Ed Roberts, the reality of 2.3 billion people using personal computers, as is the case today, was beyond conceptualization.[2] When Ed Roberts developed this computer, later named Altair, it was primarily invented because the calculator business was over-flooded and he needed an idea to help sustain his fledgling business (MITS: Micro Instrumentation Telemetry Systems). With the help of software programmers Bill Gates and Paul Allen, the Altair

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[2] This number is reported from New Media Watch (newmediatrendwatch.com), accessed February 4, 2013.

was foundational in shifting the accessibility and functionality of computers forever (Freiberger and Swaine, 1984; Levy, 1984).

As noted in the latter part of the computing history timeline, the evolution of computers and networks have modified our social, cultural, political and economic systems. On a foundational level, computers continue to collect, compute and archive digital data. But on another level, computers offer new ways to think, communicate, connect and exist. Because of this, our global village is drastically shrinking and invoking existential awareness. As McLuhan noted, "Today, after more than a century of electric technology, we have extended our central nervous system in a global embrace, abolishing both space and time as far as our planet is concerned…we now live in a global village…a simultaneous happening" (McLuhan, 1967, p. 63).

Through the computer, the "simultaneous happening" McLuhan discussed in 1967 continues to change and morph. Today, people are teleporting into evolving virtual digital worlds, which is changing the way they connect, communicate and engage everyday. Computers are proving not only to be a core construct within the communication revolution but also they are facilitating computer-mediated human interactions, new realities and inspiring identity-transforming quests.

How computers are affecting human existence, for the purpose of this dissertation, begins by examining the term computer-mediated communication (CMC). CMC has been defined as "synchronous or asynchronous electronic mail and computer conferencing, by which senders encode in text messages that are relayed from senders' computers to receivers" (Walther, 1992, p. 52). Walther and Burgoon (1992) stated that "for many of us, CMC is no longer a novelty but a communication channel through

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which much of our business and social interaction takes place, and this transformation is expected to continue. CMC produces much different affective and relational patterns than do other types of communication, due to the reduction and types of cues available to participants" (p. 51). Similar to Walther and Burgoon, Metz (1992) noted CMC being "any communication patterns mediated through the computer" (p. 3). For Nass and Steuer (1993), CMC was more narrowly described as having "more in common with interpersonal interaction than with technological procedures which do not reproduce the person-to-person relationship, as when a computer is used as a calculator, for example" (p. 522). It is this definition that inspired Riva and Galimberti's (1998) argument that the most important psychosocial changes of CMC emerge from the interactions that happen through the CMC.

The interactions that happen through CMC are part of a mediated reality. Steve Mann, a professor of electrical and computer engineering, coined "mediated reality" as a combination of virtual information with visual information from the real world. Mann (1997) was interested in blurring the line between physical and virtual reality with a device he developed called a WearComp (wearable computing) (pp. 25-32). For Mann and Niedzviecki, "mediated reality is the technological process by which the WearComp user can mediate all visual input and output. Mediation includes overlaying virtual objects on 'real life,' and taking away or otherwise visually altering objects" (Mann & Niedzviecki, 2001, p. 265). Mann provided a way for mediated reality to interconnect virtual and physical reality. The current vehicle for sending, receiving and being the message is computer mediated and this process is what blends "real life" with virtual, thus affecting human existence.

Computer-mediated Virtual Reality:

3D immersive environments evolved from the first Multi-User Dungeon created in the mid-1970s (Montfort, 2003). A Multi-User Dungeon, or MUD, is a multiplayer real-time virtual world that consists of role-playing, interactive fiction and online chat. MUDs were generally perceived to be virtual worlds where fantasy-like environments allowed people to create online identity for social engagement in virtual quests and adventures. According to Bartle (2004),

> Virtual worlds are places where the imaginary meets the real [that are] implemented by a computer (or network of computers) that simulates an environment. Some – but not all – of the entities in this environment act under the direct control of individual people. Because several such people can affect the same environment simultaneously, the world is said to be shared or multi-user. The environment continues to exist and develop internally (or at least to some degree) even when there are no people interacting with it; this means it is persistent (p. 1).

As MUDs evolved, Richard Garriott, a video game developer, developed the first commercially popular Massively Multiplayer Online Role-playing Games (MMORPG) game, "Ultima Online," in 1997. This MMORPG was designed with similar components as a MUD, except that instead of being text-based, it had "real-time graphics." More specifically, Garriott's game had a graphical fantasy setting that made for a more visually stimulating experience. Like Ultima Online, which still exists today, WOW (World of the Warcraft), Lineage, Everquest, and an ever-growing genre of MMORPG continue to saturate the digital world. Because of continued interest, MMORPGs provide insight into empirical questions dealing with interaction, engagement, competition and identity by acting as a site for digital culture observation.

Similar to the MMORPG is Second Life. Second Life, more commonly referred to as a virtual 3D immersive environment, is a non-physical space where people engage in

social interaction, education, business, and entertainment, all of which exist online and

are projected through the computer screen. Just like MMORPGs, in order to access this

environment, one needs to access the internet, download a browser, create an account,

and choose a pre-designed avatar.[3] The pre-designed avatar is then customized and

transformed. It is the avatar construction process and performance that is the crux of the

context of this dissertation. From flesh and bone into pixels and code, online identity

emerges as a dominant presence within 3D immersive environments.

Identity in the Digital Age:

> According to Turkle (1995),
>
> > We come to see ourselves differently as we catch sight of our images in the
> > mirror of the machine. A decade ago, when I first called the computer a second
> > self, these identity-transforming relationships were almost always one-on-one, a
> > persona alone with a machine. This is no longer the case. A rapidly expanding
> > system of networks, collectively known as the Internet, links millions of people
> > in new spaces that are changing the way we think, the nature of our sexuality, the
> > form of our communities, our very identities (p. 9).

Through code we can make deliberate choices, choices that aren't always

available in our physical reality. These codes not only create and modify virtual reality,

but they also create and modify the ways we will look and act online. Because identity is

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[3] "Avatar" is a derivation of the Sanskrit word "Avatara" (literally "descent") referring to
the descent of a god to earth in mortal form. Its use with regards to the visual
representation of a player in a computer game dates at least as far back as 1985, when a
player in "The Quest of the Avatar" (within the Ultima series) aspired to become "the
Avatar." With games including Habitat (1987) and Shadowrun (1989), "avatar" became
a generic term for players' customized visual characters. It was also used to refer to
online virtual bodies in Neal Stephenson's popular cyberpunk novel *Snow Crash* (1992),
in which social status within the metaverse was conferred on people according to the
sophistication of their avatar (Cooper, 2007, glossary).

a social construction based on human conceptions and perceptions, the meaning and significance identity has within our lives are often taken for granted. When creating and performing online identity, what seems to be strategic is also heavily influenced by cultural expectations that must be shared before they can be transmitted through computer-mediated reality. It is these expectations that ultimately shape our experiences online and the evolution of our global village. Identity is the basis for gender in a digital context; therefore, it is necessary to examine the components of identity and how these elements are encoded and decoded through a computer screen. To begin, the definition of digital identity is presented next.

Windley (2005) noted that digital identity is "built on a set of technologies that includes cryptography, authentication, authorization, identity provisioning, directories, digital rights management, identity federation, and interoperability standards" (p. 6). The technical and computation elements of digital identity are required, but through a philosophical lens, digital identity is very similar to Salvador Minuchin's declaration that "the human experience of identity has two elements: a sense of belonging and a sense of being separate" (Windley, 2005, p. 8).

Specifically referencing the psychological identity, Wilbur (2000) noted that:

The computer -and particularly the computer as an Internet terminal- is an odd sort of vision machine. It involves the user, primarily through vision, in forms of telepresence, which may mimic any and all of the senses. It is likely that those who become most immersed in Internet culture develop a sort of synesthesia which allows them to exercise all of the senses through their eyes and fingers. Many computer users seem to experience the movement 'into' cyberspace as an unshackling from real-life constraints-transcendence rather than prosthesis. At the limit, the (emancipatory) discourse of cyberspace suggests that possibility of stepping beyond and remaining one's self in some lasting way through virtual identity-play (p. 48).

A 3D immersive environment facilitates this virtual identity-play, but there are still limitations for developing and performing identity in this type of world. Identity reduction is a common practice for immersing into a 3D immersive space often beginning in the registration process for a new account. According to Nakamura (2002), who conducted a study on the effects of website registration processes, identity reduction was often an "archaic means of defining race [that was forced] upon the user," and this process was a digital form of stereotypes known as "cybertypes" (p. 101). Nakamura noted that "this kind of menu-driven racial identity not only denies the possibility of a mestiza [a woman of mixed racial ancestry] consciousness at a time when our social realities are bending to acknowledge the existence of various forms of racial and cultural hybridity, but also serves a racist ideology which benefits from retaining solid and simplistic notions of race" (p. xviii). As Nakamura pointed out, many of the same identity reductions presented in the physical world, such as race and gender, are presented in the digital world, and even though online identity is fluid and easy to manipulate, it is still influenced by the process of categorizing human beings.

Bruckman (1993) also wrote about identity reduction and text-based virtual reality environments, but more specifically she examined gender and "gender swapping," the act of creating and performing a gender to which one does not physically subscribe, within these digital environments. According to Bruckman:

Gender is so fundamental to human interactions, that the idea of a person without gender is absurd. On many MUDs, it is possible to create gender neutral characters. When I first met an ungendered character, I felt a profound sense of unease. How should I relate to this person? Most unsettling was my unease about my unease: why should this matter? I am having a casual conversation with a random stranger; why should I feel a need to know his or her gender? The experience highlights two things: the ways in which gender structures human interactions, and more importantly, the ways in which MUDs help people to understand these phenomena by experiencing them (p. 1).

Gender in the Digital World:

According to Bruckman (1993), the binary sex system is significant for online engagement and will affect the relationship between users of a MUD or other similar immersive environment. Through this lens, gender is presented as a binary choice reduced to male or female. While Bruckman's work on gender swapping provides value in discussing gender online, it furthers the notion that gender is still fixed to a binary sex system, even in the digital world. However, Bruckman (1993) acknowledges "gender swapping is one example of ways in which network technology can impact not just work practice but also culture and values" (p. 1).

A substantial cultural impact of gender swapping can be reduced to our understanding of the gender dichotomy. The gender dichotomy is something that exists outside of interactions. According to West and Zimmerman (1987), the gender dichotomy is something people choose to do as:

> We contend that the 'doing' of gender is undertaken by women and men whose competence as members of society is hostage to its production. Doing gender involves a complex set of socially guided perceptual, interactional, and micropolitical activities that cast particular pursuits as expressions of masculine and feminine 'natures'" (p. 126).

Lopata and Thorne (1978) also noted that the dichotomized epistemological nature of gender has historical and cultural patterns that have been ingrained into a society and

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often played out through a type of performance that illuminates issues of power and inequality (p. 23).

Issues of power and inequality, stemming from the gender dichotomy, are often the result of appearances and actions associated with being "male" or "female." There is a long history of stereotyping people based on gender, which continues to circulate in Western cultures. According to Connell (2002), "four decades after the Women's Liberation movement, which criticized sexist stereotypes, Western media are still packed with images of female passivity" (p. 2). The images of female passivity continue to contribute to issues of power and inequality through the hypersexualization of gender. For example, the way men adorn themselves in what is perceived "masculine" clothing and other physical adornments and the physical adornment of women and what is perceived "feminine" continue to create physical polarities used for identifying, attracting and stereotyping people (Connell, 2002, p. 2).

Categorizing People into Binary Systems and Codes:

For this study, the intellectual history of categorizing people into the binary systems of gender began with the works of Sigmund Freud. Freud, a neurologist and psychotherapist, was mostly interested in dichotomizing male and female by explaining the effects of intrinsically different biological characteristics. In summary, Freud argued that females suffered from "penis envy" while males suffered from mental castration. Freud's (1908) work on the Oedipal/Electra complex (psycho-social sexualized matrix of archetypes) established this argument by gendering children at an early age, which, according to Freud, was the cause for the repression of sexuality within society (p. 92).

Karen Horney, a student of Freud's and fellow psychotherapist, was also interested in dichotomizing male from female and examining the effects of biological characteristics. According to Horney (1931), Freud had a major oversight when defining "penis envy." Horney argued the result of "penis envy" had less to do with the male genitals and more to do with the male privilege and that women weren't alone in such a state of covet. Horney noted that while women may have had a "penis envy," men had an envy complex as well. For Horney, men had "womb envy," which resulted from the power of pregnancy, childbirth and motherhood. Horney not only dichotomized the envy of men and women, she also criticized the male view (male gaze) of women in her 1931 essay, "The Distrust Between the Sexes." According to Horney, the constant second-rate status of women was the leading cause of a universally shared ideology of the inferiority for women.

With psychoanalytical work, like that mentioned by Freud and Horney, the acceptance of binary categories was necessary in order to discuss the sexual repression and the social, economic and political oppression of women. Margaret Mead, a cultural anthropologist, furthered this focus with her research on cross-cultural gender roles and female dominant cultures. Mead (1935) looked at social patterns of sex and gender and how they were performed through the suppression or encouragement of masculine/feminine characteristics. Though Mead suggests "gender" is not biologically innate, but rather constructed by social patterns, she did continue the binary system by equating females to "nature" and men to "culture." Mead claimed that the biological differentiation in human development was necessary to examine the "cultural" difficulties boys have in becoming men and the "natural" biological function girls have in becoming

women. According to Mead (1935), "there is the structure of its own body, in which the girl finds that the reinterpretation of impregnation and conception and birth fits easily into her early experience with the intake of food, while the boy with the same initial experience can at most use it to interpret the female role, but will find himself heavily confused if he attempts to use it to interpret his own" (pp. 143-144). Mead argued that boys must prove that they are men through strong masculinity traits and male-dominated roles while girls exercise their femininity by fulfilling their biological duty of procreating.

Through Levi-Strauss's structural analysis model and a Marxist lens, Sherry Ortner (1974) furthered Mead's work with examining the notion that "female is to male as nature is to culture." Within this focus, Ortner noted elements of cultural ideology and social-structural arrangements that devalue women and kept them in roles of subordination (Ortner, 1974, p. 68). Though Ortner denied biological determinism as the cause for male domination, she did recognize women's bodies as a productive means for identifying female subordination. According to Ortner, the correlation between woman and nature is based on the reproductive functions, social roles consisting of childcare and/or other culturally devalued forms of labor, and the vastly different psychic structures of being female (p. 77). Ortner argued that in some cases women are in an intermediate position between nature and culture and women will almost always be seen as below culture in the hierarchical sex/gender binary system.

Gayle Rubin, who coined the phrase "sex/gender system", specialized her work on the gender binary system by addressing the sexual and gender oppression of women. Rubin and Reiter (1975) argued that the sex/gender system is used within a society to

transform biological sex difference into "products of human activity." Rubin and Reiter stated that "there is no theory which accounts for the oppression of women-in its endless variety and monotonous similarity, cross-culturally and throughout history-with anything like the explanatory power of the Marxist theory of class oppression. Therefore, it is not surprising that there have been numerous attempts to apply Marxist analysis to the question of women" (Rubin & Reiter, 1975, p. 160). From a Marxist perspective, the sex/gender system reveals the significance of the unpaid labor of a housewife and her role in the capitalist system. As noted by Rubin and Reiter, the "domestication of women" is the biological sex distinction taught through kinship and experienced within a society that exchanges, and traffics women as gifts for men (p. 171). According to Rubin and Reiter, the social and economic division of the sexes is what produces and continues the oppression of women. Through this lens, a number of scholars have been critical of sexual theory established by Freud and argued that most work done had not adequately addressed the oppression of women. Specifically, these scholars argue that the effects of the sex/gender system vary from society to society and are influenced by social structures and economic conditions (e.g., Sacks-Brodkin, 1979; Leacock, 1972).

Sedgwick (1979), a literacy critic and theorist, examined the influence of social structures and economic conditions within the sex/gender system. Specifically, Sedgwick focused on the legal effects of the binary categorization of sex and sexuality. Sedgwick noted "the closet" as a fundamental feature of social life, in which the judicial system was active in gay bashing and anti-gay marriage rights. Through "the closet" Sedgwick exposed the binaries of *public* versus *private*, *heterosexuality* versus *homosexuality*, *secrecy* versus *disclosure*. For Sedgwick, to deconstruct sex, gender and sexuality means

to blur the lines of these binary systems and offer opportunity for a more utopian culture

(p. 46).

Deconstructing the Sex/Gender System:

Foucault (1998), a French philosopher and sociologist, presented discourse on

"power" and how it is produced to divide people based on class and sexuality. According

to Foucault, active power (such as knowledge) "transmits and produces power; it

reinforces it, but also undermines and exposes it" (p. 101). In explaining institutional

socialization and its connection with sex, gender and sexuality, Foucault suggested that it

is the process of "knowing" that codifies the body to forms of oppression, not the

knowledge itself. For example, Foucault claimed sexuality as not part of innate human

behavior but rather as a means for the production of power. He suggested that sexuality

was a concept that had been naturalized and produced over time (through knowing). It

was implemented into a society to control the masses and this process sustains power

structures and forms of oppression.

Similar to Foucault's deconstruction of sexuality, Judith Butler (2004),

philosopher and author, deconstructed gender and women through a similar lens.

Through her work, Butler noted that women were not a homogenous group, and that the

sex/gender system had little to do with biological functions; rather, it had everything to

do with social, economic and political issues. "Feminist work on reproductive technology

has generated a host of ethical and political perspectives that have not only galvanized

feminist studies but have made clear the implications for thinking about gender in

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relation to biotechnology, global politics and the status of the human and life itself"
(Butler, 2004, pp. 10-11).

Encoding/Decoding Digital Gender:

The process of encoding/decoding digital gender begins by undoing gender. For example, Butler (2004) noted, "If gender is a kind of a doing, an incessant activity performed, in part, without one's knowing and without one's willing, it is not for that reason automatic or mechanical. On the contrary, it is a practice of improvisation within a scene of constraint. Moreover, one does not 'do' one's gender alone. One is always 'doing' with or for another, even if the other is only imaginary" (p. 1). The "doing" of gender that Butler is referencing is deeply embedded in the binary sex system. This system is used to code the sex/gender dichotomy and is presented in many aspects of western societies.   For digital gender, this is a process that involves computer-mediated communication, or what Hall (1980) referred to as the "circulation circuit" (p. 128).

In Figure 2.1, the process of an electronic message moves through an encoding/decoding process. The message is produced, circulated, distributed/consumed and reproduced. Digital gender, in a 3D immersive environment, is presented through a computer screen using pixels and codes and moves very similarly through this model. In order for gender to become digitized, it must be coded, shared, used and shared again. Hall's encoding/decoding model, when applied to television, illustrates the process of the circulation circuit from when it is encoded by the sender and decoded by the receiver. Because gender is often defined as a performance, the importance of interpretation factors significantly into the encoded and decoded messages of gender through a screen.
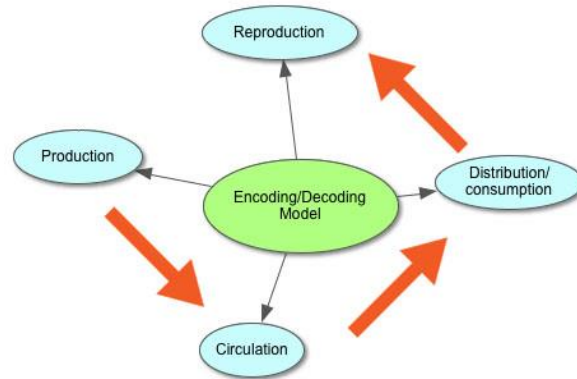
Figure 2.1: Stuart Hall's Encoding/Decoding Model.

Much like the television, the computer screen acts as a tool for the production and dissemination of mass communication messages. Hall (1981) suggested that messages move through the screen in four stages. The four stages, production, circulation, distribution/consumption, and reproduction, are noted as being "relatively autonomous" from each other. According to Hall, the coding of each message has a "complex structure of dominance," as each stage is imprinted by institutional power-relations (p. 2). In other words, while each phase is part of a circuit, it is the "operation of codes within the syntagmatic chain of a discourse" that controls the reception of the message (p. 128). According to Hall, social location in the interpretation of mass media texts is largely responsible for the decoding to be different from the intended meaning by the encoder of the message. Hall expanded on Umberto Eco's (1965) term, "aberrant decoding," or a text that has been decoded by means of a different code from that which was used to encode it. Hall referred to the phases of encoding/decoding as *moments*, which he saw as "linked but distinctive moments" (Hall, 1981, p. 128).

