FOR THE FUN OF IT: ADOLESCENT GIRLS' EXPLORATION
OF INFORMATION TECHNOLOGIES AND CYBERSPACE.

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Abstract

Adolescent girls of today are the first generation to have wide spread although not universal access to information technologies such as the Internet. This study looks at how adolescent girls use and interact with information technologies. Several participants at the 2000 "Go For IT Girls" conference were both interviewed and asked to demonstrate their information technology usage. The study found that, while girls are confident with their information technology usage, they tend to limit their usage to communication areas. They construct themselves as computer users, but use the technologies in socially acceptable feminine ways. The societal messages of consumerism and the beauty myth work to keep adolescent girls in traditional spaces. They explore cyberspace, but only the socially sanctioned parts. The participants are constructing themselves as computer users, but this identity in not likely to translate into increased numbers in computer science classes, or in future careers in Information Technology fields.

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Chapter 1

Introduction

1.1 Introduction

My personal interest in information technologies comes out of my own love/hate

relationship with technologies. I was first introduced to computers as an adolescent in

school, and did not own a personal computer until first year university. Once I owned a

computer, I learned only the basic amount needed to run the word processor and games,

and left all of the maintenance and repairs to male friends and relatives. While I would

now describe myself as a competent computer geek, I have struggled to overcome issues

of class and gender in relation to technologies. I grew up in a lower middle class home

where there was no extra money for a home computer[1]. While I was in high school I

took both computer applications and computer programing courses, but I somehow still

felt that computers were really more of a "guy thing". Now I am confident that I can fix

any problem that arises with my computer and spend a great deal of time "tinkering." It

was not until I participated as a volunteer in the 1999 "Go For IT Girls"[2] conference held

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[1] I am using the term computer here to mean the actual machine. I use the term information technologies to include both the machine and the various applications the machine can access such as the Internet.

[2] The "Go For IT Girls" conference is held annually. The goals of the conference are to expose adolescent girls to the various career options in information technologies and to encourage girls to pursue these careers.

at the University of Saskatchewan that I realized my experience of not becoming confident with the technologies until I had already committed to other paths at university may not be uncommon. I became curious as to how today's adolescent girls[3] related to and interacted with information technologies.

Technologies such as languages, bodies, tools, institutions, and ideologies construct society, and information technologies such as those resulting in home computers and the rise of the Internet are having an impact on Western Society. Adolescents today are the first generation to have grown up with these technologies widely although not universally available. Many adolescent girls now have access to a range of information, entertainment and communications media that were not widely available only a generation ago. While television and print media, and peer and family interactions undoubtedly still have great impact on adolescent girls, I am interested in what adolescent girls are choosing to use the new information technologies for and what impact these technologies may be having on girls' sense of identity or sense of self and sense of community. I am also interested in what kinds of messages adolescent girls are getting from family, peer groups and Western culture in relation to technologies, and what tools they are using to mediate these messages.

1.2 Study Objectives and Research Questions

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[3] I use the term adolescent girl or simply girl out of lack of a better term. The participants are not yet women because they are minors, but are not really girls or children either. The term "girls" also carries derogatory gender implications that the masculine term "guys" does not convey. This is one example of the complexity of dealing with female interview participants that are almost but not quite adults.

The literature in the areas of technologies and information technologies is useful because it provides a framework for analysis of technologies, including more specific analysis of information technologies. However, much of the literature written about information technologies and girls appears to be dated. It assumes that girls are lagging behind boys in their usage of information technologies. My participants appeared to be in no way lagging behind the boys, but rather have different uses of information technologies than boys do. They are accessing what interests them in information technologies and using them for their own purposes. The literature may be out of date because of the rapid changes in information technologies over the past few years and in fact may be based on studies done on older girls, or it could be inaccurate because no one has spoken to the girls about what they are actually doing. I plan to use the deconstructive[4] tools provided by an analysis of technologies to look at: 1) what girls are doing with information technologies, 2) how this affects their concepts of self, 3) how information technologies are affecting the development of communities for the girls, and, 4) if they feel that information technologies will be a focal point for their future careers.

The study has been guided by the following broad questions. How are the girls using information technologies? Why are the girls using information technologies? How are information technologies affecting girls' understanding of themselves? How are the girls mediating their seemingly conflicting roles as computer users and feminine

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[4]I use the term deconstruction or deconstructive to mean simply the examining of images, text and information for multiple and less obvious meanings.

beings? Finally how are the girls' actions influenced by world events and trends in Western society? In an attempt to understand these question I have used an interdisciplinary approach involving both open-ended interviews and textual analysis.

1.3 Chapter Overview

In Chapters two and three I will give a brief overview of the previous literature and outline my study. I will look at the literature in the areas of technologies including both information and gender technologies, as well as a more specific overview of the literature on girls and computers. In Chapter three I will outline my methodology and participant selection process. I will also look at some of the ethical issues and research complications involved in interviewing participants who are old enough to speak for themselves, but still young enough to require parental permission.

I will devote Chapters four, five and six to what the girls are using the computers for in their leisure time and how this seems to be affecting both their concepts of self and how they interact with others. The previous literature on girls and computers, that is for the most part school related, suggests that girls' computer use is limited to certain areas. For example, girls are expected to use the computer for typing and homework, but are not necessarily expected to play with the technologies. I feel that it is important to explore what the girls are actually doing for fun at home where they are away from the public gaze, rather than simply focusing on the classroom setting. I will look at how their family and peer group relations are affected by information technologies. Relationships are affected by where they occur and I will need to explore the differences

between real space and virtual or cyber space. I will also explore some of the broader

implications of my research. These include the effects consumerism, the capitalist

economy and the beauty myth have had on adolescent girls and society, as well as how

the nature of relationships may be changing through the use of information technologies.

These themes continually occur in my participants' responses and are also reflected both

in the web pages I have chosen from the demonstration part of the interviews for textual

analysis, and throughout western popular culture.

Finally in Chapter seven I will look at some of the possible implications of this

research and speculate on the question of why few women are choosing computer

science as a career path. I will also address whether or not I expect the participants in

this study and their generation of computer savvy girls to change this trend of under

representation in computer courses.

Chapter 2

Theoretical Foundations

2.1 Theories of Gender, Technologies and Information Technologies

The literature review for this study covers four main areas. The first section will examine definitions of both technology and information technology and their relevance to this research. The second area, history of gender and technology will include a brief discussion of women's historical relationship to work and technology, the representation of women in technology and information technology media and finally how women are using and/or subverting high technology for their own purposes. The third section, girls and information technology, will look at both girls' attraction to information technologies and some of the reasons girls may be rejecting or not pursuing their interests in information technologies. The last section will examine more fully some of the theoretical foundations upon which my work is built.

2.1.1 Definitions of Technologies and Information Technologies

To fully understand the relationship between gender and technology I must take into account the different ways of looking at technologies. My definition of technologies is extremely broad and inclusive. It recognizes complex interactive systems at work in the construction of self, others and the things of the world. Technologies, as I shall describe them in this literature review, include body technologies; tools and gadgets;

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representational systems, discourses and the apparatuses of knowledge; and concepts, ideas, imagination and ideology. An analysis of any technology must include not only how it works and who built it, but also for whom it was intended to be built, who is entitled to develop the skills to use it and who uses it, and what messages they get from the use of the programs. In other words, how does the technology affect the identities and social interactions of those who create, distribute, use and control the technology? How are technologies of discourse, for example, shaping the environments in which we live, and how are these environments shaping identity construction? Who benefits from the technologies and whose interests are served through the development of the technologies?

The most basic definition of technology that I have found is "the objects we call tools or machines" (Terry and Calvert 1997:2). This is the most common understanding of technology. But as Griffiths suggests, this definition makes up only a small part of technology. Griffiths' (1988) argument that technology is "tinkering with things, putting them to practical use, creating, making and fixing things" (147) predates Terry's simple definition, but importantly includes the ideas of creating as well as simply using. Griffiths (1988) also points out that the definition of technology has evolved as a "caricature of stereotypical masculinity" (148). In the past, technology meant tools primarily. It was associated with "being sweaty and oily, and even though the sweat and oil have vanished it remains powerful, hard edged, hard nosed, rational, unfeeling, real world, where the action is and good for business" (Griffiths 1988: 148). How masculinity is defined has also changed from images associated with manual labor and

blue collar work, to images associated with computers, office jobs and business. Wajcman (1991), like Griffiths, believes that technology and tools are not neutral objects that are gendered only in the ways that they are used, but that technologies themselves are gendered because they were created in a specific environment for a specific use (22). In the past technologies were created either with men or with women in mind and were designed accordingly.

Although the tools that are used, and perhaps the knowledge of how to use them, are what is commonly meant by technologies, I contend that technologies do not operate solely in the world of concrete things. There are many other kinds of technologies at work in every aspect of human experience. Calling on wide ranges of knowledge and skills, they serve to construct identities, communities, notions of reality and culture themselves. De Lauretis (1987) argues that discourses are technologies of gender which both create and are created out of and distributed through the various forms of communication (De Lauretis 1987: 13). Terry and Calvert (1997) build on these ideas by arguing that the construction of technology only in terms of gadgets and tools lets the designer "off the hook" and allows tools to be seen as neutral or non-gendered (3). By seeing technology also as discursive and ideological, producing value-laden gadgets and tools, interpretations of the gendered nature of instruments become more sustainable and the ideologies driving the notions and expertise of the designer can be taken into account. Conceived in this way, ethics and issues of power are given a place within the functioning of technologies. They are absolutely essential in the construction of identity, knowledge, reality and value.

Using this broad understanding of what technologies are and do, in this project I am looking specifically at software. While the machines run the software, it is the programs that people, and specifically the adolescent girls in this study, use and interact with. I am also looking at the interface between the human and the machine. Terry and Calvert (1997) investigate how technology is defined "in terms of human/machine interface . . . how particular machines and mechanisms accomplish tasks of configuring, effecting, mediating and embodying social relations" (4). Haraway (1991) extends this way of thinking and argues that technologies have affected social relations to the degree that there is no longer a true separation between humans and machines (154). She points out that "a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanent partial identities and contradictory standpoints"(Haraway 1991: 154). The interaction or interface between people and machines also shapes and redefines the human body. The body is reshaped in positive ways through medical advancements that save lives and in negative ways through the desire for the perfect body. Like Haraway, Livingston (1997) also believes technologies have become such an important tool for communication and processing knowledge that human interaction and human social relations are affected by the use of the technologies. The degree of separation that communication technologies allow has changed the way people communicate with each other, and in the case of the Internet has allowed for different ways of forming relationships

By acknowledging the complex and overlapping nature of the myriad forms of technology, the specific area of information technologies can be analyzed. Information

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technologies are material and conceptual tools that are used; they are shaped and driven

by discursive and ideological pressures. By contextualizing information technologies in

the wider definitions of technologies a more complex and thorough analysis is possible.

This is the basis from which I begin my exploration into the history of information

technology.

2.2 History of Women and Technologies

Historically, the relationship between women and technologies is long and

complex. Yet out of this relationship come many of the stereotypes that girls are now

facing in their own interactions with technologies. The three basic categories that I have

used to describe women's relationships with technologies are work, representation and

subversion.

2.2.1 Historical Overview of Women and Technologies

Women have been using technologies and especially tools for a long time.

Women were the food preparers and gatherers of the hunting and gathering societies.

While women may not have participated in the actual hunt in most hunting and gathering

societies, they shared in or were responsible for the skinning and processing of the food

and hides. Evidence from hunting and gathering societies suggests that women created

the early tools necessary for farming, cooking and other domestic chores (Wajcman

1991:17). However, women's contributions to the development of tools and other

technologies in the Western world have either been seen as irrelevant in the case of the

domestic inventions, or else ignored and credited to men. The inventions that were used primarily in the private sphere were overlooked and inventions created and used in the public sphere were credited to men regardless of the extent of women's participation in the creation of tools.

The division of the public sphere and the private or domestic sphere in the Western world occurred as a result of the Industrial Revolution when a largely rural society and cottage industries were replaced by factories. Workers began to work for wages rather than producing a product from their home that they would then sell or barter themselves within the local community. Cottage industries had been home based, and women and men would work together to create their products. With paid labor moving out of the home into the factory, and unions forming to protect the male worker, women were excluded from the better paying technical jobs and encouraged to remain in the private sphere (Wajcman 1991: 21). The private sphere quickly became associated with femininity and the work that was done in this realm devalued. The main purpose of women in the private sphere was to reproduce the next generation of workers, and to take care of the current worker. The public sphere was where the historically important inventions have occurred, at least according to the majority of history books. Useful gadgets such as the broom, the baby bottle and the needle did not gain a place in history alongside the printing press, the electric motor or even the sewing machine which were presented as great inventions. Any involvement women had in creating tools for the public space was quickly attributed to a husband, brother or father (Wajcman 1991: 16). Educated women were not allowed to participate in the public space and did not receive

any recognition for their efforts. Working class women have participated in public space or organized labor at least since the Industrial Revolution, but have held the most menial, low paying jobs. They were given neither the required education nor access to the higher paying jobs. Male run unions prohibited women from operating machinery and declared all but the least paying and most menial jobs too dangerous for women (Wajcman 1991: 21). They also excluded women from operating equipment during any periods of time other than daylight hours.

In the past century, technologies have been used to keep women in positions of powerlessness and isolation. Technologies have developed within a specific culture that sees men as creating and controlling technologies, and women using simple technologies that are supposed to make their lives easier (Lupton 1993: 13; Cockburn and Ormrod 1993: 17). Women are also used as support staff to the men that control the technology (Lupton 1993: 13) serving as the typists, the keyboard operators and the switchboard operators.

Briefly looking at the literature on women's involvement with a variety of technologies is important to understand how current attitudes around gender and information technology have developed. In the Western world, technologies that have been marketed to women have been created not with women in mind. Rather, they have been adapted from industrial to household use (Cockburn and Ormrod 1993:18; Chabaud-Rychter 1995: 97). The private or domestic sphere was seen as an untapped market for industrial goods. Manufacturers saw the domestic market as a way to expand their own markets and began adapting industrial machinery for domestic use. As Lupton

(1993) points out, women were convinced that they needed this machinery or appliances through aggressive marketing techniques that told women they were not successful homemakers unless they owned and operated (but not necessarily understood) the latest appliance (7-13). However, women's use of machinery either in the private sphere of the home or in the public sphere of business has not been seen as skilled labor and until recently not even as work (Lupton 1993: 44,Wajcman 1991: 89). Moreover, women's use of technologies other than large appliances in the domestic sphere has been virtually ignored. Women's creations in the private or domestic sphere have been seen as useful items but are not really considered technical tools For example, the invention of the baby bottle has not been recorded as a significant technological invention, not because it is not a useful tool, but simply because it was a tool used almost primarily by women. The work performed by women using tools such as sewing and knitting needles, tools associated with home based health care or food preparation are not seen as skilled labor but rather as crafts. The feminization of these skills results in them being seen as "unimportant"; they are not considered to be use of technologies.

2.2.2 Women, Work and Technologies

As middle class women joined working class women in the public sphere, they continued using technologies, but only in the lowest paid and least respected jobs (Frissen 1995: 82). Middle class women have been hired as typists and switchboard operators (Lupton 1993: 30). Even though both positions required training, they were seen as devalued positions because "the female worker [is] a human extension of a

technological system, charged with mediating-rather than producing-messages" (Lupton 1993: 29). The operator and the typist only pass on what someone else has either said or written. While the woman is using the machine and running the technology, she is seen as having limited agency. Instead she is only there as a support to the manager or boss.

The creation, use and maintenance of the computer has not meant widespread employment for women. Women overseas are not benefitting from the work they receive from information technologies. Rather, they are seen as a source of cheap laborers both in developed and developing countries (Plant 1998: 74). Women's and children's small hands are perceived to make them excellent assemblers of computer parts, but they work for long hours in deplorable and unhealthy conditions for little pay. Women in developing countries, as well as many Western women, do not have the means to acquire and use a computer themselves.

Western women have been involved with the creation and programing of computers from the beginning of the computer revolution (Wajcman 1991: 18). The term computer was initially used to "describe the function of women who performed calculations and who wired hardware for the first digital electronic computer . . . ENIAC" (Millar 1998: 19). Over the past fifty years, the definition of computer has changed to mean "the machine" and not the user, and the computer is no longer seen as feminine. The language, purpose and users of computers have become associated with maleness or masculinity (Millar 1998: 111; Lockhead 1985: 116). Millar, for example, in her examination of the magazine Wired, one of the leading sources of information about digital culture and computers, found that Wired portrays a masculine world where

masculinity and power rule over nature and femininity (Millar 1998: 117). Women have

been displaced from any power or agency in the digital world, and are represented

primarily as sexual objects (Millar 1998: 97) or as consumers (Millar 1998: 145).

While much of the advertising of computer systems and products has been

aimed at men (Hawkins 1985: 170), Millar (1998) points out that advertisements are

now targeting women (21). However, these advertisements show women using

technology in ways that allow them to remain in traditionally feminine spaces. For

example, one advertisement displays a woman using a laptop at home to do business

while at the same time still caring for children (Millar 1998: 21-2). Millar (1998) points

out that computers give women the technology to work in the paid labor force, but to do

it from their own private home (11-12). This allows women to maintain the traditional

roles of wife and/or mother, yet still earn a paid wage. This continues to encourage the

myth that mothering is necessary but not a full time job. The discourses reflected in

these advertisements construct a world where women are free to be anything they want,

yet still must maintain the traditional roles assigned to them and remain in the confined

space of the private sphere. Unfortunately, as Millar (1998) points out, jobs that allow

women to work at home are poorly paid, sporadic, lack benefits and can result in the

isolation of workers because there is no common gathering place such as a coffee or

lunch room (45). At the same time, technology is also used to monitor workers'

behavior at work or while working from the home in such a way that the boss is literally

always looking over your shoulder (Millar 1998: 44). Because women tend to hold less

power in companies than men, their actions are often more closely monitored by the new

technologies (Millar 1998: 44). As a result, women are not only subordinate to their bosses but to the program that is monitoring them. Menzies (1996) in her discussion of the "new economy" or information economy looks at issues of power and agency in the use of technologies. She argues that the information economy "divides those who work with computers and control them from those who work for computers and are controlled by them" (Menzies 1996: 11). Menzies (1996) sees technologies and monitoring devices as becoming the new management that never takes a break and never looks the other way.