While many scholars have adopted Hall's terminology of "moments," John

Corner (1983) offered a definition for each phase, which is appropriate for this

dissertation's theoretical framework. According to Corner, the *moment of encoding*

speaks to the institutional practices and organizational conditions and practices of

production (p. 266). Though Corner is mostly referring to the delivery of content in

general terms, the content of digital gender (presentation and performance) is

disseminated following the same principles. Essentially, it is Linden Lab (owners of

Second Life) and the developers on the grid that are responsible for providing the tools of

producing in developing digital gender. These tools, like the forced identity reduction in

the registration menu, allow only so much flexibility, as they are still being controlled by

organizational conditions. These conditions dictate the extent to which one can control

their encoded gendered messages.

If gender is a requirement in the registration menu and necessary to gain entrance

into the world (an imposition of power by Second Life creators), then the practices of

production are influenced first and foremost by one's gender. The importance of gender

is a primary concern and the limited gendered options available mean no one escapes

gender assignment in this organization. Gender in a 3D immersive world is presented

through a *moment of text*. According to Corner (1983), the *moment of the text* is the

symbolic construction, arrangement and performance of an encoded message. In Second

Life, this can be seen in the aesthetic choices made for gender, and how they are arranged

and performed. The performance of this text also includes programmed gestures and

movements. There are a number of options in this moment, both from the encoder and

the decoder, which present nuanced insight into how gender affects the experience one

will have in this environment. For example, after the moment of text, there is the

moment of decoding, which is the moment of reception/consumption by the

reader/viewer (Corner, 1983, p. 267). For Hall (1980), there are embedded codes within

this moment. Hall noted that "the level of connotation of the visual sign, of its contextual

reference and positioning in different discursive fields of meaning and association, is the

point where already coded signs interest with the deep semantic codes of a culture and

take on additional, more active ideological dimensions" (Hall, 1980, p. 133).

Hall (1981) located ideology in cultural representations and signifying practices

for the encoding/decoding model. According to Hall, ideology is "those images, concepts

and premises which provide the frameworks through which we represent, interpret,

understand and 'make sense' of some aspect of social existence" (p. 31). As a critical

scholar, Hall recognized that the dominant ideology imposed by the ruling class has a

direct effect on the interpreted meaning of a message to the masses. O'Donnell (2005)

also emphasized the cultural influences involved in interpretation. According to

O'Donnell, "many meanings can be made from a single scene because viewers observe

and interpret images and supporting dialogue through the lens of their own cultural

experiences" (p. 522). The lens of cultural experience greatly influences the ways in

which gender is encoded and decoded. How this information is presented through the

computer is best understood through applied media aesthetics.

Applied Media Aesthetics:

The definition of aesthetics is an ongoing interdisciplinary debate, but in general

terms, it refers to the physiological response to what is defined as pleasing, striking

and/or noticeable to the eye. Aesthetics is a visual composition of encoded and decoded messages. More specifically, aesthetics often dictate how visual messages are interpreted, the meaning assigned to them and the reinforcement of societal norms. Because digital gender is presented through a visual digital medium (computer monitor), attention to the digital components used for this display is essential to this theoretical framework.

Dake (2005), a Visual Communication scholar, suggested that aesthetics are "not about 'things' but about systems of ecological relationships and the process that creates these relationships and aid in their interpretation" (p. 6). For Dake, aesthetics are more related to cultural constructions than to the projection of imagery. Though this is crucial to understanding the sociology of digital gender, Zettl (2005) offered an applicable framework for aesthetics theory through his work on applied media aesthetics. According to Zettl, applied media aesthetics are comprised of five basic aesthetic elements, *light and color*, *two-dimensional space*, *three-dimensional space*, *time-motion*, and *sound*. These elements make up the fundamental components used for the creation of television, film, and computer-generated images. For Zettl (2011), these elements are responsible for the encoding and decoding of digital messages and as noted, "despite the enormous changes that the digital revolution has brought about in video and film production hardware, software, and production methods, the basic media aesthetic principles still stand. In fact, because of the vastly increased choices in digital audio and video manipulation, media aesthetics have become an indispensable tool for structuring content" (p. 3).

The theoretical framework of this study suggests that the process of constructing and performing digital gender to others in the 3D immersive environments is more than

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moving through a circuit of communication; it is wrapped in ideology and social position. Digital gender is the result of encoded and decoded messages. These messages develop from and overlap elements of identity, culture, digital ethics and media aesthetics. Acknowledging each of these components in the phenomenon of digital gender provides an opportunity to explore and present a new discourse on the important overlap between physical and digital reality. More specifically, this literature review sets the foundation for examining the complex nature of constructing and performing digital gender and also shows the gaps between fields and the need for continued research on life behind and from within the screen. Essentially, the literature and theories presented here support the research questions of this study.

CHAPTER III

METHODS

The intention of this study was to examine data collected on the digital

experiences of 75 community college students using Second Life in the Simulation and

Game Development Initiative (SGDI) of the Summer 2010 term. Through a multi-

method approach, these data were collected through online questionnaires, forums and a

focus group. The quantitative data from the questionnaire and forums provided the

demographic and background information of the students, while the qualitative data

provided perspective and context to the research questions of this study. Providing a

framework for how these data were coded, analyzed and interpreted is the purpose of this

chapter. Therefore, it is important to reiterate that the SGDI program was federally

funded by the National Science Foundation (NSF) to increase enrollment in computer

science-related courses, specifically increasing the percentage of such under-represented

groups as women and minorities. During the four-year duration (2009-2012) of the SGDI

program at Lane Community College, there were 985 participating students (829 college

and 156 high school students). In each term, there were two sample groups of students,

those who met in the face-to-face classroom and those who met only online; but all

students were required to create online identity (an avatar), and engage through a 3D

virtual environment.

In the Summer 2010 data obtained for this study, 75 community college students

(male and female) comprised two of the SGDI computer science classes. One class was

new to the SGDI program, titled "Introduction to Second Life" (CIS 125SL), and the

other was an established course, titled "Introduction to Game Development" (CIS 125G).

The instructional design of the classes utilized a project-based curriculum where the

majority of instructional content was presented via Moodle (an open source Learning

Management System that organizes and manages course content and interaction). For the

Summer 2010 term, Moodle was used as part of a fairly new pedagogy known as the

flipped classroom. Flipped classrooms were designed for all curriculum to be presented

upfront for students so that they would have access anytime, prior to the class and after

the class, to practice and exercise what was being learned. During the SGDI program, the

flipped classroom was combined with Second Life to offer a more immersive experience

for students.

> According to the SGDI final report,
>
> The original goals of this project were to see if it was possible to use Second Life
> to replicate the in-class mentoring and project times and to recruit more students
> into the Computer Simulation and Game Development program at Lane,
> especially more female students. During the extension year of the project, we
> focused efforts on modifying the curriculum to encourage student collaboration,
> creativity, and a more explicit teaching of computing concepts (Richter and
> Bailey, 2013, p. 3).

In Fall term of 2010, the second year of the SGDI program, it was noted that

students using Second Life were having a positive experience with it for the classes. It

was also noted that regardless of gender, student performance was the same. This was a

significant finding for the SGDI program because it meant that the platform of Second

Life provided a gender-friendly environment for the introduction and interest in computer

science classes, for both male and female students. According to Richter and Bailey

(2010),

[There is] a positive experience for students using Second Life as a platform in class. There is no difference in outcomes depending on gender of student or on instructional medium. Of interest to the SGDI effort is that female students performed just as well as male students and that students who took the class without benefit of face-to-face physical interactions with fellow students or teacher following the initial day of class at the beginning of the term performed just as well as those students who came to class on the Lane Community College campus every week (p. 5).

Similar to Turing's "imitation test," the SGDI program was designed to use gender as the primary variable for empirical findings. Because the SGDI program's purpose was to examine female enrollment in computer science classes, data were collected to use gender as a means of understanding the human/computer relationship. As noted in Appendix A, access to these data were possible because of an established relationship, trust and the author having previously worked as an external evaluator for the SGDI program. The process of establishing a scholarly relationship with one of the PIs (primary investigators) in 2007 and gaining access to the SGDI program data from Summer 2010 term is provided in screenshots in Appendix A.

Data Analysis of Questionnaires:

The quantitative demographic and background data, collected through the three questionnaires, were provided for the students through Moodle. Titled as "Starting Out," "Background" and "Exit Survey," each questionnaire was presented as an assignment with numerical credit for the final grade. Students could voluntarily fill out the questionnaires anytime during the course, with the exception of the "Exit Survey," which was assigned during the last week of the term. Because the questionnaires were not made mandatory, there were never 75-person responses to each question presented in the

questionnaires. Still, there were 116 questions presented in the combined three

questionnaires that garnered valuable input, usually ranging between 25-45 responses per

question. In the "Starting Out" questionnaire, 13 questions asked for demographic

information like major, ID number, full name, and sex. However, the seven questions of

this questionnaire, presented in Table 3.1, provided more depth regarding 3D immersion

into Second Life.

Question topic:	Type of question:
Which group	Dichotomous question (In-world or Face-to-Face)
Avatar Name	Open-ended question
New Avatar	Multiple choice question (New avatar and new to Second Life; New avatar but not new to Second Life; Not a new avatar)
Starting Zone	Multiple choice question (six different entry point options into Lane Island in Second Life)
Starting Zone not what was expected	Open-ended question
Starting Zone was good	Open-ended question
Experience in Second Life so far	Open-ended question

Table 3.1: Selected questions presented in "Starting Out" questionnaire

The "Background" questionnaire asked 33 questions. These questions were

designed to focus on the space of the 3D immersive environment and the relationship

students had prior to the class with gaming, programming and engaging with others

online and offline. In this questionnaire, only seven open-ended questions were provided.

These questions provided personal narratives for deeper analysis. With the exception of

name, major and hours of gaming, students provided rich text for why they were taking

the class, personal goals for the class, and why they do or do not play online games. In a

more quantifying approach, there were 26 questions presented through multiple choice, Likert-type scale or semantic differential scale. These questions were categorized into "experience," "type" and "interest," as presented in Table 3.2.

Likert-type scale:	Multiple choice:	Semantic differential scale:
• Experience with online education • Experience with Second Life • Experience with other immersive worlds Experience with simulation games • Experience with online role-playing games • Experience with other online games • Experience programming • Experience scripting	• Types of social games • Types of first person shooter games • Types of strategy games • Types of card games • Types of exploring world games • Types of sports-physical • Types of sports-simulate • Types of role-playing • Types of board games • Types of word games • Types of game puzzles • Types of other games	• Interest in hanging out online • Interest in social media • Interest in solving social issues • Interest in starting a business • Interest in creating games • Interest in using Second Life for learning

Table 3.2: "Background" questionnaire used for the analysis of this study.

The last questionnaire, "Exit Survey," asked 70 questions. Once again, this questionnaire gathered the basic demographic information but it also collected in-depth reflections of course content and experience in Second Life. Overall, this questionnaire provided the most feedback regarding student perception and was of most value to the SGDI program. As a breakdown to the questionnaire, there were four types of questions asked: multiple choice, Likert scale, dichotomous and open-ended (see Appendix B).

Selection of Questionnaire Data for Analysis:

The SGDI program data were originally collected to help answer why more female students weren't enrolling in computer science classes. Although these data weren't specifically about gender, the focus of females in computer science as a field structured the program to inadvertently collect data that dealt with digital gender. Still, most variables were based on the perceptions of the flipped classroom instruction and previous experience with gaming and Second Life. Therefore, a significant amount of these data, which were not necessary for answering the questions of this study, were omitted for analysis. However, the questions in Table 3.3 (presented below), taken from the combined three questionnaires, did warrant inclusion for analysis. It is also important to note that the questions of "gender" and "age" were not asked until the "Exit Survey." Therefore, it was necessary to color code gender on the students' names in the "Exit Survey" spreadsheet and then apply that code to the other two questionnaires.

Because these data were still in raw form when obtained for this study, it was necessary to code and analyze them for demographic and background information. Therefore, in order to produce effective correlations and quantifications that applied to this study, the statistical analysis software (SPSS) was used for analysis of these data. Crystal Shackleford, Graduate Research Fellow from the Department of Psychology at the University of Oregon, was hired to help set up SPSS for the statistical analysis of this portion. Table 3.3 shows the final list of questions selected for coding and running through SPSS.

"Starting Out"	"Background"	"Exit Survey"
• Name • Major • New Avatar • Experience in Second Life so far	• Name • Major • Hours gaming • Experience with Second Life • Experience with other immersive worlds • Experience with online role-playing games • Interest in hanging out online • Interest in using Second Life for learning • Interest in social games	• Name • Major • Age • Gender • Opinions about Second Life prior to the class • Engagement comfort level in a face-to-face format • Engagement comfort level in a blended face-to-face and online format • Engagement comfort level in meeting sometimes in Second Life for class • Engagement comfort level in meeting all the time in Second Life for class • Previous hours spent in Second Life prior to class

Table 3.3: Complete list of all questions used for analysis of this study.

Through a system of coding and creating numerical values for the open-ended questions, several SPSS tests were run on this portion of these data. The first test conducted was the Pearson Correlation Coefficient. This test presented correlations specific to gender. If there was significant relationship, association and/or correlation of .05 or less, the Means Table was used to show the difference and patterns between groups, which later presented a need for interpretation of the correlation. Following the Means Table, an Independent t-test was used to further examine differences between dependent variables and groups (for example, men and woman). From this process, the

significance (P), means (M) and degrees of freedom (df) were found. One example of this can be seen in the following equation formulated from a t-test within the SPSS software regarding interest in social games dependent on gender:

> Women (M=3.30, SD=1.22) expressed significantly more interest than men (M=2.52, SD=1.33) in social games, t(70)=2.27, p=.03.

> Key: 70 is degrees of freedom, df
>   p significance, .026, rounds to .03

The second test conducted used cross-tabs to indicate what data showed regarding gender, age and other significant correlations (Appendix E). Additionally, the Frequency Table was used to show trends. In total, 24 frequency tests, 57 cross-tabs, two means, two Pearson correlations, and two t-tests were run on the questionnaire data. Through all of these tests, it was determined that these data were informative of the demographic and background information on participants, but were not informative in terms of answering the research questions of this study. Therefore, most of the tests repeating findings or showing no significant correlation were not included in the findings. In any case, these data provide only the demographic and background information of the SGDI program and provide context for the seven focus group students who came from these data.

Data Analysis of Forums:

The forums, also presented through Moodle, were largely used for discussions about course content and assignments. However, there were three topic threads that discussed elements of digital gender. Although the SGDI program collected these data, they did not use them in their final report, nor did they code or analyze these data.

Therefore, these three topic threads, "Who am I and why am I here?" (41 posts), "What's in a name" (104 posts), "Should avatars really look like you?" (81 posts), were coded and categorized for analysis in this study. To begin, each forum thread was posted with a description regarding the topic.

"Who am I and why am I here?"
"This forum is for us to get to know each other. Please post a brief introduction of yourself, including such things as why you took this course, what your previous experience with Second Life is, what computer games you play (if any), your favorite web sites, your major, and any other personal information you would like to share with your fellow students."

"What's in a Name?"
"You had to create a name for your avatar. Why did you choose this particular name? What connection does it have with your real-life identity? How did you pick a last name to go with the first name you created? Please post your answers to these questions as a new discussion topic and respond to at least two other students using the reply button. You can earn up to 10 points per posting."

"Should avatars really look like you?"
"As you travel virtual worlds like Second Life, you will see a lot of "interesting" choices for avatars. Some are very ugly. Some are very pretty. Some are quite realistic humans. Others are bizarrely un-human - not even animal. You'll see cartoons, ghosts, and just about anything that can be imagined. Some people really want their avatar to look like them. Others really want an avatar that looks NOTHING like them. While you have uploaded your profile here on the class Moodle so we can see, generally, what you look like in "real life" - you can choose what you want to look like in Second Life. You'll be able to change how your avatar looks at anytime. So the question is... how do you want to present yourself and why? Please post your own response to this question as a new discussion topic. Also please read the posts by other people and respond to at least two people using the reply button."

The process of coding and categorizing for analysis relied heavily on isolating key terms and/or phrases. For example, 34 students contributed posts to the forum thread, "Who am I and why am I here?" Each post was analyzed for key words and phrases. Using a color-coding system, these words and phrases were highlighted in different colors to signify emerging themes. After the coding was complete, official titles were

created that best embodied the overall themes. These titles were then used for presenting

findings from the forum threads.   This system of analysis was consistently used in all

three forum threads. Using this "scissor-and-sort technique" provided a quick and

effective method for analyzing the data from the forums although there are limitations

with it. According to Stewart (2007), "the scissor-and-sort technique is a very useful and

efficient approach to analysis, but it does tend to rely very heavily on the judgment of a

single analyst" (p. 117). As such, these data provided another layer to the demographic

and background information and transitions into the qualitative data collected through the

focus group.

Data Analysis of Focus Groups:

The focus group data specifically dealt with digital gender construction,

performance and experience. The approach for analyzing these data was to discover

major ideas and themes that emerged from the group discussions, thus providing the

context for the research questions. As noted by Stewart (2007), "some approaches to

analyzing focus group data are, in comparison with hermeneutics and semiotics,

relatively theoretical. This is particularly true of marketing studies that seek to discover

the major ideas and themes that emerge from the group discussion" (p. 113). While this

study is not about marketing, it does seek to discover major ideas and themes that explain

habits and trends of certain populations. Therefore, these data required a great deal of

organizing, interpreting and reframing in order to identify these themes. Although a

small percentage of the SGDI program students volunteered to participate in the focus

group, the data that emerged from this method addressed the research questions of this

study and provided the most insight into digital gender. The importance of the focus

group in this study was paramount and as Stewart (2007) noted, qualitative data from

focus groups can be and are equally as informative as quantitative data (p. 109).

The focus group consisted of seven students from the 75 students in the SGDI

program classes of the summer 2010 term. More specifically, after all 75 students were

invited to participate in the focus group through an announcement at the beginning of

class, seven volunteered to participate. This announcement was then followed by the

distribution of flyers that were handed out after class (see Appendix C). During the first

week's recruitment, seven students agreed to participate in the focus group and to meet

every week thereafter to discuss their digital experiences in Second Life. During the first

focus group meeting, all the students were given a questionnaire for more detailed

background information. This questionnaire collected more specific background

information on the focus group students. Through the following seven questions, detailed

profiles of the focus group students emerged.

Questions included:

1. Who are you in the physical world (name, age, gender)?

2. Who are in you Second Life (If you have more than one account, list all your avatars to include their names, ages, gender)?

3. Why are you interested in 3D immersive worlds?

4. When did you start engaging in 3D immersive world?

5. Why did you start engaging with 3D immersive worlds?

6. What worlds do you belong to?

7. Do you have a primary avatar that you use most often? Who is it?

For each weekly focus group meeting, students were prompted to discuss issues of identity, ethics, aesthetics and the culture of Second Life. From within these topics, issues, experiences and observations were shared among group members and recorded via notes and screenshots. Notes were recorded by hand and digitally, and screenshots were taken of what was happening in Second Life as the group was meeting. In total, 23 hand-written notes, 24 digital notes and 65 screenshots were collected from the focus group. Data from these notes were then analyzed and interpreted to find meaning for the research questions. There was a deliberate choice to not video or audio record the students as it was part of the original agreement with the SGDI program PIs.

Interpretation of the Data:

Through a positivist approach, the method of data analysis utilized quantitative measurements for the questionnaire and forums. As Wimmer and Dominick (2006) suggested, positivist practices in social science should be public, objective, empirical, systematic and cumulative, or, in other words, quantifiable. However, as Weber (1968) argued, the problems of using a purely positivist approach without interpretation is like building an "iron cage" composed of control, prediction, measurement and efficiency. According to Weber, the meaning behind the behavior, the interpretation, provides the real value and meaning from data. Therefore, the process of interpretation in this study addresses the research questions.

Through deductive logic, the SGDI program was set up to identify why women weren't taking computer science classes as much as men were. For the SGDI program, the goal was simple: Implement the four-year program, collect data and derive findings.

This deductive method provided a significant amount of statistical data and was nearly enough to fulfill the SGDI program research agenda. However, the incorporation and emphasis on the rich qualitative data, collected from the focus group, provided another layer. More specifically, the focus group data presented more meaningful views of the day-to-day experience with Second Life and digital gender.

Because of the nature of using a focus group as a method, the location, both physically and virtually, is important to the analysis of these data. According to Hall (1982), the location of the researcher and the participants is relevant when trying to understand how information is revealed and represented. Hall also argued for self-reflection of the researcher in the representation of others and to note who is being represented and who is omitted. Like Hall, Geertz (1973) noted the importance of the researcher in a study. He argued that the role of the researcher is essentially a translating tool used to give data meaning. Geertz described "thick description" as interpretation of interpretations and, while a researcher can never be an insider, he/she can gain "local knowledge" and provide detailed analysis of the culture. Because the focus group met in person for nine weeks during the Summer term of 2010, the researcher became part of the group mentality. The focus group students not only shared information regarding the focus of this study but they also shared personal stories and experiences with the researcher. For the students and the researcher, the only separation between them was the role of spectatorship. As is suggested by Behar (1996), there is immense value to data collected and to the participant experience when a researcher is willing to share the "exposure of the self who is also a spectator" (p. 14).

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Data from screenshots contain an abundance of computer-mediated symbolism. From body, hair, skin, makeup, clothing, jewelry, accessories, color choices, poses, locations, etc., the symbolisms presented in these screenshots indicates how people relate to things in 3D immersive environments and ascribe meaning to them, otherwise known as "symbolic interactionism" (Blumer, 1969). How meaning is ascribed to these symbols is an important part of analyzing digital gender. Being able to analyze these screenshots requires an acknowledgement of semiotics in a digital context. Because of this, the screenshots, which are full of the signs and symbols, are used as forms of rich text to be read. By reading and interpreting this type of rich text, meaning is assigned and therefore indicates findings. According to Carey (1975) and Hebdig (1979), "rich text," like the screenshots, provides the most representational context for what is being analyzed.

For focus group data being analyzed in this study, the issue of how they were collected is important to note. Because the majority of the qualitative data were collected through digital media, there are representational issues over the implicit and explicit choices being made by the students. Corner (2000) referenced the influence of media in research as *explicit* or *implicit*. In this case, people make explicit choices for their digital representations in the form of avatars, yet there are implicit choices that are present in gender construction. It is the implicit choices being presented that are contextualized, interpreted and analyzed. This is especially true from the detailed text collected from the focus group. For example, several focus group students provided explicit narratives regarding their digital experiences but these narratives also contain numerous implicit messages regarding their digital gender.

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The representation of people on a screen is not something new, but McChesney (1993) questioned why more academic emphasis isn't given to the influence of media in society when it is such an integral part of it. The focus group data provide context to the influence of media in society. This is because qualitative data are more effective than the quantitative data in addressing the research questions by providing personal narratives. Thus, as Miles and Huberman (1994) suggested, "qualitative data can preserve chronological flow, see precisely which events led to which consequences, and derive fruitful explanations" (p. 1).

Designed to explore digital gender as a methodically, culturally constructed process with notable effects, the data analysis presented here begins with the quantitative data, collected through questionnaire and forums, during the Summer term of 2010. The primary purpose of these data is to establish the demographic within this study and provide insight into background and experience within 3D immersive environments. While the quantitative data provide this information, they also provide a base for the analysis of the qualitative data collected from the focus group. The rich data collected during the focus group provide more meaningful day-to-day experiences with Second Life and the students' digital gender. It is within these qualitative data that the research questions, *how digital gender is constructed*, *what the affects of digital gender are in Second Life* and *how digital gender effects physical reality*, are finally addressed.

CHAPTER IV

FINDINGS AND ANALYSIS OF QUANTITATIVE DATA

Demographics and Background:

Because the SGDI program was designed to examine women in computer science classes, the demographic and background findings from the quantitative data do not directly address the research questions of this study. Rather, this data set provides context for the following chapter regarding who the focus group students were and where they came from in relation to this study. More specifically, the findings in this chapter provide a quantitative look at the community college demographic, how these students became immersed in Second Life, and what types of experiences they had within this process. Therefore, the following findings provide a contextual overview of the SGDI program population during the summer 2010 term, beginning with the demographic.

With the combined 75 students, in the two computer science classes, 77 percent were male and 23 percent female. The average students' age ranged between 22 and 30 (a more detailed breakdown is presented in Appendix D). As noted in Figure 4.1, nearly 71 percent of males and 67 percent of females were new to Second Life and to creating an avatar prior to the class. Figure 4.2 shows that the majority of students in the SGDI program had little experience with Second Life, but those who did have substantial experience were predominately male (see also Figure 4.3).
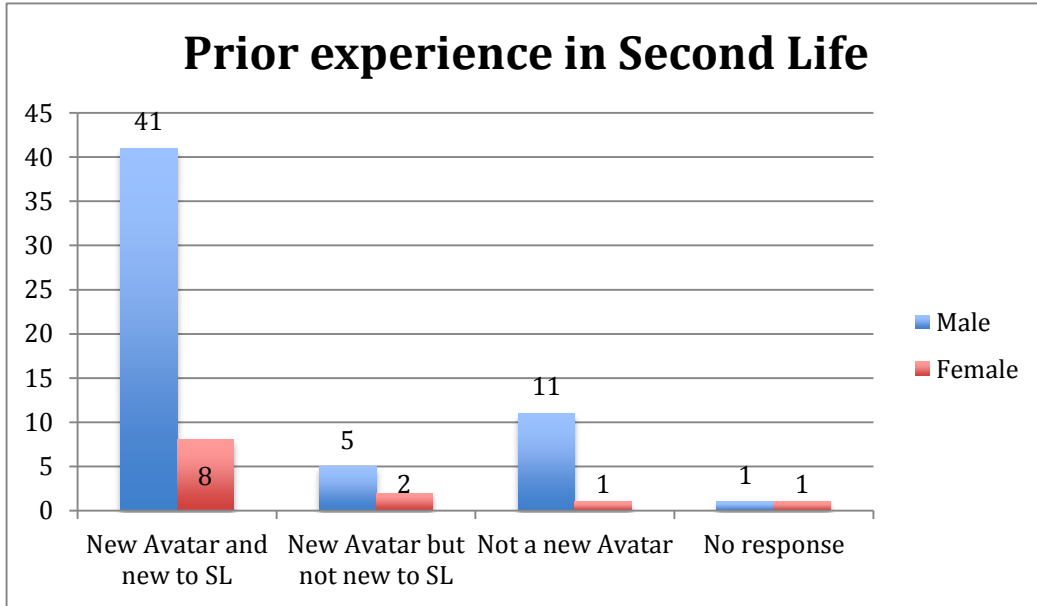
Figure 4.1: Gender difference of prior experience with Second Life before the class.
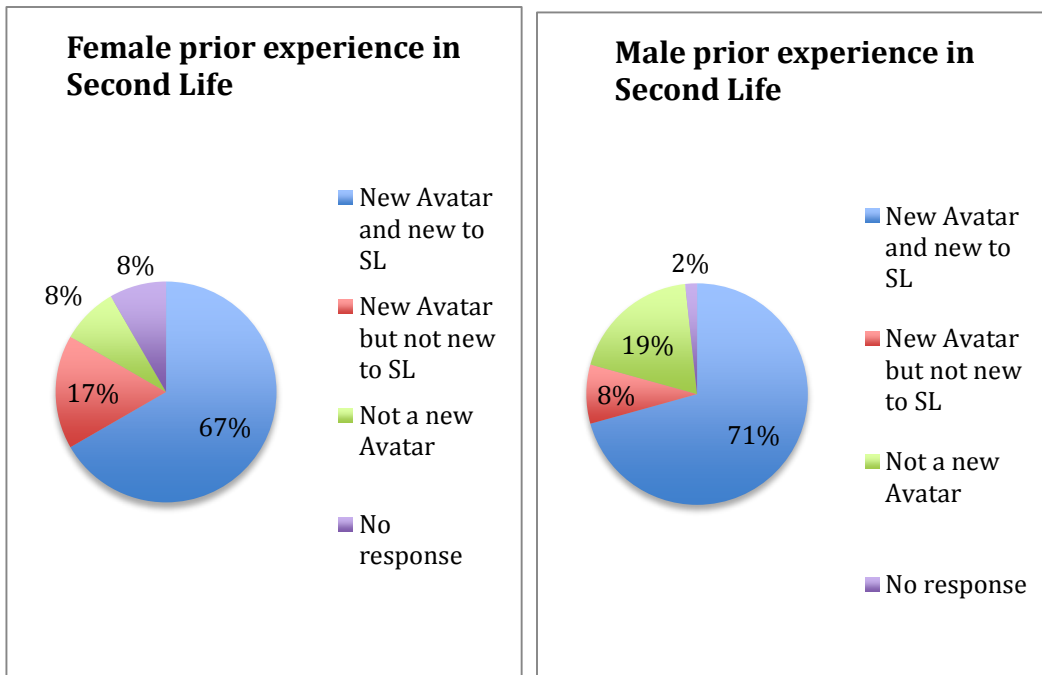
Figure 4.2: Percentage of gender difference regarding prior experience with Second Life before the class.

Time in Second Life prior to class

	zero	a little	average	a lot
Female	9	5	2	2
Male	43	8	5	1
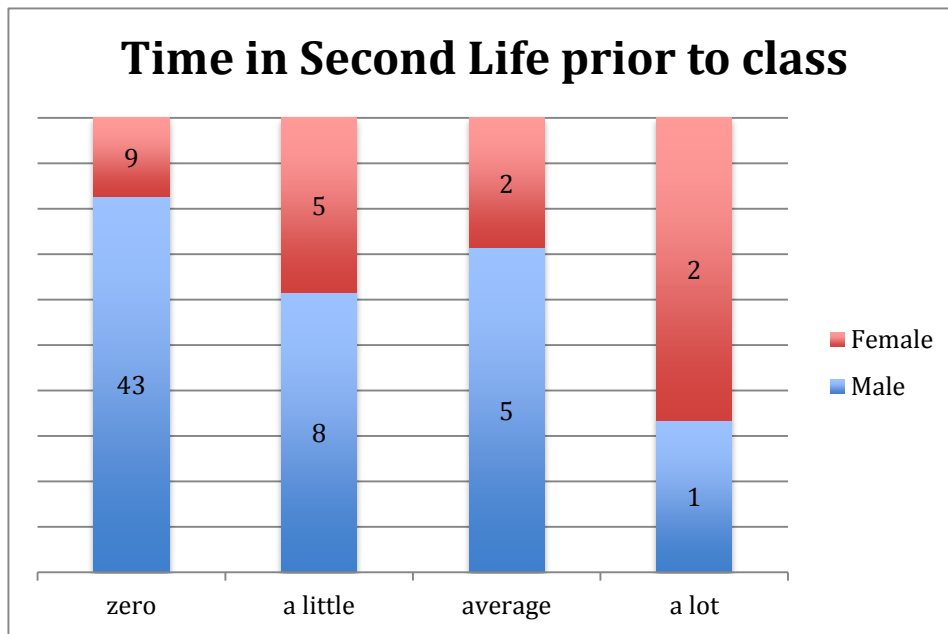
Figure 4.3: Gender difference between the amounts of time spent in Second Life prior to the class.

Table 4.1, the data for which was obtained via responses to a Likert scale, shows the variation of gaming experience. Twelve percent of students reported that they had zero experience with gaming, 76 percent reported they had some experience and another 12 percent reported that they had over 40 hours invested in gaming prior to the class. Another question, also measured as a Likert scale, asked about personal perception of the 3D immersive world of Second Life (Table 4.2). Although 66 percent reported that they liked it, even if it wasn't what they expected, nearly 30 percent reported that it was "ok", or they were "unsure" or "don't like it." The remaining five percent noted that the 3D virtual space was useful for education, business or work only.

Q06_hours of gaming				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
zero	9	12.0	12.0	12.0
1-5	18	24.0	24.0	36.0
6-10	8	10.7	10.7	46.7
11-15	6	8.0	8.0	54.7
16-20	8	10.7	10.7	65.3
21-25	8	10.7	10.7	76.0
26-30	5	6.7	6.7	82.7
31-40	4	5.3	5.3	88.0
40 or more	9	12.0	12.0	100.0
Total	75	100.0	100.0	

Table 4.1: Detailed breakdown of hours of gaming spent prior to the class.

Perception					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Like it	17	30.4	30.4	30.4
	Not what I expected but like it	20	35.7	35.7	66.1
	Useful for education, business, work only	3	5.4	5.4	71.4
	Don't like it	6	10.7	10.7	82.1
	Unsure	4	7.1	7.1	89.3
	Ok	6	10.7	10.7	100.0
	Total	56	100.0	100.0	

Table 4.2: Perception of the purpose of Second Life is illustrated in this table through Likert scale.

Another series of questions dealt with comfort level of engagement (Table 4.3). Using face-to-face, blended (online and face-to-face) and strictly online as categories, students reported that there was little difference in their comfort level based on location. This finding suggested that the virtual experience of the class was of the same value regardless of being in a physical, blended or online environment.

Q12_online comfort level->in a face-to-face format		Frequency	Percent	Valid Percent	Cumulative Percent
	Not comfortable	1	2.4	2.4	2.4
	Comfortable	8	19.0	19.0	21.4
Valid	Very comfortable	8	19.0	19.0	40.5
	Extremely comfortable	25	59.5	59.5	100.0
	Total	42	100.0	100.0	

Q12_online comfort level->in a blended face-to-face format / online format		Frequency	Percent	Valid Percent	Cumulative Percent
	Not comfortable	0	0	0	0
	Moderate comfort	1	2.4	2.4	2.4
	Comfortable	8	19.0	19.0	21.4
Valid	Very comfortable	11	26.2	26.2	47.6
	Extremely comfortable	22	52.4	52.4	100.0
	Total	42	100.0	100.0	

Q12_online comfort level->in a completely online format		Frequency	Percent	Valid Percent	Cumulative Percent
	Not comfortable	1	2.4	2.4	2.4
	Moderate comfort	6	14.3	14.3	16.7
	Comfortable	11	26.2	26.2	42.9
Valid	Very comfortable	5	11.9	11.9	54.8
	Extremely comfortable	19	45.2	45.2	100.0
	Total	42	100.0	100.0	

Table 4.3: Using a two sample t-test with equal variances confirmed that there were no significant differences in performance between face-to-face instruction and in-world instruction (p=32, df.=55).

In the "Exit Survey" questionnaire, students were asked to provide feedback about Second Life as a platform for engagement and learning (Table 4.4). In addition to multiple-choice questions, opportunities for open-ended responses were presented. It was within the open-ended questions that students explained their overall experience with Second Life after the term. One student noted, "It's brilliant, a little sketchy on the

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graphics, but overall a nice program." Another student noted, "I don't like the way the

avatar looks, but SL (Second Life) is a coders [sic] dream. Why would anyone pay for

something they could make?" A negative response from a student stated, "i didnt learn

anything beyond specific game control freatures from SL [sic]."

Opinion on SL	Total (n=63)		Class 1 (n=35)		Class 2 (n=28)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Positive	20	31.75	8	22.86	12	42.86
Mixed	8	12.70	2	5.71	6	21.43
Negative	7	11.11	2	5.71	5	17.86
No response	28	44.44	23	65.71	5	17.86

Table 4.4: Results from question on Exit Questionnaire about opinion of Second Life after taking the class.

Who Am I and Why Am I Here?

With most interactions online, the Moodle system was used to manage all class

content. Moodle, an open source Learning Management System (LMS), not only

presented the curriculum and questionnaires, but it also provided an opportunity for

engagement and student reflections through the forums. These forums presented several

topics that inspired students to reflect and share their personal experiences with their

identity and interactions on Second Life.

In the first forum, "Who Am I and Why am I here?," students were asked to

identify themselves and explain why they were in the class. Forty-one students

contributed to this thread and provided a couple sentences each describing themselves.

There wasn't an active dialogue in this forum given that the intention was just to provide an introduction, but the thread posts were casual and friendly. As noted in the Figure 4.4, 59 percent of students identified as being gamers and wanting to gain more coding skills, 29 percent noted they were new to gaming and 3D immersive worlds but expressed interest in learning something new. Regardless of whether they were new or experienced with Second Life, 12 percent of students reported that they were taking the class because it looked like fun.
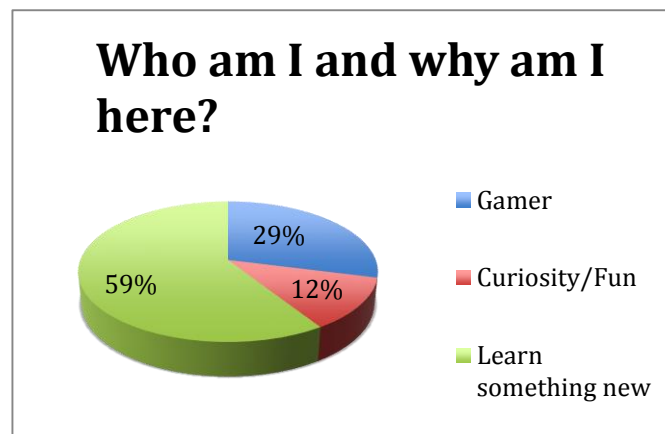
Figure 4.4: Results of the 41 posts that were coded for key words and phrases.

In the forum post, "What's in a Name?," students were asked to explain how they chose their avatar's name and what connection it had to their physical world (Figure 4.5). This was the only forum post where students were given class credit for participation, which encouraged the 104 posts made to this tread. Over half of the students noted that their avatar's name had a personal connection. Many students referenced their own names, children's names, pet names and nicknames in the naming convention of their avatar. Some students shared personal stories and the real significance of their avatar's

naming process. For example, one student noted:

> It's been my avatar forever. I'm even changing my real life name to ████ It came at a time in my life where I needed to make some real big changes, or die. I chose to pick a persona for myself and become that person, or my idea of who I want to be. Over the years I have become my ideal person and have left that other person in the foggy past. I like my new name and it's followed me into my virtual world. It's also the name of my favorite character in a book I like (name I don't remember just now, Wise Child I think). [Some text omitted to preserve this student's real world identity]
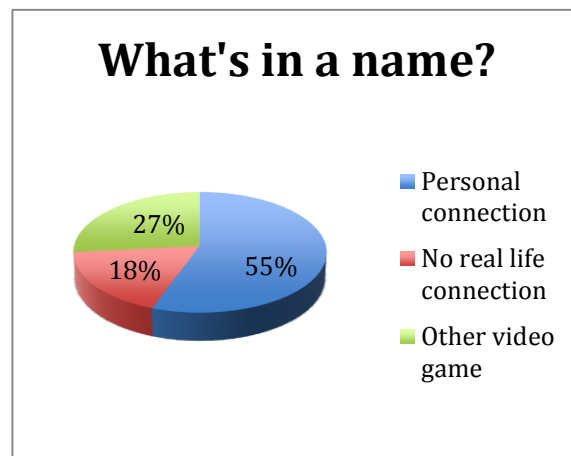
Figure 4.5: Affiliation to avatar name.

The last forum thread analyzed for this study, "Should avatars really look like you?," had 81 posts (Figure 4.6). Here, students discussed the choices they made for how their avatars appeared in Second Life. There was a lot of rich data in this thread regarding the personal reasoning for why the students created their avatars to look the way they did. After coding these posts, four primary categories emerged as consist themes regarding the visual appearance of their avatars.

1. **Expression**: Being who you feel you are no matter what you look like in the physical world.

2. **Reason**: Being whom you need to be based on the purpose for being in Second Life.

3. **Physical Reality**: Being as close to what you look like in the physical world.