2.2.3 Women and the Internet

The Internet has developed out of the masculine space of computer culture and the main people to use the computer and the Internet have been western, white men (Spender 1995: 193, see also Millar). The masculine nature of the Internet is evident in the negative representation of women both online and in other computer programming (162). The language of the Internet reflects this masculine culture. Turkle (1995) examines the masculinization of computer language and culture, which is characterized by aggressive or militaristic metaphors:

> programs and operating systems are 'crashed' and 'killed.' For years I wrote on a computer whose operating system asked me if I should 'abort' an instruction if I could not 'execute.' (62)

The masculine nature of the technologies is also represented through images on the Internet. Pornography is a big part of the Internet and is one of the reasons women are not always comfortable online (Spender 1995: 212). Women are represented as

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available sexual objects that are waiting for a man. The Internet contains graphic images of violence, or implied violence directed at women. The prevalence of pornography online may account for some of the explicit "come ons" that women receive on chat lines if they identify as female. In computer games women are represented as sexual objects that are available to the presumed male player or vulnerable to his aggression and violence (Dietz 1998: 438).

The online pornography demonstrates that women are not represented in the same ways that men are in public space. These images combine to reinforce the patriarchal discourse that exists in society that says women are either mothers in the private space or loose women available in public space. Pornography is used as a reminder of the threat of violence women experience in public spaces and is used to control the public space. Pornography continues to be an excuse used to keep girls, and to a lesser extent boys, from having access to the Internet. It is also a reason given by some women for not wanting to surf the Internet, but using it only for a specific purpose.

Spender argues that because men have outnumbered women on the Internet, the rules that exist are all masculine rules. She argues that women will have to achieve a critical mass online before a more balanced or woman-friendly space is achieved (Spender 1995: 192). Spender sees the Internet as aggressive (in chat rooms especially), highly sexualized, and male oriented. The image of the masculine computer nerd is a prevalent image of a computer user in North American media. This image may serve as a deterrent to girls and women who are interested in computers but do not want to be isolated, antisocial and unpopular (Kendall 1999: 276-7).

Ideological technologies and discourses have constructed women's identities both in relation to information technologies and in general. De Lauretis (1987) discusses how gender is constructed through ideology and how this affects the identity of both women and men (8-10). However, women are constructed as the object of men or as the "other," and this profoundly impacts the identity of women.

2.2.4 Using Technologies for Resistance and Change

Although one of the main themes that runs through feminist literature is that women have been oppressed by technologies to the point that entire patriarchal systems have been constructed and continue to function, women have also used technologies in subversive ways that have improved their quality of life (Frissen 1995: 84). The telephone became a way for women within nuclear families to stay in touch with each other and have a sense of community. Through the telephone women were able to connect with other women, form communities and even organize resistance to systems of oppression or bring pressure to bear for policy changes (Lupton 1993: 40). The use of a car has also become a subversive way for women to gain geographical freedom. Women were initially taught to drive so that they could work on farms, in small businesses, during the war and to maintain the household. The ability to drive a car allows women to leave the assumed safety of the private sphere and enter into the public sphere, especially at night. Driving a car is a relatively safe way to move through space and to go from one place to another.

Although much of the representation of women online remains sexualized,

objectified and male controlled (Millar 1998:128; Spender 1997: 213), women have not

been absent from the net. Women participate in many different areas on the Internet, but

according to my informal observations, not in the same numbers that men do. All

women spaces that attempt to create woman-friendly territory exist online (Spender

1997: 140-141). Chat rooms and email groups have been set up as women-only places.

While these spaces are often successful in providing space for some women, Spender

(1995) feels they are often a target for "spamming" or the email version of hate mail

(236). Other web pages have been created to allow women to come together and talk

about similar ideas, get tips on where to go online and how, and even to give girls and

women a chance to band together and beat men and boys at their own games (Camp

1996: 116-7). A literal example of this are the PMS or" psycho male slayers" who play

interactive head-to-head Quake online, and slaughter any male who comes into their

space (Cassell, et al. 1998: 32). "Cybergrrl" is another online movement that helps girls

and women connect with each other and navigate the net. It even offers technical

support to novice users (*www.cybergrrls.com*). Groups of women such as the

Cybergrrls try to change the image of the computer user from the nerd to include a

feminine representation, but the image of the computer nerd as an unpopular but

unusually bright adolescent boy is still the prevalent image (*www.cybergrrl.com*).

Another Internet site is Webgrrls, an online organization that is intended to offer support

to businesswomen in finding work, finding employees and generally doing business

online (*www.TorontoWebgrrls.com*). The web page *www.agirlsworld.com* is an online

magazine written by and for adolescent girls. It offers everything from eating disorder

advice to career suggestions (that include information technology), to movie reviews (*www.agirlsworld.com*). The Canadian list PAR-L is another highly successful Internet venture that allows feminist scholars and community members to share information and participate in online dialog about relevant issues.

Out of this brief history of women and technology in the western world come four important themes that inform my own work. First, even though women have clearly created and used technologies in the past, they are expected to use technologies in a menial way both in the home and in the work place, but are not supposed to understand or create technologies. Technologies have been constructed in such a way that only the people who seem to be legitimate in exercising power both in the work place and in the home are viewed as the normal users and creators of technologies. The typist, the phone operator and the housewife are seen as having narrow and restricted agency, and as a result are seen as using but not understanding or controlling the technologies that they use. Second, technologies have also been used to control women or keep them in their place. Monitoring devices have been created in the workplace to ensure that women are working at the level expected by the usually male management. Pornography and other negative images of women are used to keep women in their place by objectifying and sexualizing women: the message - stay away. Body technologies such as the high heeled shoe or the corset, constrain women's mobility. Third, ideological technologies construct gender identities. The cultural messages with which women and adolescent girls interact are created through the construction of gender in Western society. Fourth, women have used technologies for purposes other than was intended. Seizing

technologies either openly or discretely has been the path to subversion.

Organizations of women online are helping other women feel more comfortable in CyberSpace and in information technology careers, but are they having any impact on girls? Are girls tapped into the same kind of resistance and space-claiming organizations that women are, or are they claiming space in their own ways?

2.3 Previous Research on Information Technologies and Girls

In addition to the fact that studying the impact of the stereotypes about women and technologies is important, it is also important to look at girls' interaction with information technologies. Much of the previous research is based on the classroom and school-based activities. Historically speaking, there is a great deal of literature that demonstrates that sexual discrimination has been a problem in the classroom. For example, Spender (1995), in her time in the classroom, saw firsthand that teachers were not only not encouraging girls, but were openly hostile to girls taking up computer time that would be more productive if it was given to the boys (178-9). Studies that have looked at how children perceive the computer demonstrate that from a young age children see the computer as a masculine toy (Wilder, et al. 1985: 227). Some teachers saw the computer as a boys' "thing" and presented computers as less relevant to girls' academic futures than boys' futures (Lockhead 1985: 119). In addition, Lockhead (1985) found that computer programing is often taught in a way that stresses winning and losing and that the competitive nature of the classroom may turn girls off computers (119).

Several researchers looked at the importance of incorporating computer learning into the classroom in a way that does not privilege one gender over the other (Furger 1998: 119-191; Rumpf 2000: 8-9). The assumption has been that the classroom is the problem and that once girls are properly encouraged by their teachers and parents, then the problem of under-representation of girls in computer careers will be fixed.

Girls are being encouraged to pursue careers in information technologies by women already in the field. Judith Escott, a senior manager at IBM speaks to girls about the importance of considering information technologies as a career choice. She points out women are more likely to succeed at careers in information technology because, in her opinion, women communicate better, are more willing to engage in teamwork and are more flexible in an office situation.[5] She argues that the opportunities for women to not only participate in information technologies as a career option but excel at their jobs are growing.

While the classroom undoubtedly affects girls' perceptions of technologies, I plan to examine leisure activities where they have greater freedom to explore. What girls choose to use information technologies for may reflect their ability and interest more accurately because the girls are using the technologies in either their own homes or in the homes of friends, and will be more likely to feel some ownership of the technologies than they may feel in a classroom setting. The girls will also be free to pursue what interests them about the technologies as opposed to what they are being told to do by a

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[5] Escott's presentation entitled "You, Me and IT: Career Choices" was part of the "Go for IT Girls conference held December 11, 2000.

teacher. Finally I feel that it is important to look at what the girls are doing in a space where they have permission to play.

The literature on leisure time has focused almost exclusively on computer games. Traditionally, girls have not played with computers in their leisure time to the same extent as boys (Cassell and Jenkins 1988:12). Moreover computer programs, including games, have been marketed to boys and girls in different ways. Until the mid 1990s all of the games were marketed at boys and consisted of violent shooting games, sports related games, and flying or driving simulation games. Games that became popular with girls were either board games such as "Monopoly" or puzzle type games such as "Tetris"(Cassell and Jenkins 1998: 9). Computer and video games evolved out of arcade games, and as Fahey (1990) and Kaplan (1983) point out arcade games and arcades in general were masculine in nature (Smith 2000: 5; Fahey 1990: 70; Kaplan, et al. 1983:64). Many of the computer games draw on other media such as television for their plots (Fleming 1996: 183). The users, who are assumed to be masculine, are familiar with the plot before they ever begin the game, as is the case in "Armada" which is based on the Star Trek series (Smith 2000: 5).

The high rates of boys playing computer games and their comparatively high representation in computer related fields in not coincidental (Cassell and Jenkins 1998: 11). Computer games are one of the ways that children attain a basic level of computer literacy. When the games are marketed and created for boys, they are far more likely to attain this basic level of computer literacy. However, as Cassell and Jenkins (1998) point out, by the mid-1990s the boys' game market was basically saturated and game

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manufacturers were looking for a way to increase their market share (4). Girls' interests

and girls' games became a priority in game manufacturing. Unfortunately the games

created for girls were not what feminist activists had in mind. "Barbie Fashion

Designer" and many of the other games created remained patriarchal and class-

privileged in nature and showed girls only in traditional settings such as the house, the

fashion studio and the horse club (Cassell, et al. 1998: 19).

Mattel pushed the gender division of computers one step further when the

company came out with separate computers for boys and girls, with the Hotwheels

computer aimed at boys and the Barbie computer aimed at girls. The boys' version

comes with eleven educational titles while the girls has only six; "among the titles

denied the distaff side are two logic/math titles, one on anatomy and one for computer

art" (Miya-Jervis 2000: 19). As a result of the different marketing, girls are going on

adventures with Barbie, while boys are acquiring math and logic skills. The Mattel

example demonstrates how girls are being encouraged to consume computer products

while boys are being taught computer related skills (Miya-Jervis 2000: 19).

Marie Klawe (cited in Shortt 2000) argues that girls are not interested in violent

video games but rather want to learn something from the computer games they play (91).

Girls tend to be interested in different things in a game than boys are, but that does not

mean that girls are not interested in games. Until recently, girls have no choice but to

play violent games because they are the most popular and prevalent games available.

Girls often have to identify with a male hero as the main character of the game because

few games are designed with a female character (Dietz 1998: 438). In addition to

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studying violence and representation of gender in the games, Gailey (1993) has also explored the representation of race (90). Computer games represent a white, male world, and any player who is not white either has to cross identify or play a stereotypical version of a racial minority (Gailey 1993: 84-86). There are a few games where there is an action heroine such as Lara Croft in "Tomb Raider," but the game remains violently driven and Lara's appearance is sexualized (Cassell, et al. 1998: 30).

Recognizing the need for games that are not specifically aimed at boys, new programs such as SIMS are being developed which provide on-line fun for girls. However, like other girls' games, SIMS are constructed within a set of parameters that defines the space in conservative ways. The most common version of the marketed SIMS game consists of players created within a house that can venture out from there but always come back to the safety of the house. The player can make a number of different choices in decorating the house and choosing a career path, but the parameters of the game do not let a player step outside of the set career paths or interact in ways other than those designed in the game. The game does offer a certain level of freedom including being open to homosexual and lesbian relationships between the characters, but the storyline of the game is set out by the programers and can not be changed.

The predecessor to SIMS, MUBS, was not as accessible as SIMS, but was less restraining to the players' imagination. MUBS are a space online that is created by an individual called a game master that allows players to create their own characters and then share these characters and their experiences with others online (Turkle 1995: 180-181). MUB chat rooms vary from intentionally fictional rooms to rooms where

characters act out a preferred version of themselves. The only restrictions to a MUB game are the players' imaginations, and what the moderator of the room will allow to happen within their game.

I have found limited research that examines how girls use the Internet as part of their leisure activities. I have found a discussion of "girl friendly web pages. "grrls" have created space online that defies the traditional stereotypes of girls and women that are prominent in other mass media (Wakeford 2000: 355). Unfortunately, many of the links and web pages discussed by Wakeford are no longer active. However the transient, fluctuating nature of the web is evident in the creation of new pages for women and girls which are appearing at an amazing rate. There are pages for girls and women online, a search engine called "Femina" (created by the cybergrrl site as a place to search for feminist information on the web) and other places that have been created as girl friendly spaces (*www.cybergrrl.com*).

There is limited literature on girls' use of information technologies for the purpose of communication. However ICQ, MSN, email and chatrooms are places girls are clearly using on the Internet. The absence of literature in this area is one of the ways my study will prove valuable in the discussion of girls and information technologies.

2.4 Theoretical Foundations

The literature that I have discussed in the first three sections of this chapter have shaped and defined my study. There are also a number of theoretical concepts that have both defined my research questions, and been the basis for my analysis. In this section I

will explore the theoretical concepts of patriarchy, virtual space and the concept of play, and agency. I will also introduce the theories of semiotics. Semiotics theories are the basis on which I begin to interpret the artifacts in this study.

2.4.1 Patriarchy, Gender and "Leaky Black Boxes"

While the literature on gender and technologies is useful and informative, there are some general problems with the definitions of technology and information technology. Technologies are often viewed as gender neutral. Most of the research that has been done on technologies has viewed technologies as a thing and gender as a binarism (Ormrod (1995: 44-5). Ormrod (1995) refers to this as "leaky black boxes" in her discussion of methodology in studying technology and gender (32). She is borrowing this term from Callon and Latour's work on methodology where they used the term "black boxes" to mean an artificial separation of the social and natural. (Ormrod 1995: 32). Ormrod uses the term "black boxes" to mean the artificial dependence on binaries in the discussion of gender. The metaphor of the leaky black box brings to mind an image of two boxes into which someone is desperately trying to place definitions of gender, splitting the definitions up based on sex. However so many of the definitions could go in either box, or more likely in both boxes, that dividing them up becomes problematic. The boxes both leak into the other. Butler (1990) also takes issue with using a dichotomy as the basis for defining gender. She argues that if femininity is defined as the "other" or as solely what masculinity is not, then women never become the subject and remain only in opposition to what is masculine (Butler 1990: 18) The

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multiple facets of femininity are also ignored if women are assigned to the role of not men.

Technology is also "black boxed" into a thing that is seen as neutral rather than gendered in nature. It is almost as if there is a carefully constructed box where all technology springs from and therefore must be neutral. It is neater to define technology as a "thing" rather than acknowledging that technologies are reflective of and have impact on the culture into which they are created. They are always part of process rather than fixed entities. However, once the gendered nature of technology is examined, technology no longer fits into a carefully constructed box that separates it from the gendered construction of society. If we acknowledge that social relations of gender are constructed, relational and performative then the process of studying gender becomes more complicated, but also more inclusive. The box that defines technology as a neutral object no longer fits. Haraway (1991) alludes to this in her discussion of fragmented identities (155-60). As human beings we perform many different roles and the acting out of our gender is dependent on the role that we are playing. The construction of gender is achieved through social clues that help others determine what roles we are accepting at that particular moment. Much of the literature on gender and technology assumes that the stereotypical images of what boys are and what girls are can be used to analyze how appropriate an artifact is to each gender. While this may be useful in a general sense, it does not acknowledge the complexity of the various messages that girls and boys receive from an artifact, and it also does not acknowledge that boys or girls may view those messages differently depending on how they are constructing their

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identity at that particular moment. Masculinity and femininity are undergoing rapid change in hairstyle, dress and general appearance, and it may be difficult to determine what children and youth are identifying with and what they find alienating or off putting.

Ormrod also feels that the term *patriarchy* "black boxes" gender in such a way that gender can no longer be seen as fluid and performative. She argues that when society and power are described as patriarchal, gender relations are seen as stable and no longer in need of analysis. If feminist researchers see patriarchy as men collectively exercising a force throughout society that collectively controls women, then there is little room for analysis beyond simple blaming. Ormond believes the end result of this line of thinking is that men and women are set up in a dichotical relationship with each other where women become the objects of men's power. However I feel that Ormrod is not recognizing women's investment in patriarchy and that women as well as men maintain patriarchy in society. Patriarchy is not a simple force imposed on women by men, but rather an internalized way of seeing the world that allows for the objectification of women by men and by other women. To ignore the discourse of patriarchy and see power as simply productive in that it produces a variety of discourses and meanings ignores the patriarchal objectification of women in society. The discourses that are prevalent in society are patriarchal in that they objectify women and should not be reduced to simply a power relation. Patriarchy is also a fluid and changing discourse that has not remained stable over time, yet continues to objectify and oppress women even as women continue to both participate in and reinforce the patriarchal structures. The complexity of how gender is constructed and how technology, including patriarchal

discourses, affects the construction of gender will both complicate and define my study.

2.4.2 Virtual Space, Imagination and Play

The term virtual space is used a great deal in western society, but is generally defined only in a dichotical relationship with real space or real time. Virtual is frequently defined as simply the opposite of real and needs no further definition. However, if virtual is not real then what is it, and why do we treat virtual space and the events that happen in virtual space as a form of reality? Wilbur (2000), in his discussion of virtual space and community points out that "the roots of 'virtuality' are in 'virtue', and therefore in both power and morality." He goes on to say that the other definition of virtual is in optics, "where the virtual image is . . . that which appears in the mirror." From these definitions he concludes that virtual space is both an illusion as in the case of the reflection in the mirror, as well as a combination of power and morality or in more secular terms vitality. Virtual space is actually an illusion in that it does not exist in real space, but the illusion of space is powerful.

Star (1996) also speaks of the illusion of space in her discussion of home in virtual space. While she acknowledges her own privilege of having a home in real space which allows her to theorize about homelessness in virtual space, she wonders if her home-page is a home in virtual space, or if by definition virtual space renders a person homeless. She argues that conversations in virtual space become confusing and that special categories are needed to discuss relationships and meetings that happen outside of virtual space. She has noticed that acronyms like R.L. (Real life) and F-t-F(face to

face) have sprung up in chatrooms and other virtual forms of communication to explain relationships that exist outside of virtual space (Star: 37). However, Star questions this blurring of boundaries between fantasy, reality and virtual reality and wonders who is actually benefitting from this blurring of boundaries (38).

Ravetz (1998) echos this more pessimistic view of virtual space in his discussion of virtual reality and real reality. Ravetz (1998) clearly feels that the Internet has great potential. He says that:

> Cyberspace simply refers to the potential of the Internet to provide an open communication not hindered by speech, by distance, by number of participants in an exchange, nor potentially by limitations of sensory data (116).

However, Ravetz does not seem to believe that the Internet is living up to this great potential. He goes on to speak of the danger of experiencing stimulation and sensory input in such a disembodied way. He feels that the fantasy of the Internet should not be mistaken for real experience and that there is real danger that virtual experiences will replace actual human contact and real life encounters.

I do not tend to take as pessimistic a view as Ravetz does in relation to virtual space. I think communication through text is a valid form of communication and should not be written off as mere fantasy simply because it does not involve physical contact. Like Star, I am not sure where reality ends and fantasy begins in relation to virtual space, and this boundary is likely different for each person who ventures into virtual space.

Virtual space is a constructed community that is built with the same social and ideological tools that construct all of Western society. While cyberspace is often singled out as a unique, artificially constructed space, by my definitions of technologies

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discussed earlier, all of society is constructed through ideology and discourse. The technologies that power the Internet were originally constructed for military purposes, but, like most technologies, continue to be developed in the hope that they will someday be profitable. Internet culture developed in this constructed, for profit space. However, as in actual space, there are technologies at work constructing society that go beyond physical technologies such as hardware and software. The same ideologies that define and shape Western culture in actual space are built into cyberspace. For example gender is an ideological construct that is defined at least in part by the discourse of patriarchy. Through pornography, the threat of cyber-rape and the general masculinization of virtual space, patriarchal discourses flourish. Cyberspace is driven by other ideological discourses that are mirrored in actual space. The for profit emphasis of cyberspace results in an erasing of poverty. While Western ideological constructs such as capitalism and liberalism render the poor practically invisible in actual space, virtual space has eradicated the space for panhandling or even charity. Cyberspace is a constructed community, but it is constructed with the same tools with which Western society is built and is simply a blatant example of how all of Western society is a constructed community.

Virtual space should also not be defined only in relation to technologies. People also have access to virtual space through their own imaginations. While this space may not have the more tangible nature that technologically developed virtual space has, it too is a space where humans can fantasize, play and explore their personal desires. Unlike technologically driven virtual space, the imagination is a safe place where fantasies of

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romance, desire and other kinds of play can exist without having tangible consequences unless the fantasies are acted upon. Technologically driven virtual space can also be a space where fantasies can play out, but as I shall discuss in Chapter 4 in the section on personal security, Internet virtual space is not without consequences.

Play and desire are linked to imagination and virtual space, but also exist in tangible space. Kinder (1991) states that "play gives a child a new form of desires. It teaches her to desire by relating her role to a fictitious 'I,' to her role in the game and its rules" (18). In other words, play allows a person to imagine themselves in different roles in response to the games they create and the rules by which they play. "Play" is not limited to predetermined games with fixed rules. Vered (1998) points out that play is "activities that children generate for themselves from objects, products, and narratives that are not necessarily 'games' but become games through play" (174). Vered found that limiting the definitions of play to only pre-set games overlooked children's activity on the computer that the children define as games. By expanding "play" to include fantasies created out of a person's imagination, desire also becomes a real part of play. Play is more inclusively defined as anything that people identify as fun. For the purpose of this study I will be defining play as anything the adolescent girls identify as "fun," "enjoyable" or "pleasurable." I will be focusing on the "playing" the girls identify in their interviews and the "play" the girls identify during the demonstration. I will also look at the binary the participants set up between "pleasure" and "boredom." The opposite of "fun," or "pleasurable" is "boredom," and "boredom" is to be avoided at all cost.

2.4.3 Agency

Agency is a term that is used extensively in feminist research, but is not always clearly defined. Messer-Davidow (1995) states that agency is "conventionally defined as the capacity to determine and act, agency is attached to an entity - an individual, a collective, or a social structure (25)." The question of agency in relation to the "self" is defined by the limits placed on individual determination. In fundamentalist thought, individual determination is expressed in how far the individual chooses to follow God's set path (Messer-Davidow 26). A more liberal view of agency argues that humans choose a course of action from countless different paths (Messer-Davidow 26). A contrasting view to the idea of individual determination is social-structural models that argue that "'subjects' are not individual determinative; rather, the social formation determines them" (Messer-Davidow 27). These include theorists such as "structural Marxists who argued that the economic base produces individuals as 'subjects' who function as agents of production" (Messer-Davidow 27).

A more current and expanded view of agency sees agency as the choices that a person makes in their everyday life even if these choices seem limited by outside forces. This view of agency draws from both the individual deterministic view and the social-structural models. McNay (2000) argues that a simple social-structural view of agency:

> leaves unexplored how individuals are endowed with the capabilities for independent reflection and action such that their response, when confronted with difference and paradox, may involve accommodation or adaption as much as denial (3).

In other words, the reality that a person can make choices and decisions means that they have agency even if that agency is severally limited by outside forces. Individual

determination exists even if the degree to which people can make choices is limited by the social structures which they encounter and with which they interact. In this study the adolescent girls are limited by social structures such as parental control, economic factors and the education system, yet they are demonstrating agency in their choices and actions.

2.4.4 Semiotics

Semiotics is a theoretical concept that will be useful in exploring the meaning of the artifacts the participants shared in this research. I will also use semiotics to examine the discourse defining information technologies that the participants discuss. I use the term semiotics as Asa Berger (1995) does to literally mean "the science of signs" (73). I used Berger 's (1995) theories of analyzing texts that include codes, images, connotation, denotation, metaphors and intertextuality (80-93).[6] As Rogoff (1998) states "visual culture provides the visual articulation of the continuous displacement of

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[6]Forsyth offers a more complete definition of semiotics. "Semiotics (or Semiology as it is sometimes called) is the science of signs. It is engaged in the study of the ways in which sign systems --including, natural, visual, technological and other languages -- produce meaning and communicative processes. Semioticians study discursive traditions and practices. They take into account: denotative meanings of signifying elements (eg. words, images, signals), the signifying power of language structures (syntax), the signifying power of media of communication, connotative meanings embedded in signifying systems (eg. languages, contexts) and material signifying practices. Semiotics provides a useful approach to study the ways in which values and ideologies are produced and transmitted in societies and cultures as part of what is usually seen as normal signifying practices. It has been a particularly useful approach to scholars in fields of linguistics and communication studies, cultural studies, gender studies, post-colonial studies, queer studies in understanding the representation systems of dominant cultures and the means by which they are transmitted and perpetuated". Dr Forsyth shared this definition in an email on June 27,2002. This definitions and numerous conversations with Dr. Forsyth are the basis of my understanding of semiotics.

meaning in the field of vision and the visible" (15). In other words, the deconstruction of visual cultures allows for multiple interpretations of meaning and messages. Sturken and Cartwright (2001) point out that there are limits to how these cultural signifiers can be interpreted in that they are specific to the culture in which they develop (30). I used semiotic methods similar to Barthes (1972) when he stated that he was using semiotic methods to "account in *detail* for the mystification which transforms petit-bourgeois culture into a natural state (9)." Semiotic methods allowed me to examine both the overt and covert messages on the websites I examined and speculate on how these messages are affecting adolescent girls.

2.5 Conclusion

Through the literature review on information technologies, and gender and more specifically adolescent girls and technologies, I have found that while adolescent girls are being encouraged to explore technologies, they are still not pursuing careers in information technologies in any great numbers. The literature offers few explanation as to why girls are not pursuing these lucrative careers. It is these contradictions that I will explore. The theoretical foundations that I have outlined explore some of the terms and concepts I use in this study.

Chapter 3

Methodology and Research Issues

3.1 Overview

In my reading on information technologies and gender, I have found more articles

and books talking *about* girls and information technologies than I have anyone talking

with the girls. Many of the studies seem to fall into the trap of "add girls (women) and

stir." They look at how girls do not fit into computer classes or at why girls do not play

with computer games. The problem with this type of research is that it assumes from the

start that the women and girls are the problem and does not critically challenge the social

structures that impact on women and girl's lives. My intent is to look at the materials the

girls are using, and to listen to what the girls have to say about technologies in an attempt

to determine if and how girls are fitting into the information technology revolution.

Instead of assuming that girls' reluctance to use the technologies rests with the girls, it

will be important to hear what they are saying and see for myself what kinds of

information they are receiving from the technologies.

3.2 Methodological Framework

I used what Cook and Fonow (1990) call a "participatory research strategy which

emphasizes the dialectic between researcher and researched" (76). This simply means

that the interviews took the form of a conversation rather than a set agenda of questions. I used some guiding questions in each interview, but the participants were able to guide the interview in whatever directions that interested them. By using a participatory research strategy I have attempted to do more collaborative research rather than asking the girls a predetermined set of questions and then leaving. Each participant also had the opportunity to read over her transcript and eliminate any information that she was not comfortable with me using in the study or add to anything that she did not feel was clear.

I then analyzed the data from the interviews into categories in order to create grounded theory. Glaser and Strauss (1973) describe grounded theory as "the discovery of theory from data - systematically obtained and analyzed in social research" (1). By coding, comparing and analyzing my interviews, grounded theory is developed to offer possible explanations to the patterns in the material. Strauss (1987) states that "the goal of grounded theory is to generate a theory that accounts for a pattern of behavior that is relevant and problematic for those involved" (34). The theoretical baseline that I developed through my literature review was the basis of the coding and analysis of the interviews. The code sheet was started out of the combined theories of the literature review [see Appendix E]. The rest of my coding was developed by searching for repetition and emphasis in the interviews themselves.

I feel that the research I have done fits the definitions of feminist research because I have listened to the voices of adolescent girls. One of the basic principles of feminist research is that women and girls be empowered to speak in their own voices. Participants' ideas and words must dominate the writing and not be used only to prove or

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disprove the researcher's ideas. For this reason I will use the girls' voices as much as possible in the rest of the study. However, by doing analysis on the transcripts and choosing what material I use for the study I will be mediating the girls's voices through my own research agenda.

3.3 Research Participants: "Go for IT Girls" participants

I have recruited participants for my study from the "Go For IT Girls" conference held at the University of Saskatchewan in December 2000. The participants for the conference are recommended by their schools, either from a computer teacher or a guidance counselor. Some of the participants are more pro-active and ask to go to the conference, but the schools have the final decision about who attends the conference. I included in the conference handouts a poster asking participants if they were willing to participate in a study on computer usage in leisure time. I chose this conference because the girls attending had already expressed an interest in information technology in order to be invited to the conference. While I realize that choosing a group of girls who have been singled out as either good at or interested in computers does place some limitations on my study, I felt it was important to do this study on girls that are making information technologies a part of their every day lives. The participants of the "Go For IT Girls" conference are the young women that schools and possibly parents are encouraging to pursue information technologies in some form. While this may limit my study to girls that have already overcome some of the barriers to technologies, it was clear from the transcripts that the participants came from a range of abilities, and were not only the

exceptional students from the schools. I also intentionally only chose young women for this study. I felt that the study of what girls are doing and how they are interacting with information technologies would be lost if I tried to include some sort of comparison that included boys' activities.

Out of the approximately 100 participants that were given posters, I received twelve positive responses. I contacted all of the participants that responded and seven were willing to meet with me. Out of those seven meetings I did six interviews. Two of the participants asked to be interviewed together while the other four were interviewed individually. The two girls who were interviewed together were interviewed twice because of both technical problems with the first interview and issues that arose in later interviews. The girls ranged from grade ten to grade twelve with the majority being grade ten students. Four of the girls interviewed told me that they had volunteered to do the study because one of their friends was also volunteering to participate.

3.4 Interviews and Issues

I conducted six interviews in total, four interviews with individual girls and two interviews with two girls who requested being interviewed together. The interviews were conducted over a six month period from May 2001 to October 2001. In the setting up and conducting of the interviews, a number of issues arose that I believe are directly related to the age of my participants. I am grouping these issues into the categories of power and agency, authenticity and confidentiality. Issues concerning place also arose in the interviews and affected the information that was gathered.

3.4.1 Power and Agency

Throughout the process of planning and setting up my study I have been conscious of a power differential between myself as the adult researcher and the adolescent participants. In the interest of doing good feminist research I worried about how I would ensure that the participants' stories, interests and voice be the primary focus of my research. In the interest of wanting to do, at the very least, collaborative research and if possible for there to be reciprocity between myself and the participants in the study I was hyper sensitive to issues of power. Unfortunately this over sensitivity resulted in problems with at least one of the interviews. The first part of the interview where I simply asked the girls questions went well but when I asked the girls to show me what they generally did on the Internet I ran into a problem. The girls told me that they generally listened to music from the files they had downloaded from Napster and other music sources. While they did turn the music down out of respect for my tape-recorder, I was concerned at the time that I would not be able to hear their conversation or distinguish between their two voices. However, in the interest of sharing power and respecting their decisions, I did not want to tell them to turn off the music. By not speaking up and taking control of the interview space I ended up with forty five minutes of poorly recorded music. I was able to reconstruct the important parts of their demonstration from my research notes, but lost the opportunity to be able to use their voices in that part of the discussion. While it is important to share power in the research process it is also important to ensure that you get a quality tape and usable interview.

Also in the interest of sharing power, I set up what I now believe to be a design

flaw or at the very least a weakness in my research study. In the interest of reciprocity, I had all of the participants review their transcripts at their leisure and remove any information that they were not comfortable with me using. While, in theory, this leads to good cooperative, feminist research, in practice it was not only difficult to motivate the girls to read twenty pages of transcripts, but the material that they took out was important material for the study. One of the participants corrected all of her transcripts for grammar and sentence structure and, as a result, her words now sound like written material rather than an interview. Another participant took out all reference to being an exceptional student. This information could have been useful in my final analysis, but is now off limits. I have no answers about how to balance sharing power with ensuring that the material is both accessible and accurate but I do now know that collaborative research and ensuring reciprocity is not as simple as some methodology papers would lead one to believe.

I discovered quickly in the process of setting up my interviews that some of my participants clearly had more agency and freedom than others. Some of the girls were comfortable setting up a time to meet with me, and only spoke to a parent to find out if they would be home that night to sign the consent forms. Other girls clearly had to ask a parent's permission to allow me to come to their homes. Once I had met with the parent and the participant, however, most of the parents were comfortable letting their daughters decide if they wanted to participate further in the study. The exception to this autonomy was an adolescent girl whom I contacted about half way through my interviews. I set up a time to meet with her and her parents over the phone. When I arrived at her doorstep

on the arranged evening and asked for her, her father told me to wait and closed the door. After a few minutes the girl came to the door and let me in. The father was nowhere to be seen. I sat down with the girl and explained the study to her and asked her if she would be interested in participating. She expressed interest but hesitated when I told her that I would need to speak to one of her parents. She went and got her father from another room. He did not sit down when he entered the room to speak with me and took the handout that I offered him grudgingly. I explained the purpose of the study and why I wanted to interview his daughter, and then asked him if he would be willing to sign a parental release form to allow me to conduct the interview. He responded with anger that I seemed to be rushing in, that he and his daughter clearly needed to discuss whether or not she would be allowed to participate. He then asked me to leave the home. I gave the adolescent girl my email address and told her to contact me if she still wanted to participate in the study. I then gathered up my things and left. The father escorted me to the door and closed it rather loudly behind me. I did not hear from this girl again.

While this experience clearly demonstrates that some girls of this age have more autonomy than others, it also demonstrates one of the difficulties in interviewing participants that are old enough to speak for themselves but not yet adults. It would have been inappropriate of me to have spoken to the parents about whether or not they thought their children might want to participate in this study in the majority of the families I contacted because the girls are clearly free agents that make their own decisions. Yet in this family I believe it is precisely because I did not get the father's permission before I approached his daughter that he felt that I was not respecting his authority. There may

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also be a cultural difference involved because this was the only possible participant that appeared to be of Asian background.

The issue of autonomy also came up in other ways in the interviews. Some of the participants are clearly struggling with not being children anymore but not yet being adults. They could arrange to speak with me but still needed parental permission to be allowed to participate in the study. They are people who are capable of making their own decisions, but not always allowed to do so. They have restrictions and boundaries placed on their agency by parents and have to negotiate how much freedom they have within these restrictions.

3.4.2 Authenticity

As I started to read through my transcripts in the process of coding, I noticed certain contradictions coming up within the same interview and certainly with the participants that I interviewed a second time. I wondered if the information I had was authentic or if there were problems with the reliability of the data. However, as I re-read the interviews I realized that these contradictions are not necessarily proof of unauthentic information. Goffman (2001), in his discussion of self, examines the creation and maintenance of the self through a series of performances in which the actor or individual will have varying levels of investment or belief (178). Every interaction that a person has with others, and even with themselves, can be seen as an ongoing and ever-changing performance. The individual's own response to the performance can vary from the individual being completely taken in by their own act, to the individual knowing full well

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that this is merely a performance of a character (Goffman 178). The participants of this study are performing their identities every day in their families, peer groups, schools and in the case of the day they were interviewed for me - the researcher. Through these fragmented identities and their various performances, contradictory and ever changing senses of selves develop, grow and change. Their identity can change depending on for whom they are performing, but each performance in itself is an authentic interpretation of their identity at that particular moment. In a post-modernist sense the participants are authentic in all of their interactions with me, but the authenticity of the present is not necessarily identical or even remotely similar to their past or future selves. They are not insincere or devious in their performances. They, like all of us, are constantly evaluating and adjusting their performances and as a result are in a constant state of flux.

While I believe this phenomenon to exist in all people who search for who they are and why they exist, I think it is especially relevant to adolescents. The adolescent years are socially constructed in popular culture to be a time when teens search for, interpret and define their identities, and their performances reflect that search. They are completely authentic in the moment and each sense of self, each performance, every fragment of their whole identity, as Haraway (1991) would call it, is equally authentic to any other moment in time. What I have with these interviews is a snapshot of the performance of identity for that particular moment in the participant's life. She is creating meaning in part through conversation and in part through the demonstration of her skills with the technologies. While contradictions may occur within the same interview or, in the case of the girls I interviewed twice between the two interviews, they

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are all authentic performances in the moment and must be treated as equally important.