4. **Fantasy**: Being an extreme version of self, a different form of what you look like and feel like in physical reality.
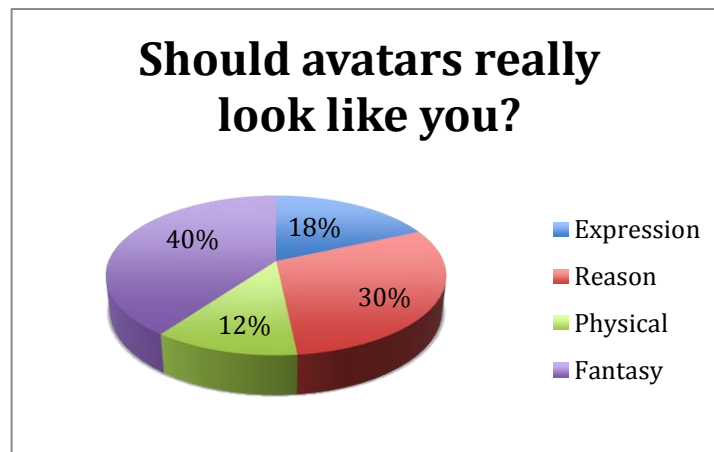
Figure 4.6: Reasons for avatar appearance.

While 30 percent reported that the construction of their avatar depended on what the reasons were for being in Second Life, 40 percent stated that no matter what, the construction of their avatar should be about exercising fantasy. Within the "reason" category, there was a lot of discussion about business purposes versus leisure and how this ultimately affected the look and performance of their avatar. They noted that if the reason was for business or for a class, the avatar should look more like one does in their physical life. Still, only 12 percent reported that the construction of their avatar should resemble their physical self, while 18 percent noted that self-expression was most important. For the students, self-expression was constructing the avatar to represent how

one feels about what they really are, not just what they physically look like.

As previously stated, the findings from this quantitative data provided overview demographic and background information of summer 2010 term. In order to get more qualitative data regarding this population's experiences with digital gender, a focus group was implemented during this term only. Therefore, the following section introduces the focus group students while a more detailed analysis of the focus group will be presented in the next chapter.

Profiles of the Focus Group Students:

In the beginning of the term, all students were given flyers describing the focus group (Appendix B). Out of 75 students, seven agreed to join the focus group (Figure 4.7). Each of these students agreed to participate by returning the flyer with their signature at the bottom consenting to participate. The age ranged from 25 to 45 and four identified as female and three as males in the physical world. While each student provided context to the research questions, four of the seven ended up providing most of the narratives for digital gender construction, performance and experience in Second Life. Most of these narratives were shared in weekly one-hour meetings held in a small gathering room at the community college. These narratives often dealt with economic and social issues, the binary sex system, exploration of sexuality and performance of gender roles. The adult entertainment industry emerged as a major theme among the active participants in the focus group, which will be presented throughout the following chapter. Also, there were several accounts of unemployment and homelessness presented in these data that indicated deeper issues of class. Although this is considered a

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significant factor, to include class as an independent variable in this study would have exponentially widened the scope and focus. Therefore, it was decided that class was both a limitation within this study and also a suggestion for inclusion in future research. In any case, the SGDI data collected during the focus group references class in the student profiles, but the focus remains on their construction, performance and experience of digital gender.

Figure 4.7: Screenshot of four of the seven participants (one participant presented two of his avatars for the group photo) and the researcher (after a makeover, which is discussed later in this section).

The following sections provide the profiles of each student in the focus group, starting with the most active member who was also deeply invested in digital gender. In order to keep the focus group participants anonymous, only part of the students' avatar names are used for identification. Thus, the following profiles introduce Dakota (The

Male Exotic Dancer), Angel (The Adult Entertainment Wife), Kaishado (The Adult

Entertainment Manger Husband), Cobra (The Newbie), Saffir (The Gorean Slave),

Juniper (The Fantasy Player) and Katryna (The Critic).

The Male Exotic Dancer:

      Dakota introduced himself as a 43-year-old married male with one child, a 14-

year-old boy. He explained how he had come to Second Life a year earlier due to a work

related injury. Dakota had been working in the construction business for most of his adult

life. While on the job, he injured himself and needed surgery that would lay him out for

several months. Having been such a busy person and starting to feel the onset of

depression, while rehabilitating his injury, a friend of his, who was paraplegic and an

active user of Second Life, recommended he give it a try. His friend explained that

Second Life would recreate mobility and be entertaining. Dakota joined and almost

immediately gravitated towards the adult entertainment groups and spaces in Second

Life. After a short time of immersing into Second Life, Dakota noticed the Second Life

economy. For Dakota, this was an important discovery because he had been out of work

due to his injury and was increasingly growing concerned over his finances. Once he

understood the selling and buying of virtual goods and the currency exchange from

Linden dollars to US dollars (Linden dollars are the currency in Second Life, which

exchanges for physical world money, equaling approximately $275 Linden dollars for $1

USD), he began creating virtual goods to sell. This process eventually led Dakota to

becoming a male exotic dancer in Second Life and eventually making enough Linden

dollars, exchanged in USD currency, to pay his real life mortgage (this experience is

further explored in the following section). In addition to the male exotic dancer, Dakota noted that he had 19 avatars that he constructed and performed in Second Life.

The Adult Entertainer Wife:

The second participant, known as Angel, introduced herself as a 35-year-old woman who had been on and off Second Life prior to the class for two years. She noted that she and her husband decided to take the class together as a fun activity. Her husband, whom she had known since middle school but didn't date until an adult, was also part of the focus group. Angel explained her husband was more experienced with SL and other 3D immersive environments and was the one who introduced and encouraged her to participate.

Angel only constructed one avatar, a female, which she tried to make look like her physical self. She noted that she wasn't that fond of Second Life because she was more invested in another 3D immersive environment known as the "Red Light Center" (RLC). According to the Red Light Center website, this is an adult virtual world that is a "safe environment to explore your deepest sexual fantasies and desires." Angel noted how she had worked the clubs in the RLC as an exotic dancer and sex worker, although she didn't make any money from it like Dakota had in Second Life. Angel stated that the RLC was a problem in her physical life because she was easily spending 70 hours a week there, leaving little time to work on her class assignments. She also stated that even though she and her husband exchanged wedding vows in the Red Light Center, it was affecting their marriage.

Angel also talked about her personal struggles. For example, Angel shared that her children were in foster care and she was working hard to get them back. She also shared that she and her husband were homeless, though they had access to a stationary RV their church had provided for them. Angel and her husband would often be late for the focus group meeting and eventually stopped coming altogether. She apologized in the beginning, noting their lack of reliable transportation.

The Adult Entertainment Manager Husband:

The third participant, Angel's 34-year-old husband, known as Kaishado, noted that he, too, had been on Second Life for two years prior to the class. On his own, Kaishado had obtained a fair amount of knowledge about the workings of Second Life and offered help to other students in the class when they needed it. Though he had a primary male avatar he used in Second Life, Kaishado had three in total: two males and one female. He noted that he constructed each avatar for specific reasons, though he didn't elaborate. Like his wife, Kaishado had been deeply involved in the Red Light Center and eventually got a paying job as an Events Manager there. However, Kaishado stated he had grown tired of the politics there and quit the job. He made the decision to fully quit the Red Light Center and move over completely into Second Life. Kaishado noted he was majoring in Computer Science and had dreams of opening up his own computer repair shop.

The Newbie:

The fourth participant, Cobra, a 37-year-old man, noted he had never been to Second Life prior to the class and decided to take the class for fun. Cobra talked about being employed at an RV factory that had gone out of business three years prior. Without any job prospects, Cobra registered as a student, mostly to receive some financial aid. Cobra was often very quiet and didn't share much during the focus group. Still, he came to every meeting and was often eager to try out anything suggested by the other students. One example of this included reconstructing his avatar to make him appear more "masculine." Fellow student Dakota gave Cobra new skin for his avatar that was heavily tattooed. Cobra had trouble figuring out how to attach the skin and for several days his avatar appeared with the unpacked box (which contained the skin) attached to his back. This made for some light-hearted joking among the other participants and they helped him correct it the next time the focus group met.

The Gorean Slave:

The fifth participant, Saffir, was a 25-year-old married mother of a one-year-old girl. Saffir noted that she had only been in Second Life for eight months prior to the class. She explained that she used several different avatars to interact with people from all different communities in Second Life. The two primary avatars she used were a female vampire/slave and a female human/tiger breed. Though she didn't need the class for her major in Culinary Arts, Saffir was interested in the class because she spent a great deal of her free time, along with her husband, in Second Life and she wanted to learn

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how to code better. Saffir was one of the most active participants in the focus group and was very forthcoming about her life experiences and what brought her to Second Life.

Saffir shared a personal story about her family history. According to Saffir, who was a larger-framed woman, her great grandmother was one of the original fat ladies, weighing nearly 600 pounds, from the East Coast Barnum and Bailey's traveling circus. She talked about how all of the women in her family were very large and that her size made her self-conscious. When Saffir first joined Second Life, she created an avatar to represent her as a larger woman. She noted that once she was done with the construction, she had an automatic reaction to kill the avatar. In Second Life, it is easy to alter the appearance of an avatar within seconds, but Saffir wanted her avatar to die. To do this, Saffir decided to role-play a death by having her avatar fall from a great height. After this simulation, Saffir deleted the account.

Saffir also talked about her role as a mother, wife and student. She stated that she was the alpha in her marriage and was responsible for most everything. From finances, daycare and transportation to housework, Saffir said that she was tired of being in charge of her life. This translated to the construction of her new avatar. Saffir said that she created a female representation of a woman that she could never be in the physical world. For Saffir this meant a petite, hypersexualized and submissive woman. Eventually, she became involved with the Gorean (GOR) community in Second Life. The Gorean philosophy, based from the science fiction novels by John Norman, promotes the binary sex system through sexual master-slave relationships. According to Saffir, GOR is all about the "order of nature between men and women" and the roles of dichotomized gender, specifically men as masters and women as slaves. Both Saffir and her husband

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engaged in this community in Second Life by reversing their physical world roles. In

Second Life, Saffir's husband was her master. She submitted to him in ways she wouldn't

in the physical world and to acknowledge this submission, albeit virtual, she wore a lock

and chain around her neck in the physical world to symbolize this.

The Fantasy Gamer:

The sixth participant, Juniper, was a 25-year-old soon-to-be married mother of

one. She noted:

> I am here to learn how to program things in SL because of the amazing potential
> this has... How far technology has come thus far is amazing. I have been on SL
> for a couple years and have visited many amazing interactive worlds. I am in awe
> at what people can do and I want to create an experience for other people as I
> have had. I also see the potential for business online, I already make real clothing
> and other things and sell them online, so I would like to explore that here too. I
> have been very interested in programming and such since I entered high school
> and am continuing that here, more for personal satisfaction than anything else.

Juniper was mostly interested in building and interacting with other people from

around the world through Second Life. She had been in Second Life for a year and eight

months prior to the class but was also active on the 3D immersive world known as

Minions of Mirth. According to the Minions of Mirth (2013) website,

> Built by a community of gamers, Minions of Mirth has been the number one cult
> favorite fantasy MMORPG for years. Featuring a rich, detailed 3D fantasy world,
> hundreds of hours of quests and game play, a creative and involved community
> and special in-game events available only through Prairie Games' advanced game
> technology. Minions of Mirth is an exciting, evolving and addictive game that
> both the experienced and novice player will love.

Juniper only had one avatar in Second Life and constructed her to resemble

aspects of her physical self, though she added a dragon tail and tinted her skin color a

deep blue. She called this a vamp/demon avatar, which was also representative of her

avatar in Minions of Mirth. At the time of the focus group, Juniper was planning on going to Burning Man (a huge musical and artist celebration in the Nevada desert) and marrying her fiancé at the festival. She noted the similarities between Burning Man and Second Life.

Juniper talked about her personal history with the sex industry and that in her physical life she had worked as a pornographic actress. Because of this, Juniper was very wary of the adult industry in Second Life and said that she mostly stayed away from it. For Juniper, Second Life was about exploration and fantasy. She often led the group into fun and entertaining spaces in Second Life, like an amusement park, water park and fantasy fairyland.

The Critic:

The seventh participant, Katryna, a 45-year-old mother of one teenage boy, introduced herself in the focus group as only having a few months of prior experience with Second Life. She noted that she wasn't too fond of it because of her first experience. Katryna noted that during her first encounter with another avatar, she was sexually harassed virtually. According to Katryna, "A male avatar kept running into the chest of my avatar (female) no matter where I was on Orientation Island. The avatar only spoke Spanish. A friend had stopped by my house to pick up something and she was able to read what he said. I was told I didn't want to know, it was very bad. I finally ended the episode by exiting Second Life until this class started. I had not been back to Second Life."

During this discussion in the focus group, Dakota suggested that Katryna could have reported the harassing avatar to Second Life, to which Katryna responded that she had, but it made no difference. Katryna also talked about her head trauma she had experienced years before. For Katryna, being in a 3D immersive environment was a sensory overload. She noted that the visuals in Second Life made her "glitchy" when she had to look at the screen for too long and this was another reason she wasn't fond of Second Life. Katryna also shared personal struggles of being a single parent and how her 17-year-old son was getting into trouble with the law because of his burglary, theft and mistreatment of the elderly. Because of this, she was cautious about bringing anything that influenced bad behavior in front of her son, and she felt Second Life would be a bad influence to him.

Summary of Focus Group Students:

The seven students, four women and three men, ages ranging between 25 and 45, provided rich personal narratives about the binary sex system, sexuality and gender in Second Life. As noted in Figure 4.8, the profiles introduce four students as having personal experiences with the adult entertainment of 3D immersive environments, two students who were only interested in Second Life for fun (fun not related to the adult entertainment industry) and one student who adamantly disliked Second Life because of the virtual sexual assault she experienced there.

The next chapter builds from these profiles and presents themes around issues of hypersexualization, gendered social order, virtual sexual harassment and violence. As will be discussed more in the limitation section of the conclusion chapter, the

demographic of the focus group was small, skewed toward the adult entertainment

industry and yielded unexpected findings because of this. Therefore, the findings in this

study are in no way presented as being holistically representative of digital gender.

However, on a macro level, the findings in the following chapter illustrate the truly

subjective nature of gender, in physical and virtual reality alike. As such, the following

findings provide an opportunity for discussion and insight into at least one way of the

many ways for constructing, performing and experiencing digital gender in a 3D
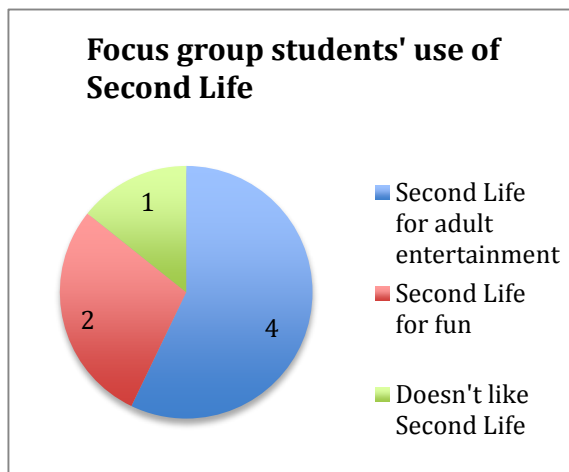
immersive environment.

Focus group students' use of Second Life

- Second Life for adult entertainment: 4
- Second Life for fun: 2
- Doesn't like Second Life: 1

Figure 4.8: Focus group students' use of Second Life.

CHAPTER V

FINDINGS AND ANALYSIS OF FOCUS GROUP DATA

The SGDI data used for the analysis of this study provided two complementary data sets for the research questions. First, the online questionnaires and forums, the quantitative data, presented the demographic and background information of the 75 students. As noted in the previous chapter, this information not only quantified the students into age, gender, major, interest level in Second Life, etc., but it also provided themes regarding experiences and personal perceptions of avatars in Second Life. These quantitative data were useful in setting up the study and providing context for the second data set, which was the qualitative data collected during the focus group.

The rich data collected during the focus group more specifically addresses the research questions of this study. Through personal narratives and student experiences, these data directly relate to the construction, performance and experience of digital gender in Second Life. Therefore, this chapter presents data in four parts to address the research questions. Through *the construction of digital gender through the avatar*, *hypersexualized makeover*, *digital gender experiences in Second Life* and *the effects of digital gender in physical reality,* the intention of this chapter is to adequately address the research questions and, in doing so, validate empirical and philosophical exploration into digital gender.

Construction of Digital Gender Through the Avatar

The actual population of Second Life is somewhat a guarded secret. Linden Lab, the creator of Second Life, stopped producing statistics about their population in

2009/2010 with no public notice explaining this decision. Therefore, other sources have been monitoring Second Life's traffic and presenting these numbers through real-time graphs, charts and minute-to-minute login information. Two of the most trustworthy and active secondary sources for reporting Second Life data come from dwellonit.taterunino.net and blog.nanlates.net. Both of these sites are often referenced within Second Life forums and other reports dealing with demographic information, culture and economy of Second Life. According to dwellonit.taterunino.net, the average Internet Protocol (IP) logins to Second Life are between 60,000-70,000 people a day with the average new accounts created around 10,000 a day (information accessed on 12/8/13). Each of these 10,000 new accounts will go through a registration process that begins on SecondLife.com (see Appendix F for more information).

During the registration process, new members are required to choose an avatar before entrance into Second Life.   As noted in Figure 5.1, the registration process in 2010 began with reducing avatars into a binary sex system, which was presented in two columns, six females and six males. Ironically, the female avatar selected in Figure 5.1 was called "Girl Next Door." She was coded to have ruby red lips and a skintight crop top that clung to large breasts, and gestured her hips sensually from side to side when she walked.
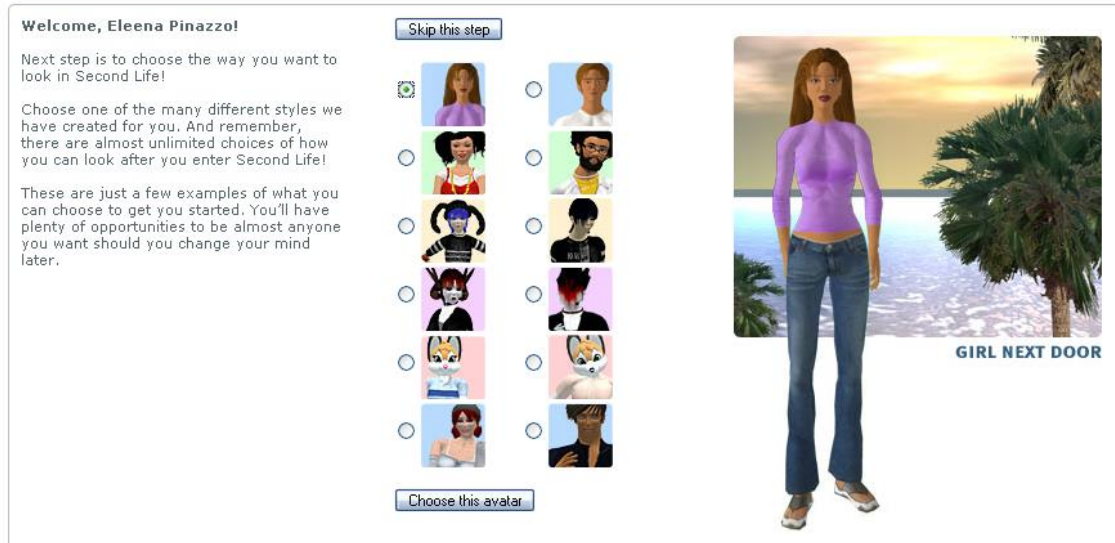
Figure 5.1: Screenshot of the registration menu of avatars in 2010.

In 2012, Linden Lab modified its pre-designed Second Life avatar selection to include six female and five males that appeared trendier (Figure 5.2). These avatars were presented in a rotating circle, thus doing away with the columns that separated them into a binary sex system. In some ways, this new presentation provided some gender ambiguity without the columns, but the avatars were still coded to represent the binary sex system through their overall appearance and gestures. Therefore, similar to 2010, the avatar options in the registration process of Second Life still required identity reduction based on the sex system.

Figure 5.2: Screenshot taken of the registration menu of avatars in 2012.

By January 9, 2014, Linden Lab made drastic changes to the avatar options in the registration menu. To begin, there were 55 options, five times the options presented in 2012, and as noted in Figure 5.3, these avatars were again presented in the rotating circles. The options presented for these avatars revealed that as they became less human, the more androgynous the options were. Although Linden Lab eventually provided more genderless avatar options, the more human-like avatars still appear to be governed by the binary sex system presented back in 2010. Because the more human-looking avatar options are still conforming to the binary sex system representation of gender, it is necessary for continued observation and analysis of digital gender in 3D immersive environments through a gender theory lens. Still, the inclusion of androgynous avatars in the registration process is encouraging that there is a cultural shift in how gender is coded from the top down.
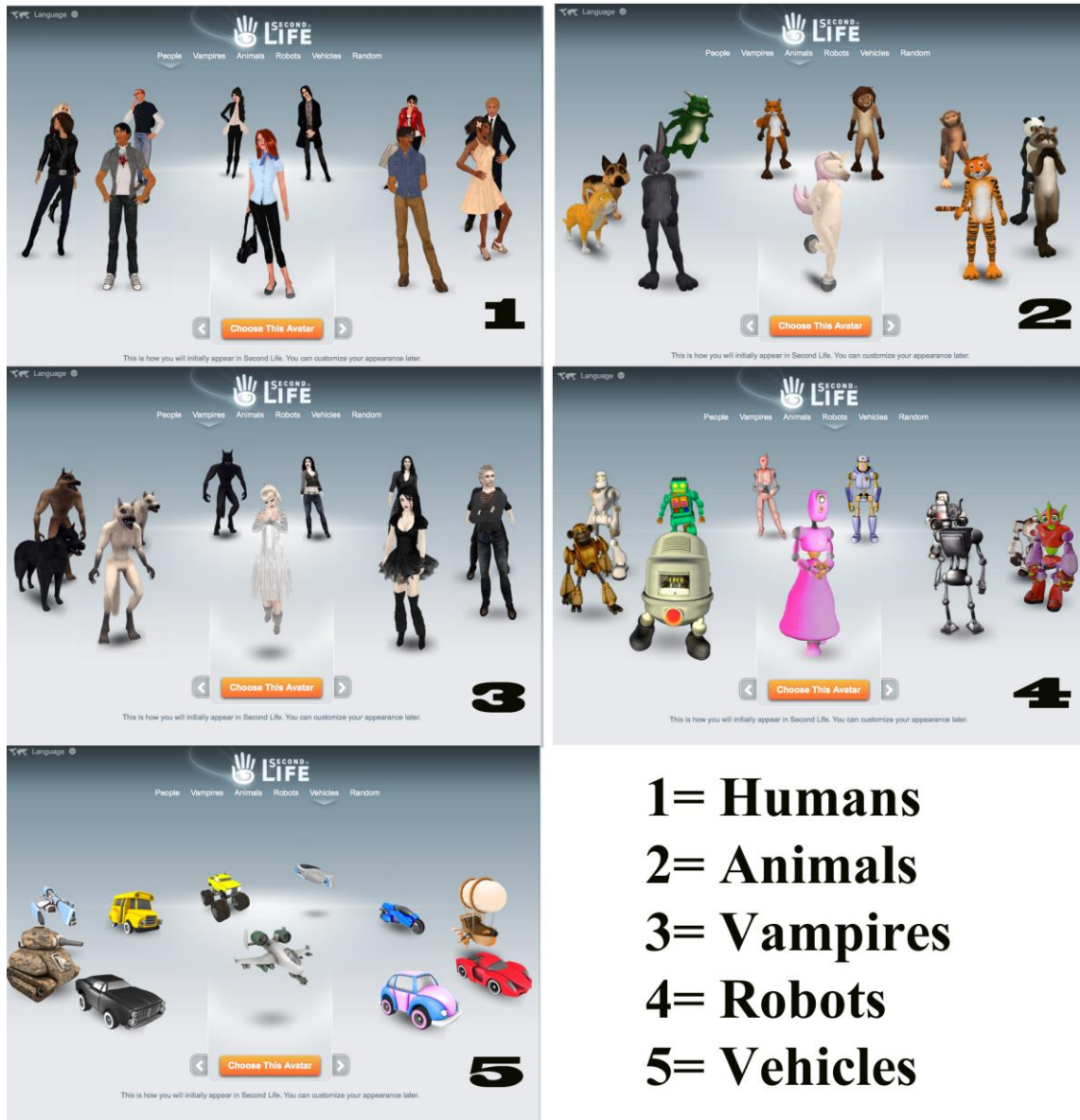
Figure 5.3: Screenshot of registration avatar options in 2014.

However, the binary sex system coded in the more human-like avatars are based on the stereotypical categories of what constitutes masculine and feminine. Similar to the physical world, the appearance (body, clothing, hair, color), gestures and posturing of the avatars create gendered discourse. For the human-like avatars, the analysis of this discourse was fairly straightforward. Female avatars were presented with makeup,

breasts, small waist, rounded buttocks, tight clothing, and they would sway and shift their weight from hip to hip while standing. While walking, the female avatar was coded to sensually and exaggeratedly move her hips while taking long strides, similar to a catwalk seen with models on a runway. On the other end of the binary sex system, the male avatars were presented in the typical man "v-shape." Clothing was often looser, and they were programmed to make subtle movements as they stood in place. For the male avatar, walking was coded to emulate an alpha male's swagger. The non-human avatars, standing upright on two feet, were analyzed to see if they had any of these similar characteristics. It was determined that the non-human avatars, standing upright on their feet, had visual sex system cues that created their gender. For example, many of these non-human avatars relied on the v-shape, posturing and gesturing to represent a male gender, while a few other non-human avatars used color (pink), breasts, smaller waists and wider hips, to represent the female gender. In the end, this analysis revealed that in 2014, there were 29 gendered avatars (18 male and 11 female) and 26 are androgynous (Figure 5.4).

The importance of the binary sex system in this analysis reveals how gender is constructed and performed through the computer-mediated reality of Second Life. The appearance, postures and gestures of the avatars in the registration process force users into a gender identity reduction based on Western ideals. This process not only points to the continued overlap between the binary sex system and gender online, but it also points to a phenomenon called a cybertype.

Avatar options in registration menu of Second Life for 2014
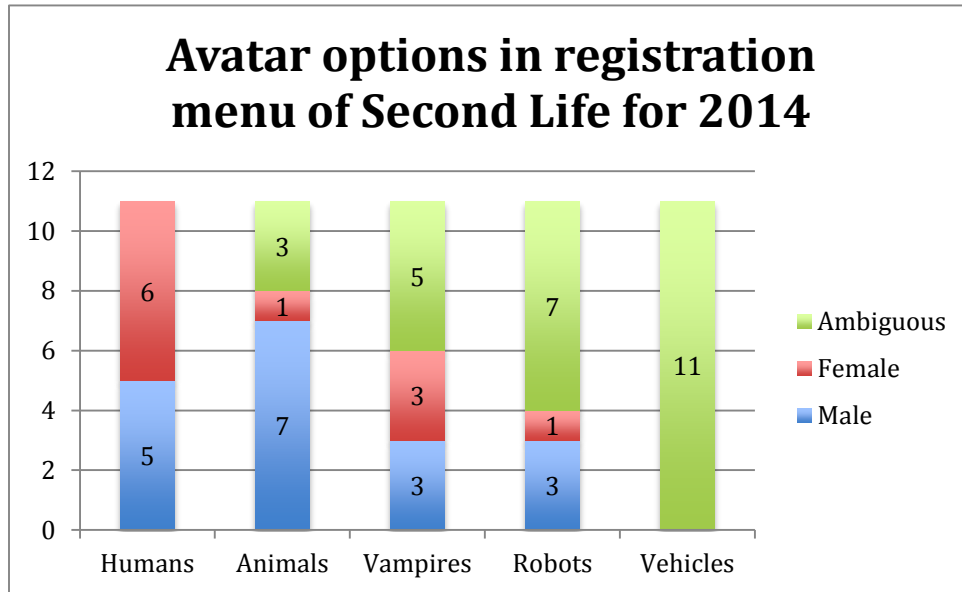
Figure 5.4: Avatar options in registration menu of Second Life for 2014.

According to Nakamura (2002) the transfer of stereotypes from physical reality to virtual reality is known as cybertypes. In defining this term, Nakamura (2002) examined identity reduction in the virtual world through the issue of race classification of website registration menus. According to Nakamura, users can be freed from their physical identity in online virtual worlds, however there are experiences of "forced reductive, often archaic means of defining race upon the user" (Nakamura, 2002, p. 101). More specifically, Nakamura stated,

> This kind of menu-driven racial identity not only denies the possibility of a mestiza consciousness at a time when our social realities are bending to acknowledge the existence of various forms of racial and cultural hybridity, but also serves a racist ideology which benefits from retaining solid and simplistic notions of race" is what constitutes cybertypes (p. xviii).

Through the same lens, the presence of digital gender in Second Life begins through a cybertyped representation of the binary sex system. This representation not only perpetuates this system, but it also creates a digital world ideology. Furthermore, the

registration process directly influences the next step in constructing digital gender, the modification process. The following section describes a scenario in which a female avatar is given a makeover. This modification process illustrates as step-by-step in how two students approached and executed this makeover. The following analysis provides insight into the cybertyping of gender through the hypersexualization of an avatar.

Hypersexualized Makeover:

During the focus group, gender was experienced several ways through the process of constructing and modifying avatars. Data collected during the focus group was done through an ethnographic approach in order to gain trust and acceptance with the students. According to Behar (1996) and LeCompte and Schensul (1999), ethnographic methods require a researcher to have vulnerability and to be able to make methodical and contemplative choices when engaging with participants. As part of this process, I would bring snacks, attend virtual events when asked by a student, facilitate a thoughtful discussion and engage with everyone on a friendly non-hegemonic level. This approach seemingly allowed for the students to be open and share personal details about their Second Life and physical world experiences. Because of this, I was able to know when it was okay to access the community, how to continuously reflect on their role during the study, and how to accept the identity that was established by the participants of the researcher, take the social activities in the community seriously, build strong rapport,

gain permission and respect, and know when to observe up close and from a distance (LeCompte and Schensul, 1999, pp. 69-120).[4]

As previously noted, I engaged with the focus group participants in a weekly meeting. In addition to meeting in a physical room at the community college, the students in the focus group would log into their Second Life accounts and engage virtually at the same time. I would take part in this activity through an avatar known as MC Chaffe. MC was intentionally designed to challenge the gender norms of female avatars in Second Life. While MC had long brown hair, wore a moderate amount of virtual makeup and adorned her ears with gold hoops, her attire consisted of a man's business suit with tie and men's hiking boots. As the students became comfortable with each other and the researcher, they discussed MC's appearance during a focus group meeting. The conversation began with Dakota, who asked why MC was so "ugly" and wore a man's suit. This prompted a debate about her looks and resulted with Dakota and Saffir asking if they could give her a makeover (Figure 5.5).
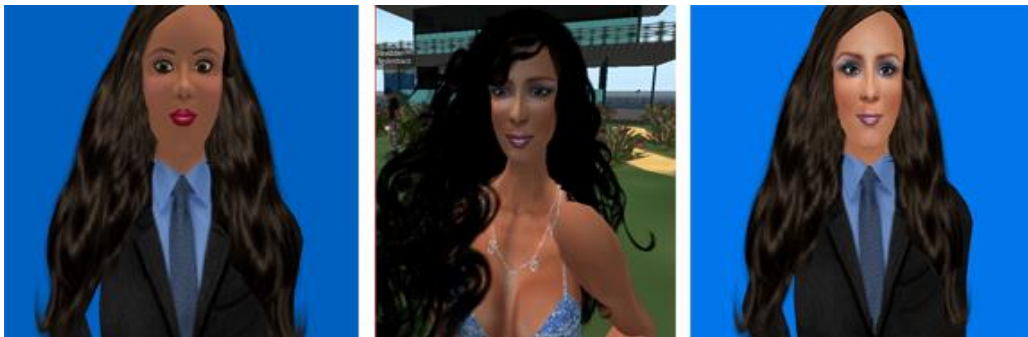

Figure 5.5: Three screenshots are represented in this image. The first is prior to the makeover, the second is after the makeover and the last is a combination of both looks that are currently used for MC's appearance in Second Life.

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[4] These suggestions are listed throughout Chapter Four of LeCompte, Schensul & Schensul's book, *Essential Ethnographic Methods*.

In Figure 5.5, three images are presented that illustrate the evolution of MC's appearance over the course of the Summer 2010 term. The first image shows her initial appearance. The middle image is the "makeover" and the last image is a combination of the two. The transformation began when Dakota and Saffir went shopping in Second Life for different clothes, new makeup, hair, skin and body parts. While shopping at various virtual stores in Second Life, both Dakota and Saffir spent Linden dollars to recreate MC's new look. Dakota also gifted jewelry that he had in his inventory, and Saffir sent her high heel shoes to replace the hiking boots. Everyone in the focus group provided input and worked collaboratively to modify MC's appearance. In the end, MC arguably looked like she had had plastic surgery, her attire was tight and revealing, her breasts had grown to Double D's, and she walked with her hips thrusting from side to side. The students agreed she looked a lot better for Second Life and requested that she stay that way for the rest of the term.

The emphasis of hypersexualizing avatars is overwhelming in many of the virtual shops selling body parts for avatars. Like the male avatar, the female avatar has been disembodied into commodity parts. From the selling of body, skin, hair, makeup, clothing, jewelry, and accessories, digital gender in Second Life is largely based on Western ideals of what is perceived as attractive. For the female avatar, what is perceived as feminine and beautiful in the physical world is exaggerated and magnified, or what is referred to as "hypersexualized." As was observed in my preliminary study (2007) about the aesthetics of the female avatar, nearly every female avatar represented in these shops and in public spaces had conformed to the Western ideals of female beauty:

Through casual conversations, active and/or passive, it was noticed that all the conversations at some point discussed the appearance of each other's avatars. In fact, a common greeting was to first complement the appearance of the other's avatar. Specifically, the female avatars were almost always showered with compliments regarding their appearance. This would often result in a message of appreciation and then lead into discussion about the importance of avatar appearance. It was mentioned in a few conversations that paying [with real money] someone else to create personal avatars is a common occurrence in Second Life and that it can get quite expensive, but important so that their avatar would be beautiful. There were tips swapped on how to reduce and eliminate this cost, including giving and receiving non-tangible gifts of appearance attributes. It should be noted that not once, during the intermittent two-week fieldwork, did I ever see or encounter an "average" looking female avatar. I did see "average" looking male avatars, but never female. The female avatars were constructed with such meticulous care that every pixel was created to illuminate some Western ideal of beauty, and not only was it created to illuminate this ideal but it was Second Life etiquette to complement on the construction (Padilla-Miller, 2007, p. 18).

In the process of making over MC, it was apparent that the students were exaggerating her sexuality but they were also exaggerating something else. This exaggeration, while some might consider just fun and entertaining, has significant elements of gendered expectations and, more specifically, the female gendered expectations of what is considered attractive, feminine and beautiful. According to Tseelon (1995), the way Western women are expected to appear to others shapes self-perception and is fundamentally rooted in cultural traditions. These cultural traditions are based not only on performance but aesthetics. Tseelon (1995) defined femininity through a conceptual and theoretical framework of five paradoxes. These paradoxes explain common expectations for female attractiveness through: modesty, duplicity, visibility, beauty, and death.

For Tseelon, the modesty paradox points to the dichotomy between female body and soul. Issues of religion and dress codes throughout history illustrate the binding

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nature of cultural expectations regarding the attire of women. The paradox of duplicity, referencing the identity of women, is easily destroyed through the cultural traditions of self-mutilation, such as cosmetic surgery, and replacing authentic physical traits with a "fake" and non-authentic reconstruction of the body. The visibility paradox references issues of stereotyping and the male gaze, and the beauty paradox presents the struggle of claiming identity through unobtainable beauty ideals. The last paradox, death, shows that sexuality and death have become intertwined, portraying women as the culprits who unleash a deadly combination of seduction and death to men (Tseelon, 1995, p. 105).

According to Tseelon, the masque of femininity is like a prison that controls women based on cultural expectations of how their gender should be constructed and performed. In Second Life, the ability to break these rules is available, yet the findings in this study suggest that they are actively being reproduced. This digital reproduction, regardless if it is perceived as just for fun or entertainment, is hugely significant for the possibilities of digital gender blurring the binary sex system online. Furthermore, the appearance of avatars in Second Life is a large part of its economy. In addition to buying a virtual outfit, hair, body or accessory for an avatar, people are buying into the same gender norms presented in the physical world. One explanation for this is that gender norms are largely influenced by beauty expectations or what Wolf (1991) called the "beauty myth." According to Wolf, the beauty myth has the power to weaken people, as it is a "modern Iron Maiden and it traps women in a rigid, cruel, and euphemistically painted hallucination that censors real women's faces and bodies" (Wolf, 1991, p. 17).

The masque of femininity and the beauty myth are evident in the construction of avatars in Second Life. The process of constructing an avatar's digital gender is full of

Western ideology, gender expectations/hypersexualization and is governed by the institutional rules of Linden Lab. Because of the malleable nature of Second Life, these things can be changed. However, the culture of Second Life, from the beginning of the registration process, makes it uncomfortable. Conformity is part of digital gender in Second Life, which means conforming to Western ideology of gender and hypersexualizing the avatar. In a conversation after the makeover, Cobra stated, "I didn't build my perfect person yet," to which Saffir answered, "You will, everybody does it."

Digital Gender Performance and Experiences in Second Life:

When visiting 3D immersive environments, people are essentially in two realities simultaneously, virtual and physical, each drawing from one another and creating real experiences in both worlds. As Tiffin and Rajasingham (1995) state in their book *In Search of the Virtual Class*, "Internal Virtual Reality can be a total, credible, wrap-around, richly textured, high-definition, multi-sensory world that does not exist, yet with which it is possible to interact" (p. 129). While internal virtual reality is part of innate human nature, such as dreams and consciousness, 3D immersive environments like Second Life blur the line between virtual and physical reality. Through coded light, color, sound, dimension and movement, avatars provide virtual experiences outside of the body and mind and as will be discussed in this section, digital gender is a large part of this experience.

Functionally, avatars are a product of social software. Social software, like Second Life, is a set of technologies that facilitate interaction. However, boyd (2007) noted that

there is quite a bit more to social software than simply its function and mechanics.[5] boyd (2007) suggested that social software is about movement which allows people to interact with each other through a fluid and dynamic medium. For boyd, social software and technology facilitate a place where virtual interaction is changing the structure of technology and changing the structure of traditional communication. In Second Life, avatars play a crucial role in changing the structure of traditional communication. This section addresses the mechanics and fluid/dynamic medium of Second Life to provide insight into the construction, performance and experience of digital gender.

Once the registration process of choosing an avatar, name and password is completed, new avatars begin their digital virtual experience with several default animations, coded into them from Linden Lab. For example, avatars will blink their eyes, tighten their lips, crinkle their face, gesture, pose and walk with a particular swagger, all without the user instructing the software of Second Life to do this. The environment is also coded for default animations. From leaves blowing in the virtual wind to butterflies flittering around the sky, most of the "islands" (different locations in Second Life) have been coded for a particular ambiance. However, Second Life allows for animation override (AO). AO is a scripting language that will bypass the default settings and create new movements. In regards to the avatar, this means that the default setting, can be changed and create whole new experiences for the user.

During the focus group meetings, there was a growing sense of community among the participants and this resulted in sharing virtual experiences with each other.

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[5] dana boyd's name is in lowercase because she has intentionally made this decision to write it thusly.

Often led by one student, everyone would log into Second Life and teleport (change locations in Second Life) to the same destination. Juniper often took the group to interactive attractions like a water park, a fairyland and an amusement theme park. Saffir introduced the group to new shopping centers, and Dakota led the group to a biker club, photo studio and dance club (various screenshots of the focus group's activities are in Appendix G).