3.4.3 Confidentiality

The third main theme that came up in the interview process was issues around confidentiality. During the pre-interviews I made it clear to the participants and their parents that the interviews would be kept confidential between myself, the participants and my research committee. I felt that in order to get my participants to trust me enough to share what they were actually doing with their computers, they needed reassurance that their parents would not be given the information. The transcripts were returned to the girls in sealed envelopes and I made it clear that it was up to the participants who would see these transcripts. However, while doing my analysis a committee member pointed out to me that, while I could verbally give assurance of confidentiality to the participants, in reality I had an obligation not only to the girls but to the parents. The girls are minors and the parents are needed to give consent. The hypothetical question the committee member asked me is what would happen if I knew that one of the girls was seriously jeopardizing her safety through her online activities. Would I then have an obligation to break the verbal promise of confidentiality to the participant and warn the parent that their child was at risk? While this scenario fortunately did not come up in my interviews, I realized that research dealing with minors is more complicated than simply getting a parent's signature and asking them to bow out of the picture. The assent form should have read that I would assure the participants' confidentiality unless their activities posed an obvious risk to themselves or others.

The other issue around confidentiality that surfaced was a situation that happened during one of the pre-interview meetings. I watched one of the participants interact with the computer in ways that I would love to have included in the study. However, at that point I did not have either the participant's or the parent's permission to be observing the activities, and the activities would have gotten the young woman in trouble had her parents found out about them. To share the information risks identifying the participant at least to her family and would break my assurances of confidentiality. While the participant was likely breaking her parents' rules, she was not endangering herself in any significant way. I also was in a private home observing the participant without written permission and simply cannot include the information. During her interview the participant in no way referred to the pre-interview incident, and I did not feel that I had authority to bring it up as a topic for discussion.

3.4.4 Place and Time

Of the six interviews that I conducted over the span of six months, three of the interviews were conducted either in the girls' homes, or in the case of the girls that were interviewed together in one of the participants' houses. Two of the interviews were conducted in my office on the university campus. The final interview, a follow up interview, was conducted at a local coffee shop. The interviews that were conducted in the girls' homes meant that the girls were in their own space, had access to their bookmarks and were familiar with their own computers. However, it also increased the risk of the interview being overheard by another family member. The interviews that

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were held in my office meant that the girls did not have the risk of being overheard, but at the same time they were out of their own space and were using a computer that was not familiar to them and did not contain their own preferences. Both ways have advantages and disadvantages, but having interviews in my office resulted in those participants being unable to find some of their sites. The interviews held at home had the disadvantage of being interrupted by family members or phone calls. The place of the interviews may well have affected the kind of data I received from the participants.

The other factor that I believe influenced the kind of data that I received was the time span between the first and last interviews. The first five interviews that I did took place before the September 11 tragedy in New York. The final initial interview was conducted September 15 and had been set up before the disaster happened. Both the tone of the interview and some of the information I received from the participant were directly affected by this tragedy. Much of her computer time in the week prior to the interview had been spent trying to understand this event. While I quickly became tired of the media cliche, "Nothing will ever be the same again", that was repeated countless times in the weeks after the tragedy, I must acknowledge how much this event affected the interview that followed it and my own use of technologies. The impact of that interview on my research seemed so profound that I arranged a second interview with the participants who choose to be interviewed together. While their second interview was not as strongly affected by world events, they too had used information technologies to do research on the World Trade Center tragedy.

3.5 Textual Analysis: Selection and Analysis of Artifacts

In an attempt to get a fuller picture of the influence on concepts of self and social

patterns of adolescent girls, I chose three technologically based artifacts[7] with which I can

do textual analysis. The three artifacts are the web page *www.seventeen.com*, the web

page *www.candystand.com* and the communications tools ICQ and MSN. I am using the

term artifacts to describe both web pages and tools used for communication. I use artifact

specifically because these items are part of and in fact help make up part of the culture of

adolescent girls and indeed part of popular culture in general. The technologies that I am

studying produce artifacts for me to examine. Studying the meaning and cultural

significance of these artifacts will help me understand the culture in which these girls are

forming their understanding of themselves and of society.

The three artifacts that I chose to analyze were ones that arose multiple times in

my interviews. Five out of the six participants spoke of and/or went to

www.seventeen.com, and three of the participants spoke of and/or went to

www.candystand.com. ICQ and MSN were also mentioned by five out of six participants

in their interviews. The participants who mentioned the artifacts spoke of spending a fair

bit of time surfing on both of the two web pages, and using the communications tools

offered by ICQ and MSN.

The two web pages that I have chosen fall into two general categories that make

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[7] I am defining the term artifacts as Forsyth (2002) does when she states that "a cultural artifact is anything made by human skill or work that may be interpreted as having or producing utility or meaning in a particular cultural context. It may be simple or complex; it may be animate or inanimate." Dr. Forsyth developed this definition of artifacts as part of her Psychology 835.3 class and shared it with me in an email on April 13, 2002.

up much of what the girls do online. The *www.seventeen.com* page is the most popular at least among my participants, of a whole range of web pages created by teen magazines to help attract girls both to visit their web pages and to buy their magazines. The other web page, *www.candystand.com*, was the most popular of the online game pages identified by the participants. Candystand is the best example of these consumer driven games sites, but a number of others were mentioned by my participants. By choosing these two particular sites, I was able to examine these specific texts as well as the more widespread phenomenon of Internet sites targeting girls for consumer and other purposes.

In the analysis of the artifacts I have focused on the language and the images in the text. The language also must be deconstructed because as Todd and Fisher (1988) argue "anything said, whether written or spoken, is already saturated with meaning"(6). In my analysis of ICQ and MSN, I have looked at not only the language and the various symbols used to communicate but the medium of communication itself. For the web pages I have concentrated more on the content of the pages themselves although with the *www.seventeen.com* web page I could not help but notice comparisons between the web page and the magazine. For all of my analysis of artifacts I have relied on textual analysis as well as the theoretical foundations of semiotics.

3.6 My Experience With Computer Usage

Like the participants in this study, I use my computer for entertainment purposes in my leisure time. I play games both online and offline, chat on ICQ, surf the web and occasionally visit chatrooms. I am aware of what is available on the Internet and have

used many of the same programs and games as my participants. I feel this adds to the quality of my analysis because I am not simply a researcher coming and asking these girls a few questions. I am a fellow surfer, gamer and chatter who understands the value and the fun of computer entertainment. I believe this experience brings a deeper understanding both to my own analysis, and to the quality of questions I was able to ask the participants.

3.7 Conclusion

Throughout my research I have combined textual analysis with open-ended interviews in an attempt to get a fuller picture of girls' interactions with information technologies. I have tried to balance my own research agenda and the clear direction the girls brought to the interviews. I have examined the content of the artifacts the participants shared with me, but at the same time have tried to ensure that the participants' voices and stories take precedence in the research. I have used an interdisciplinary approach to try and get a fuller and richer understanding of what the girls are doing and their impact on information technologies.

Chapter 4

Information Technologies and Adolescent Girls: what are the girls doing and how does it affect their concepts of self

4.1 Introduction

One of the initial research questions with which I began this study was what are the girls doing on the computer, or how are they interacting with information technologies? In doing the interviews, I quickly realized that the majority of the participants use the computer a great deal in their daily lives. The participants appear to have a reciprocal relationship with the technologies. They are not passive observers or blind consumers of the technologies. They are interacting with and consuming what they choose to, both online and offline. They have an impact on the technologies through their choice of activities, and yet information technologies also have an impact on who they are and how they see themselves. The conscious and unconscious performances that the girls go through both online and offline are one of the factors shaping and defining their sense of authentic selves. In this chapter, I will introduce the participants and explore what the girls are actually doing with information technologies within the framework of how various parts of their identities may be influenced through their use of the technologies. The specific areas I will focus on are agency; sexuality, beauty and femininity; personal security and 'geek not geek'.

4.2 The Participants

The participants in this study all came out of the 2000 "Go For IT Girls" conference and are all high school students. Amy is a grade ten student. She has a brother and a sister and is a cadet. Ginger is also a grade ten student and plays softball. Her parents are separated; she lives with her mother. Candy is Ginger's best friend and is also in grade ten. Debbie is the oldest participant having gone back to school to upgrade after grade twelve. She participates in drama programs and programs games. Lori is also a grade ten student. Lori has younger siblings and has built web pages for fun. Lynne is in grade ten and has a part time job. She has a younger sister and participates in debating. All of the participants spoke of the fun that they have on computers and seemed pleased to be asked to participate in the study.

4.3 Literature Review on the Self of Adolescents

The main way I see technologies affecting adolescent girls is the impact their interactions have on the development of their sense of self. There are many different ways that a concept of self or identity can be defined. Early schools of thought argue that the concept of self is developed or constructed during childhood and adolescence and develops into a core sense of a person's identity by the time they reach adulthood. However, this assumes that the person's sense of self is a single identity, and also that the sense of self does not continue to change over time. As I pointed out in Chapter three, Goffman (2001) believes that the sense of self is ever changing and performed in accordance with the situations a person finds herself/himself in. There is not a core

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sense of beliefs, but rather a series of roles a person tries on for size and then accepts or

discards as she/he wishes. These fragmented selves may contradict each other but are all

parts of the authentic individual. By seeing the girls' performances of self as a collection

of performances, I can understand their reaction to various situations with the computer,

as well as to the presence of a researcher.

Other researchers who have interviewed adolescent girls have also found

contradictions in the material. Gilligan (1990) refers to this series of performances or

collection of authentic selves in her discussion of the challenges of interviewing

adolescent girls. Gilligan (1990) found that she would get glimpses into the self of

adolescent girls, but only glimpses:

> [While] interviewing teenage girls in adolescence . . . I felt at times that I
> was entering an underground world, that I was lead in by girls in caverns
> of knowledge, which then suddenly were covered over, as if nothing was
> known and nothing was happening(14) .

In part, Gilligan is referring to the lack of confidence girls have in their own knowledge

and abilities. The girls are willing to share their knowledge only in glimpses. In

addition, she recognizes that girls' knowledge changes from day to day, or even moment

to moment. One of Gilligan's participants pointed out that if she had been interviewed

on a different day she may have given very different responses to the questions. This

phenomenon exists partly because she may not have thought about some of the things

being asked before, but partly because she may feel differently that day (Gilligan 15).

This observation illustrates the performance of selves or multiple dimensions of selves

to which Goffman (2001) refers. However, it would also suggest that the discrepancies

that exist in my interviews are not problems with the interviews per se, but a part of

interviewing adolescent girls.

The specific selves of adolescent girls have also been a basis for study. Pipher (1994) talks specifically about the selves of adolescent girls and feels that they are under attack. The girls' sense of self that worked in pre-adolescence is under attack and the way they choose to react to these attacks may be unhealthy performances of selves that continue to undermine the girls' self confidence. She feels that girls are at increased risk from society for three main reasons: 1) their bodies are changing at a rate that is faster than they are able to take in, 2) society's messages towards adolescent girls in particular are that they must be beautiful, thin and well behaved, and 3) girls are being encouraged to rebel against parental authority and support at the very time when they most need the support of a family unit (Pipher 1994: 22-23). While girls are beginning to explore their own sexualities and become comfortable in their own bodies, society is telling them that their bodies are too fat and too ugly. Some girls may throw off this message with relative ease, but they are being told not to rely on their parents for support and guidance. They are instead encouraged to turn to a peer group which is also experiencing the same social pressures. Pipher argues that all girls experience a drop in self esteem during the early adolescent years. Girls who are not able to negotiate their way through these conflicting messages get lost in a sea of eating disorders, abusive relationships and adolescent pain.

While my participants have not identified themselves in these risk categories, some of the societal pressures present in and mediated through technologies did impact on their sense of self worth and their own sense of identities. The girls' senses of selves

are expressed through how they look at issues of agency, power and control, sexuality, beauty and femininity, personal security, and self competence and self confidence in relation to the terms geek and nerd. The reciprocal relationship girls have with information technologies both allows them to express these identities of self and results in the selves being influenced by the activities.

4.4 Agency

In this study the adolescent girls are limited in expressing their own agency, that is their abilities to have the power to control their own decisions and life choices. They exercise agency as they are able within the confines of their family and social relations. The restrictions on agency I will focus on are financial restrictions, parental control and the education system. I will also examine how the participants expressed agency in this study.

Financial restrictions do affect adolescent girls because they do not have much money of their own. This limits their interactions with technologies to varying degrees. Ginger did not have access to a computer at home and could only access a computer at her father's house or at a friend's place. Lynne expressed frustration at the number of web sites that she used to use that now require payment in order to access them. She says that "I'd do a few more things and um there are certain things I'd like to do but because of restrictions of like some sites you have to pay a fee to go on to get access to information." While Lynne does participate in the paid economy in the form of a part time job, she does not have the economic resources to allow her to go anywhere she

wants on the Internet.

My participants are also economically dependent on their parents to provide them with access to a computer and access to the Internet. Their parents must have the financial means to afford a computer and the monthly Internet connection. The parents pay for the Internet connection, and this gives them authority over its use. While most of the participants ignored this parental control, Lynne expressed it openly when talking about what her parents see as appropriate use of the Internet:

> they talk to me about what they consider to be inappropriate web pages what they consider not to be you know what they expect me to do on the Internet and the reasons that I do have this Internet connection and how it's like you know a privilege which can be taken away which will be taken away.

Lynne seems fully aware that her parents own and pay for both the computer and the Internet connection and that she can use it only if she follows their rules. Until she is able to own the technologies, she must use the technologies only in ways that are sanctioned by her parents.

Should agency be defined only by economic means, then, the participants have very little agency. However, if agency is defined by the choices they make within the limits of their parental rules, then the participants demonstrate a great deal of agency when using the technologies. However, parents may have some difficulty in enforcing these rules. Three of the participants responded that there were no set rules to their computer use and a fourth participant spoke only about rules around pornography and sexually explicit chat rooms. Three of the participants also spoke about being more knowledgeable than their parents on the computer and two of the participants said that

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they had to teach their parents how to use the Internet. With the exception of Lynne, all of the other participants clearly felt that they could go anywhere they wanted on the Internet and that there would be no real consequences from their parents. Lynne's parents have a net-nanny program that does allow them to monitor her Internet use if they choose. She states that she is not free to choose to go anywhere on the Internet and that there are clear restrictions to how she can use the technologies. However, for the rest of the participants who use the Internet on a regular basis, they alone are choosing where they want to go online and how they wish to use the computer. While their agency may be limited by their interactions with other people (which will be discussed in Chapter five) they are exercising agency in their use of the technologies.

The girls also demonstrate agency in the choices they make at school regarding information technologies. Many of the participants I interviewed complained about school policies that did not allow them to check their email or use ICQ or chatrooms at school. They pointed out that if you were finished an assignment in computer class you could play games or surf the Internet but you could not use the computer for communication purposes. As a result the activities that the majority of the girls enjoyed were banned, but the boys could play games which was their preferred activity. The argument the school makes to justify this policy is that viruses are more likely to come from email, and that ICQ and chat-rooms are riskier behavior than game playing. A number of the participants told me how people (not necessarily admitting to it themselves) got around this policy. Candy told me that:

> they say you can't check your email or go on a chatline but once you are
> at a computer you do it anyways. If you are caught then you need to find

a way to cover it up.

Amy also pointed out that while the computers at school were supposed to be used only for school work, she could check her email "if they don't catch you doing it." The participants chose to break a rule that they did not see as just and demonstrated that they had the agency and the computer savvy to get away with it.

I also found the girls exercising agency within the confines of this study. The girls could decide to choose their own pseudonyms for the study, rather then simply having me assign a fictional name for them. Three of the six participants elected to choose their own pseudonyms. Lynne, who throughout her interview demonstrated that she was both a responsible and serious individual, chose a rather serious name. Candy and Ginger, on the other hand, clearly chose names that reflect their more playful and carefree approaches to life. In a discussion of the importance of children or adolescents choosing their own pseudonyms, Downe (2001) talks about the importance of play and fun associated with trying on a new name (170). Candy and Ginger appear to be exploring their own fantasies of sweetness and spice in their names, and laughed openly together as they were telling me what their chosen pseudonyms were. They had created them together and clearly had fun doing it.

4.5 Power and Control

While closely linked to the concepts of agency, the concept of power in relation to girls and technologies speak more to the ways girls exercise agency rather than the reality that they do have agency. Control and mastery examine not just the power that

the adolescent girls have, but the ways in which they exercise power over things. The girls express and experience power and control in many ways in relation to information technologies including through games, hacking and fearing being hacked, and mastering information. The participants' fragmented sense of selves was affected differently when they felt that they were in control of the technologies and able to exercise power than the times when the participants felt as though they were powerless or vulnerable.

4.5.1 Games

One of the most basic ways the participants demonstrated power and control in their use of information technologies was through game playing. Many of the offline or pre-packaged games are designed to make players feel in control by building something, destroying something or winning. Yet most of the games that the girls played continue to have only male characters with whom the participants can identify. Mulvey (1989), in her groundbreaking discussion of cinema and female spectatorship, argues that women identify not with the helpless female characters in films, but with the male protagonists (37). Similarly, the participants identify with the male character whom they are playing in the game in order to feel powerful and in control of the game. The fragmentation of self, or performance of self, allows the girls to take on or co-opt these male oriented games for their own use and their own sense of satisfaction. For example, Debbie talked about a sense of power and control when playing games. Debbie likes the shooting and adventure games such as "Tombraider" and "Breath of Fire III", as well as more puzzle oriented games such as "Mario Woods" and "Jezzball". When I asked her

if any of these games had a female character, she told me only "Tombraider" but that it really did not matter. However Tombraider, (her favorite game at the time of the interviews) is one of the few action adventure games that does feature a female action hero Lara Croft. Lara can do all the things male action heros can do and she can do it all without breaking a finger nail or skinning her perfectly shaped knees. Debbie argues that she likes Tombraider because:

> it's very realistic and I like the graphics, I well oh, you got to search it throughly and look in every corner and every angle and that's what I like to do, and I always do that, I don't know, it's just good.

While Debbie likes the game because it is more complicated and challenging than some of the more basic games she plays on Nintendo, her identification with a female rather than male protagonist may add to her enjoyment while playing the game and the sense of power she gets from winning the game.