The experiences of these virtual destinations required full engagement with space. This often meant using pose balls and Heads-Up-Display (HUDs). Pose balls and HUDs are two different types of AO. Pose balls are external scripts embedded into an object that must be clicked on and selected to activate. Once the pose ball is selected, the program coded into the object takes control of the avatar's movement. Once deselected, the pose ball is again inactive. HUDs also use programs that override the default setting of the avatar but are attached, invisibly, to the outside of the avatar's body. HUDs can stay on an avatar long term and be turned on and off when needed.   HUDs are used for a more long-term override, as will be presented in more detail in the following section. Engagement with AO in Second Life is a huge part of the performance and experience with the space and with other users. During Dakota's tour of the biker club, the focus group students engaged with and activated several pose balls scattered around the island for intended experience on this grid. These particular pose balls were coded to animate fight scenes, motorcycle driving, drinking, and sexual contact. For example, Cobra and Juniper noted that they had never seen a fight scene animation in Second Life. Dakota, Saffir and MC volunteered to activate three of the pose balls to perform and experience this, as seen in Figure 5.6 below.

Figure 5.6: Dakota, Saffir and MC animating pose balls for a fight scene.

Once inside of the club, there were a series of color-coded pose balls. The screenshot in Figure 5.7 shows Dakota and Saffir activating these pose balls for the performance and experience of some virtual sexual activity. As can be seen in this image, the pose balls are color-coded, pink for females and blue for males. These color-coded pose balls correspond to gendered positions and gestures (female against the wall and male leaning over her). It became evident in these particular pose balls that there was more to them than a simple animation override. It was clear that they were intentionally coded to illustrate dominance, power and hegemonic masculinity. Essentially, they were color coded to encourage a gendered social order on the space.

Figure 5.7: Screenshot of Saffir (aka Moonshine) and Dakota illustrating how to use the gendered pose balls in a biker club in Second Life.

Judith Lorber (2005) suggested that the notion of gendered social order is prevalent in the way that "people act in gendered ways based on their position within the gender structure without reflection or question" (p. 12). Gendered pose balls qualify as "the tacit collective agreement to perform, produce, and sustain discrete and polar genders as cultural fictions which is obscured by the credibility of those productions- and the punishments that attend not agreeing to believe in them" (Butler, 1990, p. 179). Scripting digital gender as a fluid identity, that is never exclusively "male" or "female" nor "fixed" or "essential," is possible, yet many of the pose balls that are color-coded create a gender performance dichotomy in Second Life.

As the pose balls in Figure 5.7 show, there is an element of gendered dominance

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here. It often appeared that these gendered pose balls were not seen as sexist or strange by most of the students in the focus group. This action can be explained by what Connell (2005) noted as being part of Marx's assertion that "the ruling ideas are the ideas of the ruling class." Connell, who coined the term "hegemonic masculinity," argued that the process of marginalizing others through a binary gender system encapsulates issues of gender performance, cultural expectations and global politics. In the case of gendered pose balls, often the idea is to marginalize females through positions and actions of sexual submission. Granted, there is an argument that role-playing is about letting go of sexual inhibition, yet it also can recreate issues of hegemonic power. When activating these gendered color-coded pose balls, people are actively choosing power relation roles based on gender. As noted by Consalvo and Paasonen (2002), people, specifically women, cannot leave their physical bodies behind when interacting on the Internet and there is a use and gratification from the media for displaying gender online.

During the focus group in which Dakota took everyone to his biker club, he talked about how he began working in exotic dancing clubs in Second Life and got a job as a female exotic dancing avatar. Shortly after, Dakota realized that the industry was oversaturated with female exotic dancers in Second Life, so Dakota decided to construct and perform as the best male exotic avatar on the grid. Dakota boasted that he was able to do this in under a year and became one of the top-grossing male exotic avatar dancers in Second Life at that time. He stated that because of the popularity of his male exotic dancer, he was able to pay his physical world mortgage each month. Towards the end of the term and focus group meetings, Dakota gave a breakdown as to why his avatar was so

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successful. Through the hypersexualized male gender performance, Dakota noted the

following tools were used to achieve his success:

- Genital Attachments
- Chims (Chims, derived from the term Chimera, are HUDs used to control other users avatars, not just their own).
- AO (Animation override)
    - HUDs
    - Poseballs
- Social media (avatar Facebook pages and Twitter accounts)
- Emoting (Emoting is using language, usually via chat, to express emotion)

Dakota noted that on an average day working at the club, he would see several

clients in a private room. In this space he would gift them a Chim so that he could

control the movements of their avatar. He would use AO to animate his own avatar's

dancing and gesturing. Using a Tantra Condom HUD, Dakota would perform sexual acts

with his avatar clients. This HUD, which will be discussed again below, was used to

protect himself from any virtual viruses he might access while using the Chim. As

unique as it sounds, it would also act as a virtual condom from potentially impregnating

his clients.

Another example of where digital gender affected experience in Second Life was

shared by Saffir. Saffir shared stories about her involvement with the Gorean community

of Second Life.   The Gorean philosophy, practiced by those involved in this Second Life

community, is based on the science fiction novels written by John Norman. According to

an active Second Life forum for the Gorean community in Second Life, GOR is a world

described in 29 fantasy novels, written by Professor John Norman (American Professor

of Philosophy), called "the Chronicles of GOR." There are strict guidelines that must be

followed in order to participate in this community. The following are the top three rules

posted on their site:

1. Adult Theme!
First of all you need to realize that Gor is an adult theme. In Gor things like sex scenes, rape, slavery, forced enslavement, violence and assassinations are part of Gorean every day live. It is a harsh world and not for the faint hearted. If you are easily offended by such content then Gor is not for you.

Most Gor regions in Second Life are for those reasons adult rated. To participate in the game, you need to verify your account as being an adult's account. The way to do this is: Log in atwww.secondlife.com and go to account verification. There you can verify your age. If you have given Linden Lab your credit card details to make payments, your account is automatically adult verified.

2. Choose Gender!
You do not **have to** play your real life gender. It is commonly accepted within the Gorean role-play community, to play the opposite gender if you want to. This is especially important for women, who would like to have some of the fighting action, because as a general rule there are no female warriors on Gor.

The only female fighting role on Gor, are the so-called Panther Girls or Forest Girls, which are outlaw women living in small bands in the forests, outside of regular Gorean civilization. So if you are a female player but you want to play a warrior, mercenary, pirate or a similar role, please choose the male gender!

3. Choose Status
What I mean by that is: Choose whether you want to play a slave or a free person to start with. Both genders can be slaves on Gor. The female version is usually called a Kajira the male version is a Kajirus. If you choose the slave-role be aware that it is very hard to develop your character realistically into a free person, actually almost impossible if played correctly. However, changing status from free to slave within your storyline is easy.

This is why I always recommend to start as a free person, even if the slave-role does intrigue you. At this stage there is one important thing that you need to understand: In-game we make a difference between IC = In Character and OOC= Out of Character. If you choose the slave role, you decided to play a slave IC with all consequences but not to be one. OOC you are NOT a slave and not considered such.

If you speak to other players in OOC mode (for example in IMs) you are equal to anybody else. If anybody demands from you, to behave as a slave in OOC mode (this does actually happen!) tell him/her to fuck off! Those people belong to a group called "online livestylers" and are not worth your time as a role player,

unless you want to experience their "lifestyle" (which is a D/s relationship with a Gorean touch to it) (Resident, 2013).

Within this culture, Saffir talked about the importance of clothing to symbolize the ranking system of women in the community. Figure 5.8 shows three shops that Saffir introduced to the focus group that sold clothing for Gorean avatars. She noted that "silks," which are seen in all three screenshots in Figure 5.8, are required of all low ranking females. Saffir expressed her enthusiasm for these clothing options and the importance of choosing the right garments in this community.

In addition to acting out the submissive role as a Gorean female slave, Saffir discussed another unique way in which she experienced her digital gender in Second Life. Saffir wanted to experience virtual pregnancy due to losing a baby in her physical life. For this experience, Saffir attached a "Tantra Woman HUD" to simulate a 9-week pregnancy to her avatar. Every time Saffir would login to Second Life, the HUD would simulate morning sickness, growing belly and eventual baby delivery. Dakota chimed in on this conversation to talk about the Tantra Condom HUD he uses. Because Dakota was actively having virtual sexual encounters with other avatars he didn't know, he said he wanted to make sure that no one was secretly wearing a pregnancy HUD to get pregnant from his avatar.

Saffir reported that her first virtual pregnancy came to a violent end and she miscarried. According to Saffir, the miscarriage was due to another avatar stabbing her. The AO used for this stabbing deactivated her Tantra Woman HUD, and she equated this "grieving" (grieving in Second Life refers to hacking and malicious intent of causing problems and distress for other users) to a physical world miscarriage. She described the real emotional pain she had in her physical life due to this virtual experience. Upon

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Figure 5.8: Screenshots from a shopping trip with Saffir to show the "silks" often worn by the female avatars within the Gorean community.

reflection of her virtual experiences in Second Life, Saffir said they made her feel more feminine and closer to the biological function of her physical body.

The pregnancy (and condom) HUD creates digital gender experiences that directly relate to the biological functions of the human body. As Ortner (1981) had pointed out, there is a strong correlation between being a woman and associating her to reproductive functions. This type of digital gender experience may be performed for personal reasons, but it still continues the hierarchical sex/gender system in Second Life. As such, the social order of the sex/gender system in Second Life creates community, commodifies the avatar's body and essentially can become the whole purpose for experiencing Second Life. In these stories, Dakota and Saffir shared the importance of their digital gender and how it affected their 3D immersive experiences in Second Life. Through these stories, there were elements presented that indicated there are substantial physical world outcomes as well. Thus, the following section presents the effects of digital gender in the physical reality.

Effects of Digital Gender in Physical Reality:

In addition to the personal stories shared by Dakota and Saffir, the focus group also discussed other experiences where digital gender influenced or had the potential for physical world outcomes. This topic started when Katryna shared her personal experience of being virtually sexually harassed in Second Life (as noted in her profile). Because of this, Katryna said she felt people did not behave ethically in Second Life and therefore she didn't like it. Dakota asked Katryna if she reported it, to which she said she had. Dakota then referenced the Second Life terms of service. According to Linden Lab

(2013), "6.1 - You will not post or transmit prohibited content, including any content that is illegal, harassing or violates any person's right." After discussing this guideline, the topic shifted to the darker side of Second Life.

Several students shared personal experiences or experiences that had been witnessed regarding some of the ethical and moral issues presented in Second Life. For example, the deeply troubling subject of "age play" was discussed. According to Dakota, "age play is when child-like gendered avatars are created for the experience of pedophilia." Although Dakota had never participated, he knew about the topic and that Linden Lab was in the process of banning members participating in this experience in Second Life. At the time of the focus group meeting, there had been some mass media attention about age play in Second Life. According to Dakota, people had been arrested because of these virtual experiences in their physical world communities. Dakota told a story about a man in Europe who went to jail for engaging in age play in Second Life. After further investigation of this claim, the story Dakota was referencing came from a 2007 incident.

According to mainstream media (BBC, *The Guardian* and CBC), German prosecutors launched an investigation to find anonymous participants engaging in the buying and selling of sex with other players posing as children. Connolly (2007), from *The Guardian*, reported, "Investigators in the city of Halle are acting on specific information about a German Second Life player, or avatar, who put child pornography images up for sale and paid for sex with underage players or players posing as minor." Furthermore, Connolly noted that this type of virtual experience in Germany was punishable by up to five years in prison.

In 2007, Writer (a.k.a. Lucien Baard irl) (2007) from the Tentshe Courant Tubantia newspaper in The Netherlands reported a similar case:

A Dutch prosecutor [Kitty Nooij] opened an investigation into ageplay in Second Life on the grounds that representations of child sex are illegal in the Netherlands, even if children were not involved in the making of the porn. Politicians in the Netherlands are now upset that the prosecutor has dropped the investigation of ageplay in Second Life. The prosecutor's office in The Hague says the avatars are not realistic enough. Politicians now want an intense discussion with the Department of Justice concerning virtual child porn in general, and specifically in SL.

As the focus group continued to discuss some of the ethical and moral issues of Second Life, Saffir mentioned the culture of "puppy girls." According to Saffir, puppy girls are female avatars programmed to walk on all fours with their arms and legs bound forcing them to crawl on elbows and knees. This is done to show complete submission to their male masters. Dakota commented that he had seen this and felt disturbed by these images and it reminded him of a disturbing trend in Second Life called RTK (rape, torture and kill). Dakota shared a troubling story about a RTK experience he witnessed. According to Dakota, he was visiting a new island when he saw what appeared to be a dead female avatar in the distance. As he used his control panel to get a closer look, he saw a male avatar approach her, grab her by the throat and drag her away. Dakota, using his control panel, continued to zoom in and follow them. According to Dakota, he watched as the male avatar prepared to rape the female avatar corpse. Once Dakota realized this, he immediately teleported out of the island, but the memory of the virtual experience still bothered him in the meeting.

After these stories, Katryna suggested that these "predators" were just perfecting their technique before they would try it in the physical world. Dakota wondered if it might be an outlet for violent fantasy, thus reducing the likelihood of it manifesting in the

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physical world. The debate between Katryna and Dakota turned into a debate about media violence, a common topic in media effects scholarship.

Feminist scholars have been examining the mass media portrayal of violence against women since the 1970s (Malamuth and Check, 1981, p. 437). According Malamuth and Check (1981), who did a field experiment with 271 male and female students who watched two sexually violent feature length films, "the data indicate that exposure to two feature-length movies portraying violence against women as having positive consequence increased males' acceptance of interpersonal violence against women" (p. 442). Similar to this argument, Willoughby, Adachi and Good (2012) noted, "In the past 2 decades, correlational and experimental studies have found a positive association between violent video game play and aggression" (p. 1). Although this study draws controversy because there isn't acknowledgment of the third variables, such as personal tendencies, it still references the overlap of virtual experiences into physical reality.

Therefore, while there is public discourse regarding the presence of computer-mediated sexually violent experiences, what remains an ongoing debate is whether this type of virtual experience impacts a person in real life and what the possible outcomes might be. Addressing this question was a recent article published by *The New York Times* in which, according to Carey (2013), "it is not at all clear whether, over longer periods, such a habit increases the likelihood that a person will commit a violent crime, like murder, rape, or assault, much less a Newtown-like massacre." However, there are documented cases of hostile urges and aggressive behavior resulting from gaming; thus virtual experiences can be and are manifested into the physical world. The media has

made direct links to violent video games and mass shootings, for example, the Sandy

Hook mass murder in 2012 and the Columbine shooting in 1999. According to Ferguson

(2007), "Despite the intensity of the debate, research on the relationship between video

game violence and aggression (most studies do not consider violent crime specifically)

have produced mixed finding. Some articles find a relationship, either casual or

correlational between video game violence and aggression whereas others do not." (p.

316).

Changing gears, the topic of another potential physical world outcome was

presented through the example of commodifying the avatar body. In the previous chapter,

Dakota was introduced in the focus group profiles as being a "top grossing male exotic

dancer in Second Life." Dakota stated that when he first came to Second Life he tried to

join a "biker clan." According to Dakota, this group was an outlaw clan that drew very

strong gender lines for female and male avatars. Similar to the Gorean culture to which

Saffir belonged, Dakota noted that in order to belong to this clan you need to "prospect,"

meaning you would have to be someone's "bitch" until you were accepted. For male

avatars, this simply meant gifting Linden dollars, buying gifts, creating code and

simulating the "hazing" process through rituals and attending exclusive meetings. Like

the Gorean community, Dakota reported that females in this biker clan never had

leadership roles and were often seen as props and/or sexual objects. Most of the females

in this clan were exotic dancers and from Dakota's perspective, made pretty decent

money. Growing less interested in the politics of the biker clan, Dakota focused his

attention on the adult entertainment venue of exotic dancing avatars. After observing this

trend, Dakota created his first female avatar. He tried to create her to resemble the other

female exotic avatars. He said that he quickly realized how oversaturated the business was for female avatars. Thus, he decided to make a male exotic dancer. Though there weren't nearly as many male exotic dancers, he talked about the tight-knit group and how hard it was to break into this part of the industry. Using a decoy female avatar, Dakota said that he would often scout out the virtual strip clubs for potential clients and to "size up" the competition. He paid attention to the tricks of this virtual business and claimed that is how he quickly became one of the top producing male exotic dancers in Second Life. Because Dakota had learned how to commodify digital gender and take part in the material culture of Second Life, he was able to earn enough real currency and pay his physical world mortgage each month. He noted that this job was time consuming as he spent nearly 70 hours a week in Second Life. He also noted that his physical world wife was getting annoyed with the amount of time he spent in Second Life and with what he was doing there. Still, it was worth it to him. In response to this, Saffir noted that Second Life "has a habit you want to do."

The story of how Dakota used his digital gender to turn virtual currency (Linden dollars) into real monetary value is an example of the material culture of sexual fetishism. According to Dant (1999), the material environment is not natural or given. It is a social product that is sustained from institutions, rituals, practices, modes of interaction, activities and beliefs. More specifically, Dant noted that "the things we make, appropriate and use are a manifestation of social forms while also shaping them….material culture not only are things our products, designed to help us fulfill basic animal needs, but also they are an expression of who and what we are that shapes how society can proceed" (p. 12). Within the material world of Second Life awaits an array

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of non-tangible commodities that have physical world outcomes. For example, Dakota learned how to turn digital gender into a commodity simply by investing his time and labor into the construction and performance of his male exotic dancing avatar. The value, although he made Linden dollars that exchanged for USD currency, was less about the money and more about the relationship he created between him and his avatar (his product). As Marx (1867) put it, "the existence of the things *quâ* commodities, and the value relation between the products of labour which stamps them as commodities, have absolutely no connection with their physical properties and with the material relations arising therefrom. There it is a definite social relation between men, that assumes, in their eyes, the fantastic form of a relating between things" (p. 388).

While the adult entertainment industry of Second Life produces a material culture, it also produces awareness of gender, sex and sexuality, albeit virtual. Seventeen years ago, Turkle (1997) noted that the interaction through a computer is "the new location for our fantasies, both erotic and intellectual" (p. 6). Turkle claimed "we are using life on computer screens to become comfortable with new ways of thinking about evolution, relationships, sexuality, politics, and identity" (p. 26). The location of Second Life is dynamic, complex and full of gendered expectations that influence the construction and performance of digital gender. Additionally, the influence of gendered ideology, sex/gender system and the gendered social order of avatars overlap the 3D virtual and physical reality. During the focus group, the moral and ethical issues of virtual sexual harassment, pedophilia, sexual violence and the commodification of gender were discussed. These issues were seen as being substantial virtual experiences because they can and do have physical outcomes that affect people, whether negative or positive.

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Summary:

Constructing digital gender in Second Life was observed through the registration process of an avatar. This process was done nearly 10,000 times a day is Second Life, as noted on dwellonit.taterunino.net on December 8, 2013. In 2010, when the focus group was implemented, the registration process forced users to select gender based on a binary sex system presented in two columns. In 2012, the registration process continued to force users to select this type of dichotomized gender, but instead of presenting the options in two columns, the more modernized avatars were presented in a rotating circle. By January 9, 2014, Linden Lab drastically changed the registration process for gender selection. Not only were there five times as many options (55 in total), gender ambiguity had become an option. Although some of these new options were outside of the binary sex system, the avatars that were still presented to embody the "male" or "female" gender were largely cybrertyped. More specifically, they contained several elements of hypersexualization.

During the focus group, the hypersexualization of digital gender was exemplified in the makeover of MC. Because the researcher had gained trust and engaged with the students through an ethnographic approach, they gave her a makeover. As a result, the makeover of MC illustrated elements of cultural traditions regarding the ways in which Western women are expected to appear. The masque of femininity (Tseelon, 1995) and the beauty myth (Wolf, 1991) address elements of importance regarding gendered appearance in Second Life. This process brings up additional questions regarding issues of conformity. With the ability to construct and perform gender in such a malleable medium, it was discouraging to see in these findings that there are still expectations that

adhere to gendered social order. For example, as Saffir stated during a conversation about making the perfect avatar, "you will, everybody does it."