Debbie also gets a sense of power and control from the knowledge that she is the best at these games in her house. She is at the top of all the high score charts and is always the first to finish the Nintendo games. She said that she was always at the top of the high scoreboard unless she chose to put her little brother's name on it "cause he likes to be on there." Debbie's brothers recognize that she has power and control over the games and have given her a nickname based on this control:

> I finally got a chance to play get an innovative way of doing something and get farther then everyone and they are like oohh you got there and take the controller away and start playing it. So I am better than them now. Way better. They call me 'the robot' because I am always getting farther in games and checking everything thoroughly finishing the levels completely to get everything in them. I play them good

Debbie gets a sense of power not just by beating her brothers in all of the games they

own, but also in finishing first any of the games they play separately. Debbie does not simply win the games but conquers each and every secret the game has to offer. She also has trouble ending the games because she does not want them to be over. For her, the challenge does not depend so much on winning but on the play itself. The goal is to win, but she does not want to win too quickly. In talking about finishing a game, she says, "when I am down to the main enemy, like, I don't want to beat him cause it will be *over*". Unless one of her siblings is getting too close to finishing or wants to use the machine, she does not want the game she has complete control over to end. Turkle (1984) found that when the game ends then the player has to return to the real world (72). The control the player has in the game world does not exist in the real world, and players are reluctant to let games end and have that control vanish.

Amy also plays pre-packaged games, although not the first person fighting games because she is a cadet and handles guns as part of her real world. She says that the fighting games are "stupid" because that is not how war happens and that there are consequences to using guns. She cannot identify with the male protagonists because she respects the use of weapons, and the characters in the games clearly do not. Amy does enjoy playing other types of games and describes the feeling of power and control she gets through playing the game SIMS. SIMS is a pre-packaged game that allows the player to create miniature people and then design homes and a life for them. When asked what she liked about the game Amy replied:

> um I liked the building the houses part cause I could make it my own way and I didn't have anybody telling me I couldn't have that or I couldn't have this.

Playing the game provided an opportunity for her to be creative. This situation contrasts with the constraints placed on her by living in her parents' home. Amy had mentioned that her parents choose to keep the computer in the kitchen and that this affected how much privacy she gets on both MSN and email. While Amy did not have a great deal of control over how her actual environment was rearranged, she could create any kind of environment she wanted to through the fantasy of the game. She can also create both male and female characters through which she can choose to identify.

Online games are another area where participants can experience power and control. Amy who bowls competitively, enjoys going to *www.candystand.com* and playing online bowling. When I asked her why she also liked to online bowl she replied "cause if I'm doing bad I'll just click a button and start over". Unlike her actual bowling games, her poor virtual bowling games can be restarted with the click of a button. She controls not only whether she plays the games but when the games end. The sense of control that Debbie found in playing her Nintendo games is mirrored in Amy's control over the online bowling. Lori also demonstrated that she likes being able to either restart or give up on games entirely when she quit playing wiffle ball because she was losing too badly. The computer has none of the objections an actual opponent may have to a person quitting simply because they are losing.

However, Amy also gives up some control when she plays cards on the computer. When I asked her how playing on the computer was different than simply using a deck of cards, she replied that "you don't have to reshuffle the cards and you can't cheat". Computer card games are faster and easier then using actual cards, and the

computer holds her accountable to not cheat in a way that she would have to do herself if she was playing with actual cards. In this case, the computer makes Amy more accountable for her actions.

Debbie, the oldest participant in my study and the most advanced in classroom computer learning, was the only participant who has begun to program her own games. She had taken Computer 20 and 30 when she returned to school after grade 12 to take more math and science credits. She was learning to program, and clearly took a great deal of pride in excelling at the assignments she was given. She created her own version of Donkey Kong in computer science 20 and her own version of "bop a mole" in computer science 30. She got top marks in both of the classes, and at times would fix the incorrect code the teacher wrote in order to make it work for the other students. Clearly she masters the technologies, and her extensive knowledge and abilities give her both power and control over the machine.

4.5.2 Mastering Information

The girls also demonstrate power and control on the computer through the mastery of information. Many of the girls spoke of using the computer as a basis for research, and Lynne stated that this was one of the main reasons she had her own Internet connection. Candy, when asked about her reaction to the World Trade Center bombing said that:

> I looked up stuff ah about Bin Laden because we were doing current
> events on it and so I looked up information about him and kind of about
> the things he had done before and the last World Trade Center bombing.

She knew enough about the search engines and Internet research to find the exact information she needed for her class.

Lynne is the participant to whom information and the acquisition of information was the most important. Lynne spent a lot of her Internet time looking for various pieces of information and would, if necessary, perform an incredibly detailed search in order to find out one piece of information. When talking about how much time she spent online Lynne says that:

> if I'm interested in something I will spend a ridiculous amount of time like I could spend two hours just looking for one specific piece of information and after about two hours I give up because I'm kind of done

Lynne knows the limitations of the Internet and after two hours knows that she will not find what she is looking for. At the same time her detailed search abilities mean that she can find and master almost any information on the Internet.

4.5.3 Hacking and Viruses

Hacking and viruses are the final way that power can be gained or lost on the computer. While hacking does gain a great deal of power for the person who is doing the hacking, all of the participants that I interviewed had been the victims of rather than identifying with hackers. Candy, when asked what her worst experience on the computer was, related this story of being hacked:

> it was really late at night and um my computer was being really stupid. It just wasn't doing what I was telling it to and all of a sudden the screen just turns black and this bright green writing came across and it said you have been "matrixed" and I was freaking out so I told this person on ICQ and he is like of he is just a loser don't worry about it he won't do

anything to your computer so then this other message comes on the screen it turns black and he sends this message across that says tell Derek to shut up I am not a loser so I know that he could see everything that I am writing and everything other people were saying to me

When Candy's computer was hacked into, she lost all control and privacy on her own computer. While she was able to deal with the situation by turning her computer off and breaking the connection, the loss of power and control was, as her friend put it, "scary". Both girls were used to being in control on the computer, and they did not realize how quickly that control could be taken away by a more experienced computer user. While they were able to regain control of the situation by turning off the computer, their sense of security and privacy had been violated.

Viruses are another area where control and power can be lost through computer use. All of the participants were affected by viruses because their schools were concerned about their networks being affected. While only one of the participants in the study had actually had a virus, another thought there might be a virus on the computer. Lynne was the only participant to actually have got a virus and, as a result, was very concerned about getting another:

> we got an email and I opened it and I kind of in the back of my head I kind of thought something was wrong . . . I think it was the "I Love You" virus and it kind of crashed my whole computer and I had a heart attack because I was doing this big paper so we had to have a friend come over and he basically had to re-do everything in our computer because the whole system was crashed.

The infiltration of the virus had a profound impact on Lynne since it left her feeling vulnerable to attack at least temporarily. She was so afraid that her computer was permanently damaged that she said "that whole week . . . I was typing out my

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assignment on a typewriter because I didn't know if I'd be able to hand it in on a computer." She had become used to having control over the computer and was very upset when a virus took that control away. In addition, the virus highlighted the limits of Lynne's skills. She was not able to fix the computer once it had a virus and learned too late how to scan documents and downloads before opening them on her computer.

Through these three ways the participants both experience and express power and control with technologies, and see how easily this power and control can be pulled from their grasp. They both gain confidence from their own abilities to control the technologies and recognize how tenuous that power can be.

4.6 Sexuality, Beauty and Femininity

One of the ways that I feel my participants justify and rationalize their computer usage to both themselves and to me as a researcher was by pursuing traditional feminine ideals through the non-traditional medium of the computer and the Internet. They use what is socially defined as a very masculine machine, in what I would define as very feminine ways. For example, all but one of the girls that I interviewed went to teen fashion magazine web pages when I asked them to show me some of their favorite online activities. At these sites, the girls can take quizzes, read stories by and about other girls and get a heavy dose of make-up, fashion and other product advertisements without having to actually buy the magazines. *Girl-Cosmo*, *Seventeen* and *YM* all have web pages that adolescent girls can log onto in hopes that the users will be interested enough in one of the "teaser" stories to go ahead and buy the magazine. The participants

use advanced computer skills to do traditional feminine things. I cannot guess how often the girls visit these magazines when they do not have an audience watching, but under my gaze all but one of them was anxious to show me that they were interested in these pages.

www.seventeen.com was of particular interest to me in this study because all of the participants but one either showed me the site during the demonstration part of the interview or spoke of the site when I asked what they did online. Currie (1999), in her study on adolescent girls and fashion magazines, found that fashion magazines such as *Seventeen* have become road maps for the gendering of adolescent female bodies. How is this feminisation process affected by the girls accessing the information on the medium of the Internet rather than through printed magazines? The magazines' popularity online allows the participants to find "girls friendly" spaces online that re-enforce their femininity and encourage the use of technologies. Amy in the demonstration section of her interview says that she goes to *www.seventeen.com* to "see what's in the new issue". She can also take the quiz that will be offered in the upcoming magazine but has to buy the magazine in order to get the results. Currie (1999) points out that girls often like the quizzes and open ended questions that the magazines offer because they can use them as a measure of how well they are conforming to traditional roles of femininity (206-7). The Internet *Seventeen* page acts not only as a guide to traditional femininity itself but, more importantly, as an advertisement for the magazine. Through the quizzes, the girls can check out how their performance of self at that moment measures up to the standard of femininity demanded by the magazines.

The participants are also freer to explore their own sexuality on the Internet in ways that would be much more difficult or risky in actual space. Through ICQ, MSN and chatrooms, the participants can interact with boys in safer environments than through the telephone or face-to-face meetings. The degree of separation that the keyboard allows for results in the girls being able to "play" with their sexuality in ways that would have consequences in real life. Turkle (1995) points out that the Internet is an "element of the computer culture that has contributed to thinking about identity as multiplicity. On it, people are able to build a self by cycling through many selves" (176). For example while using ICQ the girls can pretend to be anyone they want and as long as they are not giving out personal information, there are no serious consequences to this play behavior. They can order up the person that they wish to talk to (assuming the other person is being honest about who they are, of course) and have a practice or fantasy relationship with them. Candy and Ginger speak about how they find people to talk to online:

> there's um white pages on ICQ and you can type in like male Saskatoon (we all laugh) and you go and it will show you a list of names of people that are online at the time so that you can talk to them then

The program is set up so that you can order whomever you want to talk, and it will match you up with a person who meets, or at least claims to meet, your entire criteria. While you cannot get too specific with the program or it will not produce a match, the participants were able to order a single male from the city to talk to (they added the single later). The girls can explore their ideal relationship without having to expose themselves to the risks or the work of an actual physical romantic relationship. There

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were a number of examples in my interviews of the girls exploring their own sense of sexuality through conversations with other people either on ICQ and MSN or through chatrooms. I will discuss how they explored their sexuality through these media of communication more throughly in Chapter five.

4.7 Personal Security

Another way the girls' Internet access affects their performance of selves, is through personal security or more simply whether or not they feel safe online. I asked all of the participants about security and about how much information they gave out online and got a wide range of responses. At one end of the spectrum were Candy and Ginger who told me that they were in no way worried about security. However, they clearly had given Internet security some thought because they made the distinction between how secure they felt on ICQ and how secure they felt in chatrooms:

> Ellen: are you in any way worried about anyone you are talking to
>
> Candy: not really I am not usually [on ICQ]
>
> Ginger: cause lots of the people that we meet they meet someone that we know knows them or something so
>
> Candy: um hum
>
> Ginger: its not like were scared that there old men or something like that
>
> Candy: maybe on a chatline but not on ICQ I never am cause its mostly young people that have ICQ; nothing's ever happened.

In their eyes only young people have ICQ, and it's only when they get into the less personal realm of chatrooms that they become aware that the person to whom they are

talking may not be who they say they are. Later on, in the demonstration part of the interview, I asked again about how they knew who they were talking to on ICQ, and they pointed out that the city in which they live is not that big a city, and even if they don't know the person they can ask around and find someone who does. This way they can make sure of whom they are chatting with.

However even in chatrooms Candy and Ginger have not been enormously concerned about security and have actually had reprisals from a friend's parent for giving out personal information:

> Ginger: I was staying out of town . . . at this house . . . and on a chatline
>
> Candy: she gave out a phone number
>
> Ginger: early in the morning I gave out the phone number and
>
> Candy: and her mom got mad and she said we couldn't do that anymore cause it woke her up

The call was intercepted by a parent and there was no harm done, but the girls did tell me that they no longer give out information on chatrooms. However, they do not worry about giving out their email addresses or home addresses when signing up for free products. *www.seventeen.com* for example, has free product samples and other give-aways but you have to be willing to give them information on where to send the products.

Lori took a more middle ground approach in her ideas on Internet security and her own personal security on the Internet. When I asked her if she ever gave out personal information she laughed at the question and answered "no". She clearly thought the

question was silly or naive and that no one would give out personal information on the Internet. When I asked her "so you'd use a fake name or just your first name?" she said "yeah I don't give out anything that they could." She then paused and moved on. While I believe that Lori recognizes that there is some risk involved in using the Internet, she has clearly decided for herself what that risk would be and reacts accordingly. She uses ICQ, MSN and chatrooms, but uses them in a way that is knowledgeable about personal safely on the net.

Lynne, however, took a much more extreme view on Internet safety and was much more concerned both about her own personal safely and the security of the information that she gave out. Lynne does not use ICQ or MSN and does not go into chatrooms. Part of the reason she avoids these activities is because of parental expectation, but she is certainly concerned about security:

> I don't use chatrooms at all. I'm really afraid I'm going to download some sort of virus and or somebody's going to eavesdrop . . . yeah comfort level. I don't feel comfortable talking about something that could you know be easily eavesdropped

It is not surprising that Lynne is more concerned about Internet security because she is the only participant who told me about a negative experience. When I asked her about her substantial knowledge and concern about security she replied:

> I also hear a lot of stories maybe they're wives tales but I don't really want to prove them. You know your email, your actual home number, address and phone number and people showing up or people delivering junk mail and um you know following you and I've . . . on the radio and stuff stories about people who were stalked on the Internet or who they have met in person.

Lynne is very careful to never give out information on the Internet without first reading

all of the fine print. She also completely avoids ICQ and MSN because one of her

friends has personally experienced what giving out personal information can mean:

> A friend of mine met somebody on ICQ in Saskatoon and she met them
> and he basically started stalking her and it became very uncomfortable for
> her and I found it disconcerting too because whenever we went out you
> know if she saw him she would like you know try and avoid him and that
> kind of limited what we could do until she had the whole situation
> cleaned up.

Unlike the other participants who have only heard about the problems giving out

personal information on the Internet can cause, Lynne has had it affect her social life

because the friend had to avoid her Internet stalker. As a result Lynne is much more

aware of the potential dangers and avoids security complications at all cost.

4.8 Geeks or Not Geeks

During the first few interviews, I found that many of the girls appeared to be very

comfortable using the computers and were very competent on them but they seemed to

be careful about what they showed me on the computer. Many of the sites they visited

were sites that I would consider to be traditionally feminine sites. I wondered if this was

a true reflection of what the girls were actually doing or if it was an attempt to avoid

being classified as geeks or nerds either by me as a researcher or by my thesis audience.

As stated in the literature review, the image of the masculine computer nerd is a

prevalent image of a computer user in North American media. This image may serve as

a deterrent to girls and women who are interested in computers but do not want to be

isolated, antisocial and unpopular (Kendall 1999: 276-7). In an effort to find out if girls

are tailoring their activities on the computer in an attempt to avoid the nerd or geek label,

I asked the two remaining participants I interviewed and the girls I interviewed a second

time to define geek, and then to tell me if they saw themselves as geeks.

The responses to what a geek was were split between the positive and the

negative. In response to my question what is a geek Lori said:

> Lori: I just defined this for my sister (laughs) a geek is someone who
> thinks they are smart and tries to be a nerd and spends a lot of time on the
> computer. A lot of people think I'm a nerd and a geek

> Ellen: what's a nerd

> Lori: a nerd someone who's really smart

For Lori being a geek or a nerd is simply someone who is smart and capable, and

chooses to express some of this intelligence through using the computer. Lynne also did

not see geek or nerd as a completely bad label:

> A geek is someone who knows a lot about something but has to tell you a
> lot more than you asked to show how much they know. There is this guy
> that knows a lot about computers but he has to tell you all this stuff
> instead of just helping you . . . a geek is someone who defines themselves,
> gains their self-worth, from knowledge exceeding the common individual.

Lynne also sees geeks or nerds as smart but sees them in a slightly more negative light.

She feels geeks or nerds show off their knowledge rather then simply sharing it.

In contrast, Candy and Ginger were much more negative in their definition of geeks and

nerds. They were aware of the social stigma associating computer use with geekdom,

and resist this definition:

> Ginger: a lot of people say about computers I wouldn't call I wouldn't say
> cause I wouldn't say I was a geek and I am on the computer all the time

Candy: yeah

Ginger: but I guess more or less just you don't do anything but something with school or something with computers

Candy: but not like ICQ and emails like kind of like a hacker sort of person

In formulating their definition they separate the activities they enjoy on the computer from those they do not see as fun. A geek in their definition is someone who engages in computer activities that are not fun. They also add that in order to avoid being called a geek you have to be social and not too caught up in your school work. They go on to say:

Candy: for no reason for fun that's your fun?

Ginger: yeah

Candy: you're just doing extra school work (laughs)

Ginger: and yeah if you could be out doing something but you'd rather stay home and like ah I know someone who is on his computer all the time playing a role game . . . he comes home and goes right onto the computer and does it all day he doesn't go out and I think that's kind of a geek I wouldn't do that.

However, they point out that a limited amount of necessary school work would not classify you as a geek. If you are doing anti-social activities such as hacking, you can avoid being called a geek if you make it worth your while:

Ellen: so would you say the hacker that broke into your computer would then be a geek

Candy: well yeah if you're going to sit there all day and try and figure out a way to get into someone else's computer that's pretty sad you could be going out and interacting with people more than computers if computers

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aren't the only thing - interaction in your life and you're just hacking into other people's computers and reading their stuff (laughs) that's retarded That's their only interaction hacking into other people's computers

Ginger: yeah if you're going to hack into someone's computer why not go into something **big** . . . you get something out of it not just knowing what they are doing.

Candy and Ginger resist the undesirable label geek by defining their activities that involve online interaction with other people as "fun" and "social", and any activities they do not engage in as part of that fun as geeky.

Candy and Ginger also seemed to link the geek/not geek binary to a pleasure/boredom binary. The activities they liked were "fun" or pleasurable and therefore were not geeky. Any activities they did not enjoy they labeled geeky, antisocial or boring. Boring was labeled the flip side of "fun" and anything that did not hold the participants interests at that particular moment was dismissed as boring. Geeks, in Candy and Ginger's eyes are not just uncool, but boring.