Performing and experiencing digital gender in Second Life is continuously blending physical and virtual reality through computer-mediated reality. The 3D immersive environment of Second Life consists of codes. Codes programmed from physical world constructions to emulate many aspects of the physical world. For the avatars, these codes are presented through appearance, gestures and posturing. The use of genital attachments, animation override (AO), Heads-Up-Display (HUDs) and pose balls facilitate interaction with the 3D virtual space as well as with other avatars. During the focus group, the students would virtually travel together in Second Life. Teleporting from island to island, there were shared experiences with visiting a water park, fairyland, amusement theme park, shopping centers, biker club, photo studio and dance club. The biker club location revealed some interesting suggestions for how digital gender was performed and experienced in Second Life. The color-coded gendered pose balls in this space revealed the accepted gendered social order of the space.

More specifically, the gendered pose balls in the biker club were coded for the purpose of performing and experiencing gender roles and hegemonic masculinity. This was observed when two of the focus group students, Saffir and Dakota, activated the pose balls. Saffir selected the pink pose ball while Dakota activated the blue one. Their controls were then overridden and the avatars began to role-play a scene. The scene showed Saffir sensually backed up against a wall as Dakota leaned over her in a domination pose (as seen in Figure 5.7). Through examples of male exotic dancing, the Gorean culture and virtual pregnancy, Saffir and Dakota explained the importance of

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chims, AO, HUDs, pose balls, social media and emoting as being key to the performance and experience in Second Life. For some of the focus group students, the performance and experience of digital gender was a primary purpose for being in Second Life. For this study, the process of computing culturally constructed codes through computer-mediated reality is the basis for experiencing digital gender online. Therefore, the effects of these virtual experiences in physical reality have a direct correlation to the culturally constructed codes and computing process.

The *effects of digital gender in Second Life can and do cross over into the physical world.* Given that most of the focus group conversations discussed gender, sex and sexuality of avatars, there was significant data presented on some of the surprising and depraved sexual experiences in Second Life. For example, several stories were shared during the meetings that identified sexual harassment, "ageplay" pedophilia, sexual violence and the commodification of gender as physical world outcomes. While the outcomes were reported as being varied, with some simply being suspended accounts, others were noted as having legal ramifications. Linden Lab (2013) apparently acknowledged the potential effects of Second Life in the physical world by including a "term of service" agreement in the registration process. According to line 6.1 in this agreement, "you will not post or transmit prohibited content, including any content that is illegal harassing or violates any person's right." In discussing this line, several of the focus group students recounted cases where the depraved performance and experiences of digital gender in Second Life resulted in sting operations, arrest and new laws in several countries. This emphasis in the group also provided debate about media effects, video games and violence.

Lastly, digital gender was also reported as having a physical reality outcome through the commodification of a male avatar. Focus group student Dakota described his experience as a male exotic dancing avatar and claimed to be one of the top performers at the time. From this virtual job, Dakota equated his success to the real money he made doing it. To reiterate, Second Life has a real economy where Linden dollars are used as currency for the selling and buying of non-tangible items. Such items include virtual property, accessories and parts for virtual bodies and experiences. Numerous shops exist in Second Life to sell an assortment of things like land, houses, furniture, clothing, body parts, skins, hair, gestures and posturing. Experiences are also for sale and this is where Dakota made his fortune. By commodifying his avatar for the purpose of making money, Dakota hypersexualized his male avatar. He did this by cybertyping the "male" gender as strong, dominant and sexual. Physically, Dakota had a body builder physique, dark wavy hair, bronze skin, tattoos, chiseled jaw, six-pack abs and skin tight pants. In addition to the visual aesthetic of Dakota, the use of chims, AO, HUDs, poseball, social media and emoting provided him enough Linden dollars to exchange into USD currency and pay his physical world mortgage.

CHAPTER VI

CONCLUSION

The role of computer-mediated communication has connected people remotely, shared messages to mass audiences and created a 'global village'. It has also created whole new societies, subcultures and social networks, all through codes and digital representations. Coding the virtual representations of tangible and non-tangible things requires knowledge of algorithms and a significant understanding of social constructions. Social constructions, like gender, continue to constitute how we identify others and ourselves. In the physical world, gender is constructed and performed through cultural ideologies passed on from generation to generation. In the digital world, gender is translated, coded and represented through a computer screen. As noted in the introductory chapter, the purpose of this study is to provide a philosophical and empirical exploration into the human psychology of computers, the integration of identity within online virtual worlds and to show the significance of digital gender in digital and physical environments.

Because there was no definitive meaning for "digital gender" when this study was implemented, the term was defined by overlapping gender theory, media studies and digital culture scholarship. Thus, digital gender is defined as the culturally coded system constructed, performed and experienced through computer-mediated reality. Previous studies from Bruckman (1993), Hussain and Griffiths (2008) and Nowak and Rauh (2008) provided references in approaching the Computer Simulation Game Development Initiative (SGDI) program data for analysis. Because these data were being gathered as a

four-year (2009-2012) National Science Foundation (NSF) grant-funded Science, Technology, Engineering and Mathematics (STEM) initiative, the majority of data was quantitative. However, data collected during the Summer 2010 term, which was obtained for the analysis of this study, also contained qualitative data.

During the Summer 2010 term, 75 students (male and female) taking SGDI program classes were required to create an avatar and perform through Second Life. Through a multi-method approach, the SGDI quantitative data were collected through online questionnaires and forums. This data set provided the demographic and background information and also provided context for the qualitative data, which was collected through a focus group. The focus group consisted of seven of the 75 students. During the two-month course, the students in the focus group met every week for one hour and discussed their experiences in Second Life. These qualitative data helped address the research questions and revealed primary themes regarding digital gender construction, performance and experiences in Second Life. Throughout the analysis of these data, the binary sex system, hypersexualization, gender social order, gender related assault and violence and the commodification of digital gender emerged as key themes. Through these themes, this study provides another layer of discourse regarding the intersection of gender theory, media studies and digital culture scholarship. Additionally, the following section summarizes this study not only to address each of the research questions, but also to provide some perspective on Turkle's question of what kind of people we are becoming.

Demographics and Background Statistics:

The quantitative data used for analysis in this study was collected through questionnaires and forum threads. Within the questionnaires' data, it was determined that 77 percent of the students were male and 23 percent female. The median age ranged between 22 and 30. Prior to the class, 71 percent of males and 67 percent of females were new to Second Life and to creating an avatar. Furthermore, the majority of students reported having little experience with Second Life, but those who did have experience were predominately male. The forum threads presented data regarding personal experiences within the class, Second Life and online identity as an avatar. For example, in the forum post, "Who Am I and Why am I Here?," 59 percent of the students reported it was because they wanted to learn something new. Additionally, 29 percent reported they were taking the class because they were gamers and 12 percent noted it was out of curiosity and wanting to have "fun."

The "What's in a name" forum post revealed that 55 percent of students felt their avatar's name was a personal reflection, while 27 percent reported it was a previously used name for an avatar in a different game/3D virtual environment and 18 percent said it had no connection to them. In the last forum post that was analyzed, "Should avatars really look like you?," 40 percent reported it should be a fantasy, 30 percent noted that it depended on the reason for being in Second Life, 18 percent said it should be about personal expression, and 12 percent said it should look like or resemble the way one does in their physical life.

Again, these quantitative data provided necessary information regarding the student population of the SGDI program. Moreover, they provided context for which the

seven students of the focus group came from. However, unlike the male dominated demographic breakdown of the 75 students, the focus group was almost equally split with four females and three males. Other contrasts were that only one student in the focus group was new to Second Life and only one student wasn't taking the class for fun. Even though the focus group students weren't totally representative of the 75 student demographic and background statistics, the data collected during the focus group are responsible for addressing the research questions. Thus, the qualitative data from the focus group informed how digital gender can be created in Second Life, how it affects experiences in Second Life and what the effects of it are in physical reality.

Binary Sex System, Cybertypes and Hypersexualization:

Constructing digital gender in Second Life begins within the registration process for new users. In 2010, data collected on the avatar options in the registration process showed a clear binary sex system representation through 12 avatars. Presented in two columns, six avatars were coded as "female" while six other avatars were coded as "male." In 2012, the avatar options were presented as slightly less than the binary sex system in columns, rather they were presented in a rotating circle. Still, gender was identifiable. In 2014, Linden Lab drastically expanded the avatar options in the registration menu, totaling 55 avatar options, 26 of which were androgynous. However, the avatar options that were still confined to the binary sex system representation of gender were highly stylized based on Western ideals. These ideals were evident in the modification and customization of avatars. Stemming from the gendered identity reduction of the registration process, issues of cybertyping were further magnified

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through a process of hypersexualization. It was noted that during the hypersexualized

makeover of MC, the students discussed the importance of conformity with regards to the

gendered expectations in Second Life. The hypersexualization of avatars in Second Life

is more than virtual peer pressure. It is big business. Through MC's makeover, the

economy of Second Life was identified during the many visits to virtual shops selling

non-tangible clothing, body parts/shapes, skin, hair, accessories, posters and gesturing. It

was concluded that the appearance of avatars is so significant that it will essentially

dictate virtual experiences. As noted by Samp, Wittenberg and Gillett (2003), "presenting

the public self with respect to gender requires the ability to act in line with social

expectations of either male or female gender categories, both physically and discursively"

(p. 2).

Media Aesthetics, Social Order and Animation Override:

Digital gender in Second Life exists because of social software. Through media

aesthetics, programming and, more specifically, animation override (AO), the

experiences for digital gender is coded in several layers.   First, digital gender is coded

through the gender roles, expectations and experiences we have in the physical world.

These ideologies are transferred through computer-mediated communication and then

projected through media aesthetics. As users engaged with computer-mediated reality, the

process of encoding and decoding these gendered messages almost becomes second

nature. Thus, the example of the color-coded gendered pose balls in Second Life. These

pose balls illustrate the gendered social order that is used to perform, produce and sustain

the dichotomized gender through a binary sex system. As noted by Butler (1990) and

Connell (2002), there is resiliency to define gender based on roles versus biological differences, yet it is a prevalent part of Western expectations of gender and the categorization of people based on reproductive organs. By color-coding pose balls to animate stereotypical female and male gestures and positions, the presence of gender norms and expectations becomes part of the digital gender experience in Second Life. For example, when Dakota shared his story about becoming one of Second Life's top grossing male exotic dancers, he noted all of the tools he used in order to create experiences for his clients. Through hegemonic masculinity and the hypersexualization of his digital gender, Dakota relied on the use of chims, AO, social media, and emoting to perform his male exotic dancing. Saffir also shared this level of hypersexualization when she discussed her involvement as a female submissive slave within the Gorean community of Second Life. Furthermore, Saffir exposed a phenomenon in Second Life where the exclusively female biological function of pregnancy in the physical world could be virtually experienced.   Through the pregnancy HUD, the biological function of a woman exemplified the gender social order of female avatars and, as Mead (1935) and Ortner (1981) noted, social roles that are based on biological and cultural differences create a hierarchical sex/gender binary system.

As a representational system, digital gender is encoded and decoded beyond the gender ideology of the physical world. Because computer-mediated communication provides another layer to this encoding/decoding process, the medium becomes part of the representation and message. More specifically, digital gender is seen as cultural construction encoded from the physical world, then scripted in computer programming and presented through the media aesthetics of a computer screen. This process produces

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experiences and meaning that blur the line between virtual and physical reality. Specifically, the construction of digital gender affects a great deal of the experiences one will have in Second Life. However, because the link between virtual and physical reality is so blurred, the effects of digital gender in physical reality are quite arguably more significant. However, it is important to see the overlap of virtual and physical in order to understand the outcomes of such digital experiences.

Blurring of Virtual and Physical Experiences:

Data from the focus group revealed ethical, moral and legal effects of digital gender in the physical world. Examples were reported through stories of sexual harassment, "age play" pedophilia, sexual violence and the commodification of gender. To better understand these effects, public discourse regarding the media portrayal of violence against women, hostile urges and aggressive behavior resulting from gaming, and the correlation between media represented violence and mass shootings were then presented.

While the data analysis of these stories indicated that the students in the focus group were bothered by such experiences, such as Katryna's virtual sexual harassment, there was also a level of objectivity. For example, when Dakota shared the stories about "age play" and the "RTK" scene he had witnessed, he suggested that these were possible outlets so that people wouldn't act on such deviant behaviors in the physical world. Saffir also appeared naive to the physical world effects from her experiences with the Gorean community. For example, although Saffir spoke of being a strong, independent, and dominant woman in her physical world, she wore a padlock on a chain around her

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neck that signified her slave, submissive female status in Second Life. Regardless, the importance of the virtual and physical reality overlap is complex and undeniably real. This is probably most notable in the physical world currency exchange of Linden dollars. As was reported by Dakota, there are real opportunities in Second Life to make money through the commodification of an avatar's gender. For Dakota, he was able to pay his physical world mortgage doing this. However, this came at a cost of spending nearly 70 hours a week in Second Life and an annoyed wife about his involvement with this type of adult entertainment activity in Second Life.

Although there is some discourse regarding the presence of computer-mediated effects, this study argues that there needs to be more. Specifically, there is a need for more discourse on how virtual experiences of digital gender create psychological, cultural and personal outcomes in the physical world. Therefore, the following sections discuss the contributions and limitations of this study and recommend future studies of digital gender scholarship. Finally, as more people experience life behind a computer screen, the blurring of virtual and physical reality continues, thus constantly creating new phenomenon for discovery.

Contributions of Study:

Current issues of the human/computer relationship, specifically about online identity, are often presented through cases of anonymity, identity theft, internet fraud, cyber bullying and misrepresentation. What all of these issues have in common is the authenticity of people and the computer-mediated reality of these people. This study examines a nuanced part of this human/computer relationship by examining online

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identity through the construction, performance and experience of digital gender. From a theoretical standpoint, the cultural phenomenon of digital gender represents the overlap of gender theory, media studies and digital culture scholarship, and requires more discourse about this type of virtual and physical blending of social constructions.

Because gender theory is mostly observed in the physical world, this study builds from the intellectual foundation established in physical reality. From this gender theory perspective, this study provides another layer of discourse not only on the ways in which gender is perceived and experienced, but also in how it is constructed and performed. However, the intention of this study is to illustrate the need for more empirical and philological inquiry of the digital gender phenomenon through gender theory scholarship. To help do this, digital gender is framed as a construction and performance of gender through mediated communication. Using media aesthetics theory, digital gender and the location of Second Life are deconstructed as elements of the computer screen and coded messages. More specifically, the elements of color, 2D, 3D, motion and sound, and the encoding/decoding model, provide a framework for observing digital gender as a mediated message. Through this approach, digital gender was presented as a gendered social order of the physical world, magnified through the processes of construction and performance and experienced through computer-mediated communication.

Through the emphasis of computer-mediated communication, this study blurs the line between media studies and digital culture scholarship. Scholars like Windley (2005), Wilbur (2000), Bell (2001) and Nakamura (2002) have already made the bridge, but this particular type of digital culture scholarship is intended to follow the works of Turkle (1984; 1994; 1997), Bruckman (1993), Hussain and Griffiths (2008) and Deuze (2006).

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Deuze (2006) once noted, "Digital culture has emergent properties with roots in both online and offline phenomena, with links to trends and developments predating the World Wide Web, yet having an immediate impact and particularly changing the ways in which we use and give meaning to living in an increasingly interconnected, always on(line) environment" (p. 63).

Limitations and Future Studies:

The findings of any study are limited to the demographic from which they were collected, analyzed and interpreted. In this case, the quantitative data provided several expected findings based on the demographic of community college students, at a particular institution and with particular majors. However, several findings were unexpected. More specifically, the students who participated in the focus group revealed some variables that undoubtedly influenced these findings. For example, five of the seven students had significant experience with the adult entertainment world, whether it was in Second Life or the physical world. These experiences tailored the discussions of digital gender to issues of the binary sex system, hypersexualization, gender social order, sexual violence and the commodification of digital gender. Because of this, it is recommended that future investigations of digital gender be based on a larger and more representative sample in order to provide more representative experiences of digital gender.

The findings of this study suggest that the constant blurring of virtual and physical reality in the construction, performance and experience of digital gender requires a great deal of future analysis and critical evaluation. For example, this study shows that

the construction of digital gender can be a quick process, done without much thought and having little significance. However, this process can also be incredibly loaded with cultural, social and emotional meanings that result in mechanical interactions. For future studies that focus on digital gender, it is also recommended that a controlled setting could provide another valuable layer to this type of phenomenon. For example, if using the community college demographic again, students could be required to construct, wear and perform as female, male or androgynous genders. Each avatar would need to be constructed and performed for the same amount of time. Moving around the larger grid of Second Life, students would visit several locations as each gendered (and non-gendered) avatar and record their experiences. Upon completion of this study, students would report their experiences and provide feedback on what they learned from the process of constructing and performing digital gender and how it affected their own perception of digital gender. Additionally, the researcher(s) would engage through participant observation and travel to the different locations with the students, observing and recording their interactions from a third-person perspective. The researcher would be looking for insight into the order of how digital gender was constructed and performed, which digital gender the student appeared more comfortable in, which digital gender more closely resembled them in their physical reality, how long it took for the construction process of the digital gender, what parts of the avatar were modified to represent the digital gender, what types of locations were visited and what types of interactions they had.

Concluding Thoughts:

The Internet has provided more than a means for traveling the information highway; it has provided a virtual playground through which people are communicating, interacting, and creating their own virtual selves. The effects and ethics of virtual representation are still being defined and many scholars, users, and people are interested in seeing what will happen with these digital experiences in the future.

A social construct like gender provides a way for humans to organize and partake in a shared experience. Although gender is spectrum and multidimensional representation of sex, it often gets confused for a binary sex system. Defining gender through the binary sex system often acts as a sorting tool from birth. This sorting is seen in examples of how we announce this first after the birth of our newest members. Additionally, there are still culture practices where babies are color-coded, girls in pink and boys in blue. Again, dichotomizing people into a binary sex system. Unfortunately, examples of gender through this lens are still a part of everyday life in Western society. Because of this, it is important to continue the discussion about gender identity and the effects it has on us individually and culturally. As noted by Fausto-Sterling (2000), gender "is never merely individual, but involves interactions between small groups of people" (pp. 243-244).

In the digital world, the binary sex system and gender social order are encoded and decoded as mediated messages. Through hypersexualization and hegemonic masculinity, the avatar's body type, facial features, mannerisms and gestures, clothing options and even color choices affect the virtual experience, and these virtual experiences can affect physical world outcomes. As Turkle (1984) noted in the introductory quote to this dissertation, "I believe that what fascinates me is the unstated question that lies

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behind much of our preoccupation with the computer's capabilities. That question is not what will the computer be like in the future, but instead, what will we be like? What kind of people are we becoming?" (p. 13).

On a micro level this study has illustrated how digital gender is constructed, performed and experienced through computer-mediated communication. On a macro level, this study explores how people and communities are created, facilitated, replicated, and experienced in everyday life through a screen. According to Donath and Boyd (2004), "The use of the internet has greatly expanded and today it is much more likely that one's friends and the people one would like to befriend are present in cyberspace. People are accustomed to thinking of the on-line world as a social space. Today, networking sites are suddenly extremely popular" (p. 71).

The current trends in social networking sites indicate that the phenomenon of digital gender is growing and gaining more momentum. Through online gaming and 3D immersive environments, like Second Life, digital gender is a contributing factor for predicting what type of people we are becoming. Because of these virtual ecosystems, millions of people will continue to experience digital gender every day. Thus, these experiences could arguably be one of the most significant aspects of the digital world.

In conclusion, this study answers Turkle's question about what kind of people we are becoming. We are becoming constructions of constructions. Born into a physical world made of tangible and non-tangible things, humans construct their reality. Because of computer-mediated communication and reality, these constructions are now coded and experienced through a computer screen. The intention of this study is to draw intellectual attention to the phenomenon of digital gender and illustrate the importance of

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overlapping gender theory, media studies and digital culture scholarship. By presenting

this study through these lenses, the blurring of lines between fields also illustrates the

blurring of lines between virtual and physical reality. Because digital gender is a social

construction based on human conceptions, the meaning and significance of digital gender

is undeniably shaping our own experiences online. We are immersed in a digital world

that allows for us to experience ourselves in new and malleable ways. Yet, this world is

also programmed with social constructions that constrain online identity from the very

beginning. In some ways, digital gender is a looking glass that can reflect how we see

ourselves and how we see others. However, it can also reflect the binary sex system,

hypersexualization, gender social order and gendered violence that are part of digital

gender. Ultimately, this reflection can act as a tool for change, or it can continue to create

and sustain gender roles and expectations.

APPENDIX A

ESTABLISHING RELATIONS AND ENTRY INTO SGDI PROGRAM

Re: your Second Life project   Message 121 of 121 ◄ ►

From   Alina Padilla-Miller
To   Aaron Ragan-Fore
Cc   'Jonathon Richter'
Date   2007/10/12 19:12

Hello Jonathon,

As noted in the following email (thank you Aaron for the introduction),
my name is Alina Padilla-Miller and I am a second year doctoral student
in the school of Journalism and Communication. I have been doing
research on virtual representation but am a bit new to the world of
Second Life. I have discovered that there are many interesting facets to
this world, therefore, peeking my interest in conducting research here.
One in particular area that I find very interesting is the way people
(specifically women) create their avatars. I recently attended/presented
at a conference in York England on web 2.0. I saw a few presentations
that dealt with Second Life and the commodification of avatars. I found
the whole idea of buying and selling body parts and the very real
attachment people have for these avatars interesting. This leads into my
research interest of examining the reasons and effects for creating
digital gender (specifically the female gender) in SL. Aaron suggested
that you are quite familiar with the ins and outs of SL and that you
would certainly have some insight into the whole structure of SL. Though
I can imagine you are a very busy person, I would surely love the
opportunity to meet with you. If you are able to find the time please
let me know.
Thank you for your consideration,
Alina Padilla-Miller

On Thu, 11 Oct 2007 14:02:51 -0700, "Aaron Ragan-Fore" <aprf@uoregon.edu>
wrote:

| I talked to my friend Jonathan Richter (Wainbrave Bernal),
who I mentioned to you last night. Jonathon, who is copied here, works
in
the UO's Center for Advanced Technology in Education, and a good deal of
his work (as of last year, at least) relates to educational applications
of SL.
He's a bit of a SL guru, at least I think so, and is good at drumming up
offbeat and interesting uses for virtual worlds. I don't know if he's
done any work specifically on gender. Incidentally, I profiled Jonathon
for Eugene Weekly last spring:

| http://home.comcast.net/~araganfore/pdfs/SecondLifeEW.pdf

From   Jim Bailey
To   Alina Padilla-Miller
Date   2010/04/02 15:39

> On Fri, 19 Mar 2010 16:29:48 -0700, "Jim Bailey" <baileyj@lanecc.edu> wrote:
> > Alina,
> >
> >
> > I am addressing this to you and copying Kirsa Whedon at LCC. Kirsa is the person who will be setting up the PO so that
we can go forward with this. I am also copying Stacey Schultz, who is my boss at Lane, and Jonathon Richter.
> >
> > My plan is that we set up a PO to run until June 15th in the amount of $1500. This will cover you for $12 per hour for
about 10 hours per week. I expect that some weeks you will do a little more and some weeks you will do a little less. I expect
that you will keep records of your time and accomplishments and that you and I will coordinate weekly to make sure we are
both in alignment.
> >
> >
> > The tasks that we are looking for you to work on are summarized below.
> >
> >
> > If this sounds good, please work with Kirsa to get the paperwork done.
> >
> >
> > Once that is completed, I will send you an email with links to the courses that we are going to be teaching so that you can
look at them and provide an assessment of them.
> >
> >
> > We are starting our term March 29th, so it would be great if we could arrange some hours that you would be available
in-world. I will talk to you more about possible schedules later.
> >
> >
> > Thanks jim
> >
> >
> > -----------------------------------
> > Tasks:
> >
> > 1) Reviewing our materials and suggesting ways to improve the gender neutrality of them.   In connection with this,
suggest additional ways we might reach out to attract more girls and women to our courses.
> >
> > 2) Act as an in-world lab aide -- especially for the first couple of weeks of 125SL, 125G, and the new high school sessions.
Help students and document what problems they are reporting.
> >
> > 3) Take the courses and review back from a student perspective what works and what does not -- again considering
gender issues.

Course Permission

From   Jim Bailey
To   apadilla@uoregon.edu
Date   2010/07/06 16:56

To whom it may concern,

I am PI on NSF ATE project 0802580.

Alina Padilla-Miller has discussed her research with me and my co-PI Jonathon
Richter. As part of our project, I am teaching two courses at Lane Community
College this summer -- CIS 125SL Introduction to Second Life and CIS 125G
Introduction to Game Development. I have given Alina permission to attend any
of my class sessions, either in real-life or in Second Life. I have also given her
access to the Moodle modules for this course so that she can observe the pre
and post questionnaires as well as the various discussion groups and other
assessments that we will be using for this course. She is also organizing a focus
group from the students in this course and I am in support of this effort. We
will be providing an option for students to provide consent for Alina to view their
course progress. For students who have not provided consent, she will only be
able to view completely sanitized results.

If you have any additional questions, please contact me via email or by phone at
Lane. My office number is 541-463-3148.

Jim Bailey

EXIT SURVEY QUESTIONNAIRE

Multiple choice

- Opinions about Second Life prior to the class
- Course content: Preparing for first assignment "journey"
- Course content: Preparing for second assignment "rabbit hole"
- Course content: Preparing for third assignment "welcome to your new home"
- Course content: Preparing for fourth assignment "the look you've always wanted"
- Course content: Preparing for fifth assignment "pizza in your back pocket"
- Course content: Preparing for sixth assignment "To Roam (or not)"
- Course content: Preparing for seventh assignment "To the mall and back"
- Course content: Preparing for eighth assignment "Talking to teacher"
- Course content: Preparing for ninth assignment "Cubes, spheres and pyramids"
- Course content: Preparing for tenth assignment "Mom's attic to Second Life"
- Course content: Preparing for eleventh assignment "Where should we put the chimney"
- Course content: Preparing for twelfth assignment "Opening doors/scripting"
- Course content: Preparing for thirteenth assignment "From tundra to rainforest"
- Course content: Final project

Likert scale

- Personal interest in math
- Personal interest in video games
- Personal interest in science
- Personal interest in computers
- Personal interest in engineering
- Personal interest in sports
- Engagement comfort level in a face-to-face format
- Engagement comfort level in a blended face-to-face and online format
- Engagement comfort level in a completely online format
- Engagement comfort level in meeting sometimes in Second Life for class
- Engagement comfort level in meeting all the time in Second Life for class
- Value of weekly meetings in face-to-face format
- Value of no meetings in online format
- I found Moodle user-friendly for this class

Dichotomous

- Bought optional course book
- Plans to get a job after community college degree
- Plans to go to a university after community college degree
- Plans to join the military after community college degree
- Plans for future community college classes in biology
- Plans for future community college classes in geometry
- Plans for future community college classes in chemistry
- Plans for future community college classes in trigonometry
- Plans for future community college classes in physics
- Plans for future community college classes in environmental science
- Plans for future community college classes in algebra
- Plans for future community college classes in calculus
- Plans for future community college classes in computer science
- Plans for future community college classes in earth science

Open-ended

- Previous hours spent in Second Life prior to class
- Why they did or did not buy the optional course book
- Other plans after community college degree
- Ideas for job options after community college degree
- Interest changed after taking computer science classes
- Interest changed in major because of this computer science class
- What was gained from taking the class
- What worked well in Moodle
- What were the problems of using Moodle
- Course content: Comments on first assignment "journey"
- Course content: Suggestions for changes to first assignment "journey"
- Course content: Comments on second assignment "rabbit hole"
- Course content: Suggestions for changes to second assignment "rabbit hole"
- Course content: Comments on third assignment "welcome to your new home"
- Course content: Suggestions for changes to third assignment "welcome to your new home"
- Course content: Comments for fourth assignment "the look you've always wanted"
- Course content: Suggestions for changes to fourth assignment "the look you've always wanted"
- Course content: Comments for fifth assignment "pizza in your back pocket"
- Course content: Suggestions for fifth assignment "pizza in your back pocket"
- Course content: Comments for sixth assignment "To Roam (or not)"
- Course content: Suggestions for sixth assignment "To Roam (or not)"
- Course content: Comments for eighth assignment "Talking to teacher"

- Course content: Suggestions for eighth assignment "Talking to teacher"
- Course content: Comments for seventh assignment "To the mall and back"
- Course content: Suggestions for seventh assignment "To the mall and back"
- Course content: Comments for ninth assignment "Cubes, spheres and pyramids"
- Course content: Suggestions for ninth assignment "Cubes, spheres and pyramids"
- Course content: Comments for tenth assignment "Mom's attic to Second Life"
- Course content: Suggestions for tenth assignment "Mom's attic to Second Life"
- Course content: Comments for eleventh assignment "Where should we put the chimney"
- Course content: Suggestions for eleventh assignment "Where should we put the chimney"
- Course content: Comments for twelfth assignment "Opening doors/scripting"
- Course content: Suggestions for twelfth assignment "Opening doors/scripting"
- Course content: Comments for thirteenth assignment "From tundra to rainforest"
- Course content: Suggestions for thirteenth assignment "From tundra to rainforest"
- Course content: Comments for Final project
- Course content: Suggestions for Final project
- Course content: Favorite assignment
- Course content: Recommend this class

Let's talk Avatar!!

Hello, my name is Alina Padilla-Miller and I am a graduate student at the University of Oregon. Just like you, I am interested in Second Life and all of its potential. I'm also really interested in the avatars we create and what they represent. Someone one once said "you are what you eat", do you think this might apply to "you are what you code"?

- **What is "Let's Talk Avatar"?**
  I thought it would be really interesting to ask questions and share ideas with likeminded people regarding the creation and performance of our avatars. "Let's Talk Avatar" is intended to be a group comprised of your classmates that would like to meet and talk about their experiences in Second Life. Topics can include discussion on who we are in the physical world and how this affects our avatars experience in Second Life.

- **So what does this mean to you?**
  Jim has given me the privilege to participate in this class and hopefully get to know some of you. I am proposing that you consider joining a group of avatar enthusiasts and talk shop once a week after class. If you are interested please read the following and sign on the dotted line to indicate your interest and acceptance to be part of this group.

. . . .

Let's Talk Avatar consent form

This group will meet once a week after class. We will be discussing topics related to our avatars and experinces in Second Life. Each time we meet a list of topic ideas will be presented that we can choose from and explore. Because I am also a student, I would like to use what we discover in my study so that we can inform the greater world the importance of Second Life and avatar representation. I will not be collecting your real names and am sensitive to your privacy. If you choose to be involved in this group, you will have the right to walk away at any time with no repercussion to your grade or class involvement. This should be something you enjoy discussing with fellow classmates. If you agree please sign below and bring back to the next class period.

Signature ……………………………………………………………………………… Date………………………………………..

APPENDIX D

ADDITIONAL DEMOGRAPHIC DATA FROM SGDI PROGRAM

The data collected in the following graph was part of the "Exit Survey." This graph shows the age range between the 75 students.

Age range

Age range	18-21	22-30	31-39	40-48	49-51	52+
Count	7	23	7	4	1	0
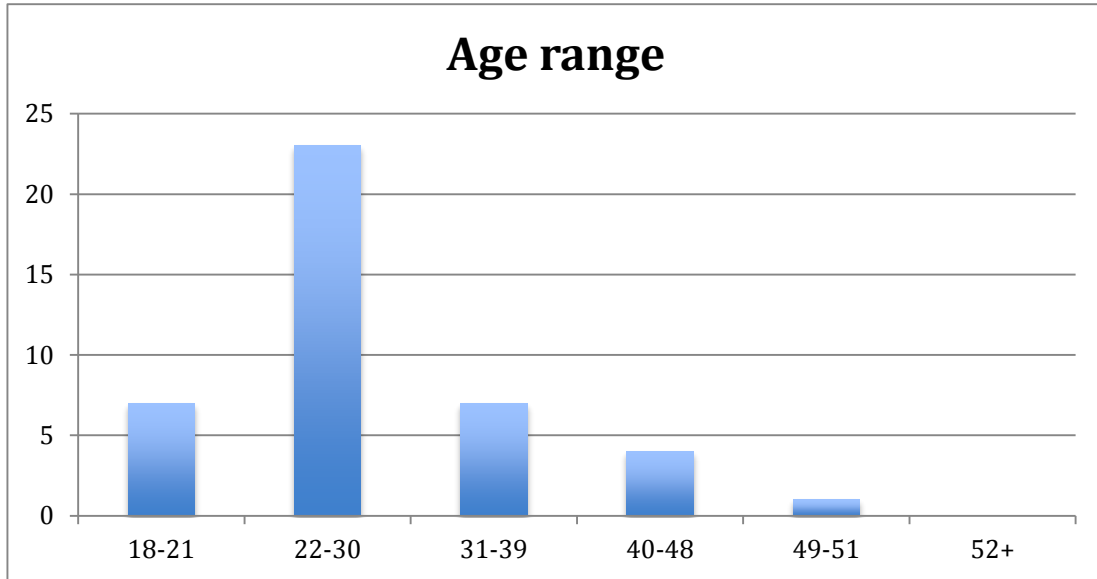
PERCEPTION OF GENDER CROSSTABULATION

FROM SUMMER 2010 TERM

Perception of Gender Crosstabulation

Count

		Gender		Total
		Female	Male	
Perception	Like it	6	11	17
	Not what I expected but like it	5	15	20
	Useful for education, business, work only	1	2	3
	Don't like it	0	6	6
	Unsure	2	2	4
	Ok	0	6	6
Total		14	42	56

Q12_online comfort level->in a face-to-face format

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not comfortable	1	2.4	2.4	2.4
	Comfortable	8	19.0	19.0	21.4
	Very comfortable	33	78.6	78.6	100.0
	Total	42	100.0	100.0	

Q12_online comfort level->in a format that always met in Second Life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not comfortable	7	16.7	16.7	16.7
	Comfortable	11	26.2	26.2	42.9
	Very comfortable	24	57.1	57.1	100.0
	Total	42	100.0	100.0	

The following graphs show snapshots from 2011 and 2013 regarding the activity
in Second Life.
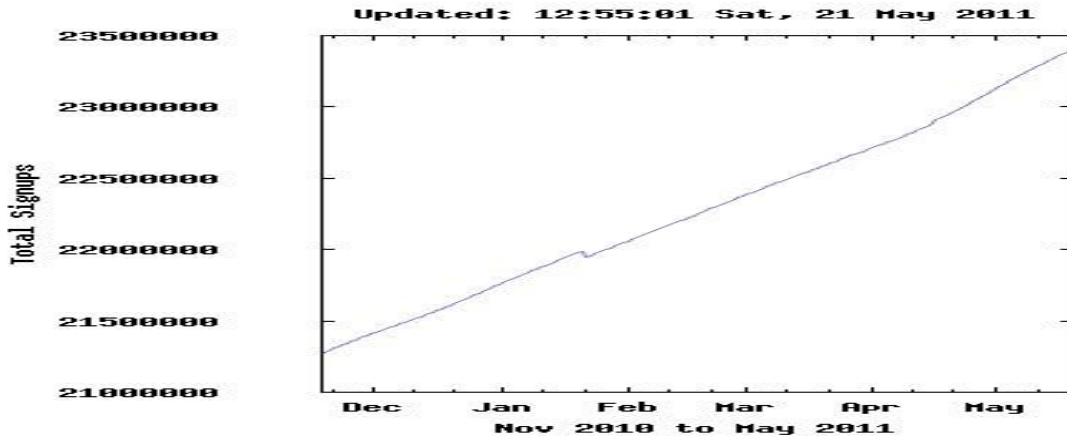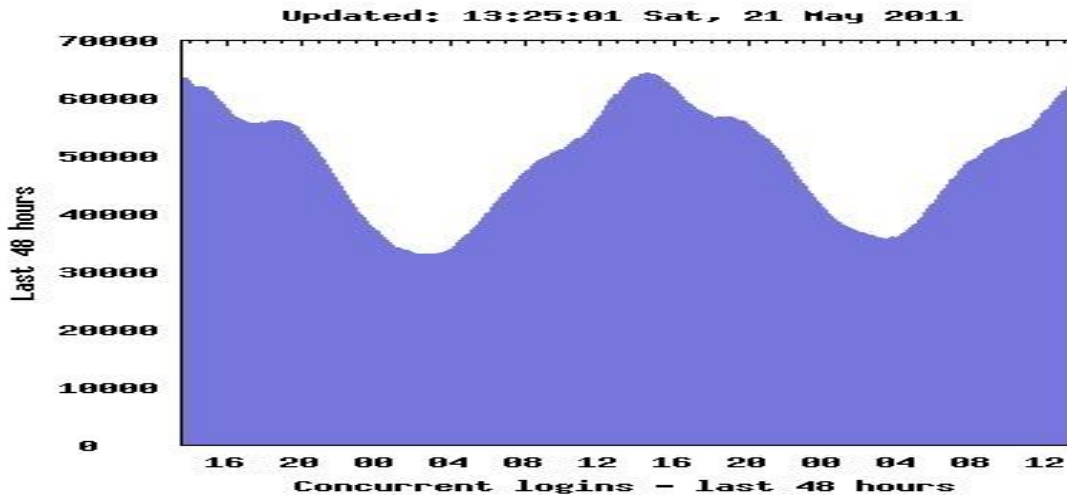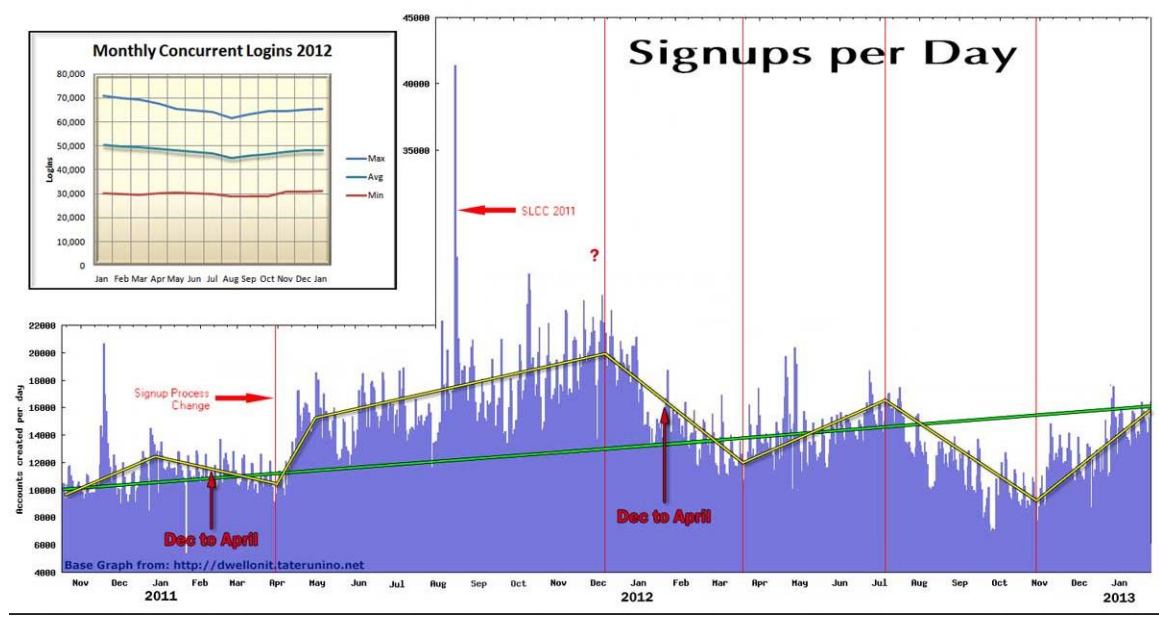
APPENDIX G

SCREENSHOTS IN SECOND LIFE OF THE SGDI PROGRAM

FOCUS GROUP DURING SUMMER 2010

Using Flight Feather to look down on a Second Life island.

This screenshot shows Jim, the SGDI program PI and instructor, as a female avatar.

A lesson during one of the class meetings in Second Life from a guest speaker.

Students getting ready for class to begin as they wait in Second Life.

Angel from the focus group showing her coding skills by embedding YouTube onto her plot on the SGDI grid in Second Life.

Saffir (Moonshine) and her real life husband wearing HUDs that display their slave and master roles.

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