I then asked the same four participants if they would define themselves as geeks or nerds. Only Lori outright defined herself as a geek:

Ellen: do you think you're a geek

Lori: a computer geek yeah

Ellen: okay what is a computer geek to you then

Lori: someone who spends too much time on the computer doing nothing.

Ellen: do you think you spend too much time on the computer

Lori: yup

Although Lori did qualify her statement in pointing out that she is a computer geek, she

does accept the label without any hesitation. When I asked her if the label geek was a positive or negative thing for her, she replied " I don't really care" and laughed. Clearly Lori does not fear or avoid the label geek, and the social implications of being labeled at least a computer geek are minimal. While she might not accept the term geek outright, in relation to the computer, she has no problem with it.

Lynne, on the other hand, accepts that she may be a geek in other areas, but resists the term when applied to her computer usage. In response to my question, are you a geek?, she replied "not a computer geek. We all have something we know lots about. Sometimes my friends are like 'Lynne tone it down', but no not a computer geek." The definition that Lynne gave to define geeks was someone who knows a lot about a specific area and gains self worth by knowing more than most people. Lynne does not see herself as being advanced enough at computers to be in the geek category but knows that, by her own definition, she may be a geek in other areas.

Candy and Ginger reject the idea of geek completely in connection with their own identities. In response to my question would you consider yourself a geek because you spend a lot of time on the computer they replied:

Candy: no

Ginger: mine's basically email and ICQ

Candy: yup

Ginger: that's it

Candy: somewhat of a typing homework thing but I avoid that (laughs).

They have set up their definition of geeks as someone who is not using the computer for

social or interactive things and because of that they do not qualify. The only time they are not being social on the computer is when they are forced to do homework, but because that is not by choice it does not qualify them as true geeks. They have set up a narrow definition of what being a geek means to them, and make sure that all of their activities fall outside of this box. They are probably the most affected by the social stigma linking geeks with computers because they are the ones that are clearly trying the hardest to resist this label.

For some of the participants, the label geek has no negative power over them because they define the label in more positive ways. Lori especially can take pride in her computer competence and is not worried if she is called a geek. However Candy and Ginger avoid this label at all cost because they associate negative connotations with the term geek. Candy and Ginger monitor their own computer activities carefully to make sure they are not spending too much time on activities they themselves would label 'geeky'.

4.9 Conclusion

The participants in this study are using technologies in ways that are both fun and useful for them in their everyday lives. They use the technologies in different ways, but the common denominator is that each participant finds meaning in using the computer and most of all they find the computer, fun for them. The various participants are programming, game playing, communicating and researching, but most of all they are interacting with the technologies in ways that they define as pleasurable. The

technologies offer a space where the girls can explore their own performances of self in ways that are severely limited by any other medium. The degree of separation that the technologies offer allows the participants to fantasize and try on different identities with minimal consequences. The participants do negotiate issues around personal security and struggle with their own identities in relation to the "geek" stereotypes. The participants seemed particularly attracted to areas of information technologies that allowed for social interaction and communication. However the degree of separation offered by the technologies gives the girls more room to play with their identities and fantasies than they tend to have in real space. In order to try out these fractured or fantasized identities the girls need an audience and again the technologies provide. In the next chapter I will look at the effects of technologies on girls' interactions with others both online and offline.

Chapter 5

The Influence of Others on Adolescent Girls and Their Understanding Of Information Technologies

5.1 Introduction

While the time that participants spend by themselves on the computer is important in its effects on their own perceptions of self, the reality is that most of the participants are using the computer to interact with other people. Families, peer groups and online friends all play a part in the participants' daily interaction with information technologies. These relationships affect both their competence on the computer and their use and interactions with the computer. They are also an important influence in shaping how the participants view themselves and the world around them. All of the participants spoke on the interactive nature of the technologies in their interviews. In this chapter I will examine the family relationships as well as peer groups, both virtual and face-to-face, that influence and are influenced by the participants' interactions with information technologies.

5.2 Parental Influences

In her work on girls and technologies, Furger (1998) argues that while girls benefit from their father's support, the single factor that most influences whether or not girls will be confident and competent on the computer is the example provided by their

mothers. If girls see their mothers using the computer as part of their everyday lives, then the girls will incorporate computer use into their own lives (32-35). In my study the mothers were not the primary parent the girls spoke of in relation to the computer. Furger (1998) is working primarily with pre-adolescent girls which may account for some of the differences between her discussion and my findings. The mothers were in fact mentioned sparingly in the study, and usually in relation to the fathers. For example, Lynne described another computer in the house as her parents' computer, but only actually spoke of her father using it. Debbie mentions her mother in a more positive light in talking about computer games:

> yes, my mom is trying to beat me on "Jeezball", she's, she's my only competition in the house. Really she's the only other one on the scoreboard. She's trying. I'm just waiting for her to get up there and then I'll take her down.

Clearly Debbie enjoys the friendly competition that her mother provides for her on this game, and her mother demonstrates that girls and women can not only take time out to play, but they also play on the computer. Amy also mentions her mother, but in relation to the decision as to whether or not to install an electronic monitoring program. In response to my question as to whether or not her computer activities were electronically monitored by her parents Amy says "my Mom decided not to and she trusts us." Amy's situation is unique among my participants in that she credits her mother as having authority over her computer access and the decision of whether or not to electronically monitor computer activities.

In all of the other cases, either the parents were not particularly involved in the computer or the father was the primary parent to which the participants related. Even in

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cases where a participant spoke of both parents talking to her about the computer, only the father was mentioned as actually using the computer. Lynne spoke at length about her parents talking to her about her computer usage and about the control they exercise over her computer usage:

> my parents have a program on the computer which follows where I go online so they can eavesdrop anytime they want . . . they're concerned about chat rooms which is why they don't let me go on there um. Sometimes they'll come in and look over my shoulder and ask me what I'm doing. I don't know if it has anything I like to think that they trust me and my judgement so I don't think they are overly concerned. They . . . have control over it to and if they find I'm doing something inappropriate they can easily cut me off.

Both of Lynne's parents discuss her online activities with her, but when she actually spoke about the computer monitoring and whether or not it is still occurring, she only talked only about her father:

> I do know he had one [a monitoring program] at one point. I haven't seen any signs of it. I used to you know my dad used to check up and you know I could see it. Um I haven't had any experiences with it popping up recently so . . . yeah that is a potential [that the program is gone] but I am not interested in finding that out (laughs).

Lynne's parents have a different relationship to the computer. Her mother has only sporadic contact (looking over Lynne's shoulder while she is working) while the main task of supervising Lynne is left to her father who has the technical skills to do this. Lynne also does not discuss her mother using the computer at all even though she refers to their computer as her parents' computer. However, she did talk about how competent her Dad is on the computer. In response to my question about how competent her parents are on the computer, Lynne responds:

> My dad is. My dad works in an environment with computers all the time.

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He in fact made the computer he has right there and he installs all my software and um he knows he knows a lot about the technical aspect of it.

Lynne has great confidence in her father's abilities to both help her on the computer and to fix the computer if there is a problem. She did not mention her mother's abilities at all. This lack of maternal role models may be one of the reasons girls are not exploring careers in information technologies even though they are "playing" with the technologies.

The remaining participants mentioned their parents not as role models on the computer, but as students; the girls teach their parents about the technologies. Lori says that she has to show her parents stuff on the computer "all the time," and that these lessons include the most basic stuff like "how to check their email." Both Candy and Lori said that they first learned about computers from their father, but both spoke of having surpassed their fathers' knowledge level. Lori and Candy spoke of having few rules in relation to the computer, and their superior computer skills may be why their parents are not imposing rules on their usage. Unlike Lynne's father who has the technical skills to enforce guidelines, the less technically skilled parents cannot control their adolescents' use of the computer, and may not be aware of the computer's capabilities. Lori and Candy have more power in their relationships with their parents because they are in the roles of instructor instead of student. Ginger did not speak of her father at all except to say that her father does have a computer with Internet access, but that she doesn't use it much because she lives with her mother.

The place where fathers do seem to still have an influence, at least in the case of one of the participants, is in talking about career choices with their daughters. In

response to my question about whether or not she was going to take computer courses at university, Candy replied:

> Me and my dad talked about it and he said going into computers would be a really good job and so I thought about that and then I was thinking about taking another computer course cause I haven't signed up for one yet.

While Candy may no longer be learning about computers from her father, his suggestions about the future do seem to matter to her even though she has not actually followed through on them yet.

In contrast to Furger's findings, the main role models that influence the participants' computer usage does not appear to be mothers but fathers. The mothers are mentioned, but they rarely take an active role as either users or mentors of their daughters' computer activities. Only Debbie mentioned her mother actually using the computer. However all of these participants are active computer users and the lack of technological role modeling on their mothers' parts does not appear to have turned them off information technologies. It is possible that as more mothers become more confident on computers and are able to provide more positive role models for their daughters, that girls will take their own computer activities more seriously, but even without mothers using the computers girls are "playing." Furger (1998) may have found mothers to be more of an influence on younger girls, or she may be assuming that mothers have more influence over girls than my findings suggest.

5.3 The Role of Siblings

The other main family influence mentioned by the participants was the role

siblings play in their use of technologies. Both brothers and sisters were mentioned, but the relationship was different enough that I will deal with brothers first and then sisters. Male siblings influenced the participants in many different ways. In some cases the older brother was a positive role model that encouraged the younger sisters to use and play with the computer. Debbie mentions her brothers as the main influence in her taking computer classes at school:

> Okay I basically stayed away from them until about last year. I didn't except, like, for computers, computers video games I stick with, for computers I didn't really do anything on them. My brothers were kind of wanting me to cause they wanted somebody to talk to who understood what they were saying.

Debbie's brothers have also been a positive influence on her in that they have encouraged her to play with computer games and console games. While Debbie refers to a number of brothers in the above quote, her one older brother has clearly been a positive role model in encouraging her to pursue computers as a career possibility. When I asked her if she talked to her brothers about computers, she replied:

> Yup, one of my brothers, he's a he went on to something like C.D.I. or something he went for the computer programing thing cause he was into programming.

Through this brother's encouragement, Debbie wishes to go to university and take computer science courses. Debbie mentions the programming brother again when talking about how much fun games are when playing cooperatively:

> Me and my oldest brother, the programmer, we used to be a very good team and like we played this one game where like where I was a helicopter and he was a tank and we just kinda took on this whole army with just us and we made a really good team. We would get really far.

Debbie's brother has taught her that she not only should consider computers as a

possible career option, but that it is just as important to play on computer and console games for the sheer fun of it.

While older brothers serve as role models for their sisters, younger brothers seem to play the roles of either slightly younger staff that are useful in finding things on the computer but generally pests, or much younger brothers that need to be educated and protected in relation to virtual space. Candy and Ginger spoke of letting their brothers find programs and sites on the computer and then just using the sites. When I asked them about how they were dealing with Napsters' new regulations they told me that both of their brothers had found alternatives:

> Ginger: our brothers do it and we just use it

> Candy: I try [to find alternatives] but I just don't feel like taking the time to do it. I'd rather let my brother do it.

Both Candy and Ginger were more than happy to let their younger brothers find useful information and sites on the Internet and then simply use them. I did not get the impression that either of the girls was incapable of finding the sites they wanted. It was simply easier to let their brothers do the tedious work, and they could then take advantage of that work.

Interactions with the technologies also provided participants with opportunities to torment their younger brothers. Candy and Ginger provide an example of how ICQ can be used to tease a slightly younger brother. They start chatting with Ginger's younger brother as part of their demonstration of what they do on the computer. They warned me in advance that he might say something rude, but then intentionally steered the conversation in directions that would encourage him to say something sexually

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explicit to Candy. Eventually they succeed at getting him to type a sexually explicit comment and then laughed at his expense. They explain to me that the next time they see him they will tell him that there was a researcher watching everything he typed. They have used the degree of separation offered to them by the technologies to embarrass this younger brother. They also seemed to be getting even with the brother for making previous sexual remarks by having him unknowingly do it in front of an adult. Their "joke" may free Candy from unwanted sexually explicit comments in the future. They have also demonstrated to the younger brother that while he may have thought he was in control of the conversation, they in fact were holding all of the power. He may be more careful about what he says to them in the future.

Amy also seemed to be influenced by her younger brother although in a very different way. Her brother is six years younger then her and she seemed protective of him in relation to the technologies. In our discussion of pornography during the interview, she assured me that he does not go on the computer unsupervised, and that "there is always someone in the kitchen or at the house the same time he is." In her case the Internet or at least parts of the Internet are something her younger brother must be protected from and she assists in offering him this protection.

Sisters are also mentioned in the transcripts, although not to the same extent as brothers. Sisters are generally mentioned in positive tones and again as someone who will find fun things to do on the Internet and then share the material with other siblings. Amy mentions that her sister usually finds the game sites and then places them in the favorites section so that her brother and her can have access to the sites. Lynne also

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talks about her sister getting her interested in an online game, if only for a short time. However, sisters were not mentioned as frequently as brothers in the interviews. This may be a result of some of the participants simply not having sisters, but it may be because the participants interact more with their brothers in relation to technologies than they do their sisters.

The role of siblings influencing the participants' use of the technologies is clearly important. Siblings provide both information on fun things to do online as well as a target for online practical jokes. Siblings also can provide someone for the participants to share the technologies, and as a way to get information in an informal way on what else there is online. However, many of my participants pointed out that while siblings and parents do play a role in influencing the participants' technological choices, friends have a much greater impact.

5.4 The Influence of Peer Groups

There are three basic sets of groups that make up the peer groups or friends to which the participants refer in their interviews. First, there are the friends that the participants know outside of cyberspace in actual space, but with whom they contact in virtual space. Second, there are the friends or acquaintances that the participants know only through virtual space and that they have never interacted with in actual space. The final group that influences adolescent girls is perceived social expectation or peer pressure. While peer pressure can come from any one of the other three groups, it can also take on a more diffused form where the participants do not even need to know the

other people in order to feel the pressure to fit in. Societal pressure from both other

teenagers and adults can influence how the girls relate to technologies. The social

influences that the girls discussed will be examined in Chapter Six.

5.4.1 Friends

Friends or a peer group are important to adolescent girls because they provide

support, companionship and entertainment. Pipher (1994) describes peers' importance

to teens as:

> everything. . . Peers validate their decisions and support their new
> independent selves. There is a constant experimenting . . . Talking to
> friends is a way of checking the important question - am I okay?"

While friends do not provide all of the peer support and validation the participants

receive, they play an important role in shaping the social reality in which the participants

exist. Piper (1994) argues that adolescence is a time when girls pull away from their

families or origin and rely more on their peers for support and reassurance.

All of the participants also spoke about the importance friends played in their

lives. They talked about both what they did with their friends in relation to technologies

and the other activities they did with their friends. They spoke of hanging out, going to

the mall, playing pinball, playing mini-golf, talking on the phone, watching television

and many other activities that they did socially. The participants clearly have well

balanced social lives, and are not getting all of their interaction through the technologies.

Their peer groups are influencing much more than simply how they interact with

technologies. I believe the participants intentionally mentioned other activities that they

did with their friends to show me that they were not the stereotypical computer user. They did not sit in front of their computer for hours at a time with no contact, beyond the Internet, with the rest of the world.

Candy and Ginger are close friends. In the pre-interview they told me that they are always together at one of the two houses. They signed up for the research project together and wanted to be interviewed together. Throughout the interview they validated each other's thoughts, and would finish their friend's sentence if she hesitated. While they did speak of other friends, they were clearly each other's most valued friend. They go online together from one of their houses, and until Ginger got her own connection, she shared Candy's Internet connection. Going online a great deal together may be one of the ways Candy and Ginger counteract some of the negative stereotypes around girls and computers. As noted in Chapter Four, they emphasized that they were not geeks because for them computers were primarily a social activity.

Some of the other participants also mentioned playing on the computer with other friends. Amy noted that she and her friends sometimes play games on the computer when they are together "if that's what we feel like doing." Lori also mentions that she sometimes goes on the computer with friends. Time spent on the computer with friends validates that playing on the computer is okay and gives the participants another way to entertain their friends.

Unlike the other participants, Lynne sometimes uses technologies in order to keep up with her friends' interests. Lynne works part-time and devotes considerable time to her school work, and, as a result, does not always have time to watch some of the

shows her friends watch and then talk about. Lynne says she will read soap opera

summaries in particular:

> so I can keep up to date so if a friend comes by and tells me all this stuff I
> can kind of you know nod along with her conversation and have some
> sort of understanding put my two cents in instead of you know being
> quiet about it.

This allows Lynne to fit into her peer group even if she does not have as much free time

as some of her friends. Lynne also goes online at her friend's house because it lets her

do things that she is not comfortable doing on her home computer:

> I have friends who play in um role playing games like Dungeons and
> Dragons and stuff . . . if I go over to their house sometimes they'll let me
> play there. Um a friend of mine she lets me when I go over there
> sometimes she will be on ICQ so you know I'll pretend to be her or
> something and we will end up chatting to other people. That's kind of
> fun

Lynne does not participate in these activities at home because of her fear of viruses and

also because of parental restrictions, but she can explore these interests with her friends.

Moreover, Lynne is more confident to explore some aspects of the Internet when she is

with friends, and they clearly influence her to use the Internet in more communication

driven ways. She is more confident in part because she does not have to use her

computer, but also because she can fantasize that she is the friend. This fantasy makes

using ICQ and playing Dungeons and Dragons less risky because it is all done in her

friends' names. There can be no direct repercussions to her for going to sites which she

feels might be riskier because her name and her Internet connection are never used.

Lynne also uses technologies as a way to keep in touch with friends. Lynne said

that the best experience she had with her computer was:

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being able to check my email I guess. Being able to have contact with my friends quite easily over the summer. Like I mean like sometimes you don't know if people are around and not and you can just email them and if they're checking their email they can tell you oh I'm away right now but you know we can get together. You can plan stuff in that sense.

Lynne did not see her friends every day at school as she was used to, and email provided her an easy method of staying in regular communication.

Amy did not spend a lot of time interacting with her friends during her demonstration, but did tell me that her friends are important. Amy demonstrated MSN for me by talking briefly to one of her friends before moving on. I believe my presence as researcher made her hesitant to use MSN in front of me because she wanted her conversations to be private. Amy did show me a number of the symbols you can use on MSN and ICQ to add to the text. These symbols clearly added to the fun of the conversation and are one of the ways both MSN and ICQ accommodate play activities. Rather than simply being able to type words to the other person, these symbols are included in the communication. Amy always had a picture of a cat beside her name. She felt that this added more personality to her responses than letters. The symbols are a fun way to liven up what would otherwise simply be words on a screen.

Lori also used ICQ, but like Amy she did not chat with people during the interview. When I asked her why she liked ICQ, Lori replied:

> Lori: its faster you can just talk to people whenever you want you don't have to worry about if they're eating or not interrupting anything important
>
> Ellen: okay how is it it's faster than what
>
> Lori: using the telephone so you're not sitting there for hours and you can talk to other people too while you are talking to one person

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Since Lori's interactions are mediated through the technologies the degree of separation reassures her that the friend is free to chat. It also lets her have several interactions at once, rather than having to concentrate all of her energy on one conversation. In response to the question how many people have you talked to at once, Lori replied "probably about ten." Through this multi-tasking Lori is able to participate in enough different conversations to hold her interest.

The separation the technology offers allows the participants to take control and explore their sexuality in ways that face-to-face or even phone conversation may not. The fear of rejection is also reduced because the person they are having the conversation with cannot see or hear their reactions. One of the conversations Candy and Ginger had that was of particular interest was with a guy they both knew who lived in the same city they did. They did not tell me which one of them was interested in the guy, but from the tone of the conversation I am assuming that one or both of them were at least a little interested. They told him to come and take them out for coffee in a little while. They did not tell him that they were being interviewed, just that they were busy for a little while. When he gave reasons why he could not come, they told him that these were unacceptable and that he was coming. He finally begged off by saying that he was too tired but would take them for coffee the next night. The girls demanded exactly what they wanted; after twenty or so minutes of typing, the girls got the coffee date they wanted. They clearly knew this guy in real life, and got a real time coffee date out of their virtual space encounter.

They had two other conversations, other than the one described earlier with

Ginger's little brother. They were both with guys, one who lived in the same city as them and one from out of town. In both conversations they talked about real time events. However, they clearly have standards to which they expect the conversations to conform to because at one point they told one of the guys "Tell me something interesting". When he did not they basically stopped chatting with him even though they did not cut off the contact. Like Lori, they participated in several of these conversations at once and when they were bored with one conversation they would simply find something else online to do. ICQ allowed them to interact only as much as they chose to do and to not have to tolerate anything they found uninteresting.

Ravetz (1998) worries that this implied control that virtual relationships offer may have a detrimental effect on real relationships because they are not the same as face-to-face or even phone encounters. He says that everything that occurs in virtual reality is not real. The danger to this is that "virtual reality implies simulation without constraints, not as a substitute for experience but the belief that virtual reality is experience." (Ravetz:118) In other words, the participants are not experiencing real relationships or even real human contact here even though they are chatting with someone they know in real space. While I do not agree with Ravetz's assumption that everything that happens in virtual space is not real, I see a danger in text-based conversations that allow for several activities to occur at the same time. Although multi-tasking is a skill that is much sought after in the business world, I saw the limitations of the participants' attention spans while observing them using ICQ. If something was not completely engaging to them, they simply moved on to something else. Conversations, web pages

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and games had to be engrossing or the participants were not interested in spending their time on them. The danger of these shorter attention spans is that people are not always exciting or interesting and the participants are not learning to participate in actual conversations. Rather, they are taking "sound bites" from conversations much the same way they would from advertisers or music lyrics.

Ravetz's fear that virtual experience may be reshaping or even replacing real life experience may be valid in that some of the energy the participants might normally put into real life experiences is going into virtual experiences. One of the best examples of this is their activist energies. I re-interviewed Candy and Ginger after the World Trade Center tragedy. Both spoke about how people wanted to do "something" to help. However the "something" that they saw people doing was sending out Internet forwards saying "help New York." Instead of giving blood, volunteering at a local charity or doing something in real time that would make an actual difference, they were reading forward after forward about everyone turning their lights on at the same time. While they wanted to help in reality, all of the energy got lost into a world of fantasy. The adolescents participating in these emails had the illusion that they were participating in activist activities, but in reality their actions made no actual difference beyond making them feel better.

The participants also demonstrated that they are getting some of their entertainment in virtual space that previously would have had them moving through actual space. For example Lori plays wiffle ball online, but when I asked her if she really plays ball she said "I used to." Amy bowls in both real space and virtual space,

but only mini-golfs in virtual space. Lynne is aware that too much of her energy could

evaporate into virtual space. She says she does not play many computer games because:

> I am really not that interested in computer games cause it just seems like I
> could go out and play pinball or I can go out and do what I can do on the
> computer and it's a lot more fun and more benefits

Lynne realizes that because her leisure time is limited, she is better off getting some

exercise and meeting face-to-face while playing with her friends, rather than interacting

through technologies. However, for many of the participants, play is another area that

gets confused between virtual space and real space. The time and energy that they have

to play ends up going into computer related activities rather than into actual physical

exercise. The fantasy of playing virtual softball replaces the physical exercise playing

baseball outside.

This blurring of boundaries that can occur in email and ICQ of reality and fantasy

becomes even more apparent in chatrooms when the participants talk to strangers in

virtual space. Chatrooms are set up much the same way as MSN and ICQ where you can

pick from a list of possible chatrooms that might interest you. When I asked Candy and

Ginger how they found chatrooms they replied:

> Ginger: I go to Yahoo and I just type in teen chatlines and there is a big
> list of them and then you pick one of them to go onto
>
> Ellen: so they are organized by teen. Are they organized by other
> chatrooms too
>
> Ginger: yeah there is like gay teen chat
>
> Candy: yeah and there is things like 40's and singles

They did not participate in a chatroom during their demonstration with me and told me

they only went to chatrooms when they were "bored" but added "and it's fun." In response to the question what do you do on chatrooms, they replied:

> Ginger: mostly we make fun of other people . . . you get to read everything they write.
>
> Candy: yeah most people use funny words on a chatroom.
>
> Ginger: and I just usually sit there and watch cause there is interesting things going on. Then I join in the conversation. That's what happens in chatlines anyway.

Talking on chatlines appeared to be a game to both Candy and Ginger. They are able to sit and watch a conversation until they are comfortable enough to participate and they are able to "make fun of other people." The fun that they experience in chatrooms may come out of voyeurism. They can watch how other people are interacting without having to admit that they are watching. They do not know any of the people on the chatline and therefore there are no consequences for their actions. The degree of separation is increased even further by the technologies because they do not have to identify in any way on the chatlines, and can be relatively sure they do not actually know any of the people to whom they are talking. They can participate in these fantasy conversations without having to take responsibility for anything they say to the other people chatting.

While I realize that with the number of people online at any given time there has to be some way of organizing chatrooms and even ICQ and MSN, I couldn't help but think that when these girls search for chatrooms, they were ordering a conversation in much the same way they would order fries with their burgers. They can be anyone they want to be in these chatrooms, and find anyone they want to talk to. Candy, Ginger and

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Lori were the only participants that said they participated in chatrooms, and none of them described chatrooms as a big part of their Internet usage. However, the conversations they are having appear to be the fantasies that Ravetz fears is going to replace real human interactions.

5.5 Conclusion

The influence of family and friends on the participants has clearly affected how they use the technologies. Parental support is important because the parents are supplying access to the technology for all of the participants. While the participants may have been able to access the technologies in other places, having the computers in their homes allows for a more intimate relationship with the technologies. Ginger pointed out that she spent more time on the computer and was freer to explore more things once she had access to a computer at home rather than relying on sharing Candy's computer. Family support is also important because it gives the participants someone to talk to and share computer ideas within their own homes. Debbie felt supported by her family and shared computer games and computer ideas with her brothers.

However it is clear that, with the exception of Debbie, the rest of the participants get more support from their peers than through family. Friends validate the participants' interests in the technologies and encourage further exploration of the technologies. Friends also encourage the participants to play on the computer and are less focused on the computer as a future career goal than parents.

The participants also acknowledged that social pressures and societal

expectations influence participants' experience of technologies. In addition, other sources such as consumerism and patriarchy influence both how the girls see themselves as users of technologies and how the participants use the technologies. Chapter Six will focus on these societal pressures and look at how the participants are resisting some of these messages.

Chapter 6

Societal Influences on Adolescent Girls in Relation to Information Technologies

6.1 Societal Influences and the Internet

Societal expectations undoubtedly influence adolescent girls. However, the extent to which the teenagers are influenced depends both on the media through which the girls see the message, and the way each individual reacts to the messages. Adolescent girls are not a homogenous group and are not going to react to every social message in exactly the same way. Roberts (1993) argues that:

> The appropriate questions . . . do not ask whether mass media affect adolescence; rather, they ask which messages (or parts of messages), under which conditions, affect which perceptions, beliefs, and behaviors (635).

While I realize that there is an interconnection of messages among television, music, print and information technology cultures, I am going to focus here on the messages and societal expectations around information technologies. Although there are obvious overlaps among these texts, as in the case of print magazines creating online versions of themselves, an analysis of all of the factors influencing adolescent girls in relation to all media is extremely complex and beyond the scope of this study. I will look both at the messages girls discuss in their interviews, and at the artifacts the girls demonstrate in

their interviews to try to identify and interpret the influence of some of the social messages through information technologies.

6.2 Consumerism

The theme of consumerism ran through not only all the interviews I conducted with the participants, but through almost every site they demonstrated. One of the main ways that the participants in this study are influenced by society is through advertising. Advertising is everywhere, both on the Internet and in actual space. While there has been theoretical work done on the areas of advertising, it has generally been done in the areas of print, television and, to a lesser extent, radio. Berger (1973) concentrates on print and defines the purpose of publicity (or advertising) as "to make the spectator marginally dissatisfied with his present way of life. Not with the way of life of society, but with his own within it (142)." In other words advertising exists to tell you that all you need to be happy/satisfied/content is the particular product the advertisement is selling. Happiness is not found through changing the world but through changing your spending habits. Berger argues that advertising is not even about selling a product, but about selling an image. In order for the image to be *desired* it must create envy in the viewer (Berger 1973: 147-8). He calls the image that creates envy "glamour" but for adolescent girls this image could be called "cool" or simply the unattainable image required to fit in. Advertising carefully cultivates the image that adolescent girls must reflect and then offers them the products that promises to result in this sort of image, but never quite reaches it. The image remains unattainable and there is always another

product that is needed.

Klein (2000), who focuses on the Internet as well as print media in her analysis, takes this argument a step further and points out that advertisers have hired younger looking people to go out and find the image from adolescents for the purpose of marketing the image and selling it back to consumers (72-3). In the mid 1990s advertisers became aware of the importance of the adolescent market globally and have been targeting teenagers in their advertising ever since. Teens' own alternative cultures have been mainstreamed and sold back to them at inflated prices. Brand name labels are determined to become part of the essence that gives teens an identity. The brands are not selling products as much as selling a lifestyle or a culture that defines who the person is. They do not want to be the jeans teens wear or the makeup teens buy as much as they want to be the product that defines teens as teens (Klein 2000: 72-73).

Kilbourne (1999), who also focuses primarily on print media but has done some work on the Internet, does not look so much at how advertisers market to teenagers but rather how children are inappropriately targeted by advertisers who want to make them brand loyal once they grow up. She says that:

> children are especially vulnerable on the Internet where advertising manipulates them, invades their privacy and transforms them into customers without their knowledge (Kilbourne 43).

Kilbourne has also done some preliminary analysis of the advertising on the Internet and fears that the interactive medium combined with little to no regulation will have a profound effect on the future of advertising. Gone are the rules about targeting children with inappropriate material. For example with access to the Internet, advertisers no

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longer have to obey rules about advertising tobacco products. The Internet is an unregulated or almost unregulated space that is "free" to anyone with the access and ability to build a webpage there.

6.2.1 Advertising

The Internet has taken advertising to a new level that other media cannot achieve. The Internet is interactive, pervasive and for the most part unregulated. Advertising is everywhere in the form of banners, pop up text boxes and linked pages that force a user to click their way through a predetermined sequence in order to escape. These advertisements are a combination of print and television format with an interactive flavor that is not attainable on any other media. There can be moving images as well as text, photos and other information. Banners and pop up ads are on most commercialized sites, as well as some of the sites that started out as non-commercialized sites but became popular enough to become sponsored. Sites create "cookies" or chunks of information that can be used to track users as they surf virtual space. General sites such as Yahoo or Sympatico have more general advertising while more specific sites allow for "niche" advertising similar to that found in specialty magazines or specific television shows.

However, advertising is very different on the Internet because advertisers are no longer limited to the traditional spaces between the television shows or the articles. While advertisers have always been able to pay for product placement in both television shows and magazines, for the first time the advertisement can become the entertainment

rather than simply be along side the entertainment. A good example of this blurring of the lines comes from Kilbourne's discussion of the Budweiser frogs. The frogs first appeared during the 1996 Superbowl and have made their way to the computer desktop. The frogs do nothing but sit on lily-pads and croak "Bud Wise Er", but they are now a common desktop theme (Kilbourne 1999: 157-8). The creators of the Budweiser frogs have written both an advertisement and a children's cartoon. The advertisement itself has become a sought after visible product.

Games are another way online advertisements are viewed and shared. *www.candystand.com* is a good example of how online games are created and distributed for the purpose of advertising a product (*www.candystand.com*). The site contains a number of different children's games that integrate candy, cookies, gum and other products aimed at children into the workings of the game. Two of the participants in my study took me to this site and played the games while I was observing them. A third participant mentioned the site but told me she used to play these games but had become too busy. The games are different than a normal advertisement because they allow the player to interact with the products in ways television or print media cannot. In a television commercial, the products can dance or even speak but in virtual space the surfer can control the movement and actions of the product at least within the set parameters of the game. In the candystand games chocolate cookies become "mud" traps for mini-golfers, lifesavers become tee off points and teddy Grams become golf hazards. The products are so effectively integrated into the game that Amy mentions them as part of the fun and not advertising. On the other hand, Lori, the other participant

who demonstrated candystand to me, was more annoyed by the advertising but felt that it was the price of "free" games.

Advertisers are also using games and other "free" stuff as a way of getting access to email addresses and other personal information about the people surfing their sites. To download "free" from most web sites a user must first register with the site which then forms a "cookie" for the user. Email addresses are usually required, but the sites also ask optional information about age, income level, sex and personal interests. This information is contained in a "cookie" and is accessed by the site every time the person signs on to the site. This allows Internet sites to track who is using their sites, and to easily link personal information with a particular user. The sites then either use the information themselves to send out advertising or sell the lists to other advertisers. "Free" Internet sites such as Yahoo and Hotmail are good examples of this online marketing strategy. A user gets free email access from any computer connected to the Internet. Yahoo then uses your email address to send you advertisements from online companies. All of the participants in my study except one used these "free" email sites in order to ensure privacy within their homes, and all of them received advertising "spam" as the cost of free email. Like television or radio that is broadcast through the air, email is not free simply because it does not cost money.

Other games sites have combined the previous two strategies and incorporate the acceptance of spam emails as part of the online game. One of the sites Lori took me to was a "free" virtual pet site (Powell et. al). Here the players could choose from a variety of virtual pet options with which that they could play, feed, love and of course buy

things for. However the food and all other items had to be bought from an online store. The players built up credit at the store either by playing advertisement laden games or by agreeing to have advertisements sent to their email addresses. Lori accepted advertisements from online travel companies, online credit card suppliers and other products in order to get credit to feed and amuse her virtual pets. While Lori used one of her many personal email addresses, I suspect the site relies on younger children sharing an email address with their parents. The companies can then reach people with the money to buy their online offers. Even if the advertisement is read only by children, they are potential consumers and are developing brand loyalty with each email that they accept. Ravetz (1998) expresses concern beyond the impact of advertising about virtual pet sites. These sites allow the user to create a pet in cyberspace with whom they can feed, love and play. The user can spend as much time as they want with their virtual pet. Ravetz (1998) is concerned that there are no consequences to abusing the pet through neglect:

> Of course if you don't feed them and they metaphorically "die" you are not going to face charges of cruelty to an animal. No real commitment is necessary (119).

Again the boundary between what is real and not real, what is actual experience and what is fantasy is further blurred by these virtual pets that accept love but don't actually exist.

One step beyond the virtual pet sites is at *www.gurl.com* where you can create a virtual guy. The site states that "you will get to customize your model to suit your tastes and let the romancin' begin"(Drill et. al.) . Like the virtual pets the virtual guy is a

sample of the real thing:

> gurl members will be able to visit their cybersweeties, find out more about them, gaze adoringly into their eyes, let them whisper sweet nothings all day long . . . and introduce them to friends (Drill et. al.)."

While none of my participants mentioned creating "cybersweeties", *www.gurl.com* is linked to the *www.seventeen.com* website. The participants may have been too old to be interested in creating a virtual boy, or may have been too embarrassed to admit they had created a romance online.

The final way that I found my participants responding to advertising online is that they were often encouraged to request free samples of products. The *Seventeen* website was the prime example of this marketing (Halpin et. al.). Candy and Ginger told me that they would often get free product samples. To receive these products, however, they must give out their home addresses online. Here is another way advertisers can use personal information to send information about their own products, as well as sell the information to other advertisers. Giving out personal information on the Internet also raised many questions about the participants' security. All but one of my participants seemed in no way worried about giving out email addresses or even their home addresses. The exception, as noted in Chapter four, was Lynne who was incredibly worried about security, and never gave out personal information or signed up for products or services that required it. However, all of the other participants gave out personal information without a second thought if there was something to be gained from it.

6.2.2 Information

While advertising is obviously aimed at the buying and selling of products,
information has also become a commodity that is bought and sold on the Internet.
Webmasters pay search engine providers to privilege their sites on the search results;
sites are constructed in ways that give T1 or cable users access to information that users
with dial up modems cannot access, and cyberspace itself is sold to consumers through
the purchase of a computer and monthly access or by the hour in cyber cafes. My
participants both recognized and accepted the commodification of information on the
Internet. Through my conversation with Lynne, I identified four ways in which
information has been commodified including the direct sale of information, personal
information as a commodity, the value of the information online, and the consuming of
information to fulfil a personal need.

The first way that information is commodified is direct sale of information to
consumers on the Internet through popular websites. Lynne lamented the fact that many
of the sites she used regularly to get information are no longer accessible unless the user
pays. Lynne cannot afford to purchase information and now accesses some of the sites
at school because the school pays for a subscription. Information is literally being
bought and sold on the Internet. As Lynne pointed out she does not have much money
and many things online now take money:

> there are certain things I'd like to do but because of restrictions for access
> or like some sites you have to pay a fee to go on to get access to
> information um you know. If I had more time and more money. . . I
> might go and check out a few more web pages than I do right now. . . I
> like this one I used to be able to check phone numbers on this web page
> and like if somebody phoned me and all that was left was their number

> but I didn't know who called I could check it here but now they've
> changed it so there's a fee so I use this web page a lot less.

Lynne is well aware that the user fees restrict her access. She also demonstrates here

that security itself has become a commodity to be bought and sold. Lynne would have to

pay a fee to find out who is phoning. While she may be checking a name out of

curiosity, name display is also a security feature.

The second way that information is being commodified on the Internet is through

the sale of personal information. Since Lynne is security conscious and afraid of how

her information will be used she refuses to give out personal information. However,

some of the participants in the study are not as cautious. As stated earlier, Candy and

Ginger routinely give out information in order to receive free product sample. Lynne is

routinely asked for personal information in cyberspace so she or at least her email

addresses can be delivered to prospective advertisers as a consumer.

The third way that information is commodified is in determining the validity of

information on the Internet. In response to my question of what criteria she used to

determine if information was credible she replied:

> um if it's something I can . . . compare to in a book or newspaper or um I
> try to use official government web sites and if they supply links um when
> I was doing my research paper uh one of the interviewers actually
> recommended a couple of web sites so I used those I try to use research
> web sites like uh worldbook.com . . . you have to be very I guess picky
> about what is there and if it's something that you can prove or compare or
> you know to be fact then I can kind of say okay if I get something at this
> web page again then it's probably true but there is also a lot of junk out
> there.

Her criteria for judging information seem to be to only use information that is either state

sponsored, or that she can validate through another source. In Lynne's model of

authenticity, the government is seen as an authentic or legitimate source. This assumed authenticity gives the state a more visible presence in student's lives than it has had in previous generations' lives. However, Lynne needs to sort through the massive amount of information on the Internet. She knows that information has value to her only if it is correct and has learned how to sort through the "junk" on the Internet to find the product that she needs. Lynne is discriminating when on the Internet and is not simply absorbing all of the information that she encounters.

The final way that I saw information being commodified was through the participants' need to have a particular piece of information. In his discussion of advertising, Berger argues that advertising points out to the viewer that they are lacking something that can be bought in order to be happier or more satisfied with life. Pieces of information can also be the one more thing that people need. Since the Internet has almost unlimited potential as a repository for information, the search for the "perfect" or most up-to-date information can be constructed as a need which is never satisfied. When talking about how much time Lynne spent on the Internet she said that "if I'm interested in something I will spend a ridiculous amount of time like I could spend two hours just looking for one specific piece of information." There is always a piece of information that you do not have. In Lynne's case this piece of information could have been the update on her soap operas that she needed to participate fully in her discussions with her friends, or it could have been an update on the World Trade Center tragedy that would make her feel knowledgeable and more secure. However, they were all pieces of information that she needed or at least felt she needed in order to be content/safe/happy.

The other participants also consumed information in an attempt to feel secure/happy. All but one of my participants talked about going to *www.seventeen.com* and taking quizzes designed to help them with some aspect of their life and again all but one participant said they read their horoscope regularly online. These are all ways that information is being consumed in much the same way that other products are being consumed in society. The control the information and advertising seemed to have over the participants is alarming. They cannot feel happy/content/secure within themselves, but are constantly looking for the next thing, or the next bit of information. Sawicki (1991), in her discussion of Foucault's concept of docile bodies says:

> Disciplinary power is exercised on the body and soul of individuals. It increases the power of individuals at the same time as it renders them more docile. In modern society disciplinary power has spread through the production of certain forms of knowledge (22).

The participants have the power to look for and find information that will make them more happy/content/secure. However, the information they are finding through online magazines and other forms of advertising is resulting in constant self-surveillance to make sure that they fit the standards expected of them as adolescent girls in Western culture. The online quizzes and open-ended questions that Currie (1999) discusses are the blueprints to which adolescent girls must measure up in order to perform their femininity correctly. This results in an ongoing series of self-regulation and self-surveillance that renders adolescent girls less powerful in Western culture even as they exercise power over their own bodies. The messages are not only external cultural messages, but internalized values and norms that adolescent girls use to self-regulate.

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6.2.3 Relationships

I found it somewhat disturbing when going through my transcripts to discover that the participants also seemed to be commodifying the very relationships they had online in much the same way as information was. While I found this to be less true with email, their interactions and discussions on ICQ and MSN and in chatrooms seemed more like pablum than a meaningful conversation. Email produces more meaningful conversations in part because the participants know the person they are emailing. In ICQ and MSN they do not necessarily know the person with whom they are chatting and this allows them to take on identities which may be a form of commodity. Candy and Ginger being able to order a conversation through ICQ that allowed them to find a young, male, single Saskatoon man seemed more like ordering fries with your burger than any kind of real human contact. They could play with their identities because they did not know the person with whom they were chatting, and the person with whom they were talking could have been anyone ordering up adolescent girls with whom to talk.

I believe the danger in segregating people into specific groups and categories such as young, single and male is that the conversations are limited by a specific focus that defines the chatroom, and the conversation, or indeed the relationship, is forced into these particular parameters. The advantage to some form of categorization is that people will be able to find others to chat with online that share their particular set of interests, but the danger lies in the necessity of categorizing oneself within a certain set of definitions. As people are divided up into more and more specific categories, there is a greater risk of them isolating themselves from the rest of the world and from the face-to-

face human experience.

There is also the risk that because Internet relationships are confined to the parameters of the programs the limitations of technologies will replace other forms of human contact. While virtual relationships have advantages in allowing fantasy conversations they are not a substitute or even really a preparation for a face-to-face human relationship. In the "cybersweeties" website discussed earlier girls can opt out of real relationships and project all of their romantic fantasies onto an image they create in cyberspace. This is another example of how relationships themselves are being consumed rather than actually experienced. The girls creating cybersweeties are not learning how to negotiate in a real relationship. They are simply projecting their own ideas of what an ideal boy would be like onto a computer screen. How is any regular boy with all of the faults of a regular human being ever going to measure up to the perfect cybersweetie the girls can create? "Made to order"guys are not new ideas. Bands such as "The BackStreet Boys" project the image of the perfect boyfriend to sell compact discs. The cybersweeties are the next level in the worship of an idol or a girl's "prince charming." Cybersweeties takes the fantasy a step further in that the girls can not only create their perfect guy, but can get computer generated responses. Instead of imagining that "prince charming" will love them, the girls are being told by a computer that the fantasy is true.

www.gurl.com is also reinforcing the overwhelmingly heterosexist messages that web sites like *www.seventeen.com* perpetuate. The site is aimed exclusively at girls, but you cannot create a female version of the cybersweetie to whisper sweet nothings in your

ear. As long as your fantasies fit the heterosexual norm, and you are satisfied with living only in fantasy, this site will give you everything your heart desires.

This site could be a lot of fun for a pre-teen or young teenager that is just beginning to explore her sexuality. Considering the rates of violence experienced by girls in dating situations, a virtual romance that she has created may even be safer than trying to deal with real boys. However, it is not a real romance, and it may be setting girls up for disappointment and even safety risks because in the fantasies the girls are in complete control. Virtual boys are never violent, never push for sex and never drink or do drugs. Girls who practice on virtual boys may not be prepared when the "real" thing is not a sweet, kind person who whispers sweet nothings in her ear. The virtual experience may actually result in girls projecting their fantasies onto real boys in the same way they do onto virtual boys with devastatingly unsafe results.

While relationships are influenced by consumerism, nothing affects relationships and girls' understanding of their place in relationships more than the beauty myth. The beauty myth, which is widely portrayed in Western culture, defines how girls are expected to treat each other and how they are suppose to be treated by boys and men.

6.3 The Influence of the Beauty Myth

The beauty myth is a term that was popularized by Naomi Wolf in her discussion of how standards of beauty and body image are being used to control women. Wolf (1991) describes the beauty myth as the last patriarchal hurdle placed in front of women's and girls' true equality. Wolf's (1991) description of the beauty myth as:

a story: The quality called "beauty" objectively and universally exists. Women must want to embody it and men must want to possess women who embody it (12).

In other words a universal standard of beauty has developed that few, if any women, can meet. In Western society the current standards include whiteness, unnatural thinness and perfect skin, nails and hair. Anything or anyone achieving less than this perfection is a failure. Women must want to live up to this standard and men must reward only the women who succeed at "universal beauty". Advertisers and mass media control and define the standards of beauty and can use this control to both sell products and tell women and girls what they will think. As Currie (1999) states, " by encouraging women to believe that they are unacceptable as they are, media representations set a standard to which women strive (33) ." Some of the messages to which adolescent girls are exposed through the technologies contradict the positive messages they are receiving from friends and parents. These less tangible technologies of discourse create an environment that tells adolescent girls to be pretty, sweet and to take up as little space as possible.

The participants in this study are getting messages about feminine beauty from countless different sources, but this nowhere is clearer than from *www.seventeen.com*. The homepage to *www.seventeen.com* is mostly an advertising page, but several of the links on the side of the page lead to articles and other information. These articles are divided into five main categories; beauty, fashion, sex and body, boys and real life (Halpin et. al.). Despite the topic areas, all of the categories contain articles that maintain and reinforce the beauty myth for adolescent girls. The beauty myth is

reinforced and maintained in three main ways; 1) a universal standard of female beauty, 2) compulsory heternormatively and relationships with boys, and 3) relationships and competition among women.

Messages about the importance of beauty and women's competitiveness with all other women must be having some impact on my participants because all but one of the participants went to or spoke of the *www.seventeen.com* web page as part of the virtual tour. They are clearly seeking out information about beauty, boys, friends and heartache because again all but one of the participants read her horoscope regularly. The *www.seventeen.com* horoscopes were full of advice about boys, friendships and jealous friends, heartache and even occasionally about school work. Each sign also contained a "guystrology" section that gave the reader information about how good a guy with that particular sign would be on a date (Halpin et. al..). The articles explain and reinforce why beauty is all important to the participants, and then the horoscope section explains how their beauty and beauty myth attitudes will apply to their particular sign that month. The entire site reinforces the idea that make-up, thinness and boys are the most important things in a girl's life, and then gives specific instructions on how to achieve beauty success.

6.3.1 Defining Universal Standards of Beauty

Beauty is the most obvious way the beauty myth is maintained at *www.seventeen.com*. Wolf (1991) states that part of the beauty myth is teaching girls that nothing else matters unless you are beautiful. Intelligence and personality are not

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important unless a woman is beautiful (Wolf 1991: 35). Throughout the site there are countless articles that describe the importance of beauty. An entire category is devoted to describing and defining beauty. This category is filled with articles entitled "candy color for your nails" and "want to change your look (Halpin et. al.)?" The subheading "when skin deep is enough" implies that the girls need not worry what is under the skin as long as the skin is beautiful (Halpin et. al.). Apparently it is not what is underneath that counts, but rather the image or top layer that is everything. Adolescent girls reading this site are reminded continually that if they are not beautiful then they are nothing. The demand for thinness is further reinforced by an article in the "Sex and Body" section which has large prominent print as well as a color photo shouting out to girls "will the pill make you fat? (Halpin et. al.)" The focus here is clearly on body image and the assumption that adolescent girls are already making choices about sexual intercourse and contraceptives, all in relation to whether or not they will get fat. Fat is clearly the worst thing that can happen, because the other possible side effects of the pill do not get the headlines that fat does. The discourse reinforces that women and girls must be pretty and cannot be fat. The title "when skin deep is enough" implies that beauty is everything and is contradictory to the messages the participants are getting from their family and friends. Their parents may be telling them that they are smart and can be anyone they want to be, but *www.seventeen.com* is telling them they are nothing if they are not thin and beautiful.

Another important element of defining beauty to adolescent girls involves demonstrating which clothes are fashionable. Other articles of the online magazine

focus on fashion, and has the subtitle "stuff you'll love to wear right now (Halpin et. al.)." Intentionally or unintentionally, this subheading reflects the fickle nature of fashion. The girls have to wear the clothes "right now" because by next month there will be all new fashions for them to covet. The titles of the articles "go behind the mini" and "turn up the volume on a white blouse" have definite sexual overtones (Halpin et. al.). Even the more practical article "we live in jeans" emphasizes the importance of both maintaining and showing off young women's perfect bodies (Halpin et. al.). Having perfect hair, skin and nails does not define an adolescent girl as beautiful unless she has also purchased the correct clothing to wear. While advertising reinforces the beauty myth through a reflection of images that conform to and define the beauty myth, the myth also reinforces consumeristic themes because the correct fashions and products are necessary to create beauty. Beauty is not a natural state, but an illusion that must be created.

6.3.2 Compulsory Heternormativety and Relationships with Boys

Another vital element to the beauty myth is the understanding that all women and girls are heterosexual and interested in finding and keeping a boy or man. The point of achieving the universal standard of beauty is not to feel beautiful within yourself, but to attract a member of the opposite sex. The section "Sex and Body" discusses issues around sex but assumes that all of the readers are heterosexual. The first title " Are you ready to go all the way?" offers reasonable information on facts about sexual intercourse rather than myths the readers may believe (Halpin et. al.). Specifically the article points

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out that while sex will not make you suddenly grown up as many young women are lead to believe, it could "transform you into a parent (Halpin et. al.)." Nowhere in the online magazine is there any mention that adolescent girls may be struggling with issues around defining their own sexuality. Like the universal standard of beauty, the assumed standard of heterosexuality is the only identity discussed.

The beauty myth also has clearly defined standards for how adolescent girls are to relate to boys. Adolescent girls who do not have boyfriends or at least boys that desire them are failing at the beauty myth. The magazine devotes a great deal of time explaining to girls how to figure out and "catch" a boy. The first heading that caught my attention was "test your boy IQ (Halpin et. al.)." However, you are not testing your boyfriend's intelligence, but rather how much you know about boys. Then, in case you do not know much about boys, the magazine helps clue you in with the story "Sweet or slimy: true stories of boy behavior (Halpin et. al.)." Finally if you find out about boys and do not like what you see, you can create your own "cybersweetie" from *www.gurl.com* (Drill et. al.).

The message that you must have a boyfriend or at least want a boyfriend is continually reinforced. You have only succeeded at the beauty myth game if you have a boy to admire and desire you. Here is another example of the conflicting messages girls receive through adolescent targeted discourse. Adolescent girls must have boyfriends. Yet to get and keep a boyfriend, adolescent girls may need to act in ways that are not true to their sense of selves. *www.seventeen.com* encourages girls to ignore their own needs and desires in order to please their boyfriends. The article on the risks of sexual

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intercourse focuses only on the risks sex has for young women and does not encourage them to make pleasure for themselves as a requirement of sex. Adolescent girls are also reminded that friendships with other women and girls are secondary to any relationship they have with boys and men.

6.3.3 Relationships and Competition Among Women

The beauty myth implies that all women are competing with all other women for men. Women must be suspicious of all other women because they might be trying to "steal" your man. The most prominent article on the website that reinforces competition for men reads "Trauma Rama: he saved the last dance for her (Halpin et. al.)." The story goes on to say how a girl's best friend stole her date at a dance. The competition between women over men is reinforced, and the story implicitly states that even close friends are suspect if there is a boy involved. A second article looks at the importance of mother/daughter relationships that is more positive about relationships between generations of women. However, women and girls that are not related and are close to the same age must constantly watch out for the woman trying to steal their man.

The participants are certainly buying into the beauty myth to a certain extent. The three participants that were comfortable enough to use ICQ while I was observing them only chatted with boys. When I asked Ginger and Candy about how they found people to chat with, Candy replied "you can type in like male." The beauty myth tells these girls that the search for boys and being liked by boys is extremely important, and the participants are using the technologies in this quest for male attention.

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6.4 Conflicting Social Messages

The participants are likely getting caught up in the messages developed and sustained through the beauty myth and the overwhelming push of consumerism. The messages created through ideological technologies and delivered to the girls through information technologies reinforce the idea that girls must be more concerned about their appearances than any other aspect of their lives. Their energies must be put into buying the right items, wearing the right clothes and projecting a socially acceptable appearance. The discourses of the beauty myth, driven by consumer culture, tell adolescent girls that while their parents and even their friends may be encouraging them to be all they can be, they must conform to specific standards of femininity or they will risk being rejected by dominant culture. The series of performances that make up the selves of adolescent girls may be a result of the negotiations between the girls' personal desires and their attempts to conform to cultural messages defining the categories of what it means culturally to be an adolescent girl. Their sense of self is being constructed through ideological technologies that define adolescent girls as young, pretty, white, thin and not particularly computer savvy. These messages conflict with some of the more positive messages adolescent girls may be getting from parents, friends and even teachers that are telling them to continue to enhance their technological abilities and pursue their dreams. While the participants in this study are clearly affected in some ways by the overwhelming cultural messages of beauty and consumerism because of the time they spend pursuing what I would describe as stereotypically feminine sites, they are also showing signs of resisting dominant societal messages. However, the conflicting messages and their

negotiation between their desires and skills, and what society expects of them may be contributing to adolescent girls not pursuing computer science careers. I will explore these conflicting messages further in Chapter Seven.

6.5 Resisting Social Influences

Resisting the pressure of social influence is difficult for anyone and is especially difficult for adolescents, who, Klein (2000) points out, are the most heavily targeted market for advertisers. Can teenagers resist? Klein argues that increasingly individuals are taught to become passive consumers of culture rather than participants:

> The underlying message is that culture is something that happens to you. You buy it at the Virgin Megastore or Toys "R" Us and rent it at Blockbuster Video. It is not something in which you participate or have the right to respond to (Klein 178).

It is to my participants' credit that they are partially resisting the overt messages by not simply accepting and trusting the cultural norms. They are responding to culture in ways that are not simply embracing the messages that commondification and beauty are everything.

The participants show signs of resistance in very different ways. One of my participants does not go online much partially because she does not have access at home, but partially because she feels that she would rather create programs than waste her time surfing. Another participant is careful about where she goes online and what she signs up for because she is aware privacy has a price for the so called "free" merchandise.

In addition a number of participants also participate in an underground economy that provides them with music at a reduced cost greater than they would normally have

to pay. Four of the participants accessed music files on Napster, and two of the participants have found, through their younger brothers, ways of continuing to access music even after Napster's restrictions (*www.napster.com*). While they are not completely resisting the message of consumerism because they still want to access the music, they are resisting paying inflated prices for music. There are other ways of sharing music that are more localized than the online webpages. One of the participants participates in a sharing of music within her peer group.. When any one them buys a new compact disc, they copy it for the rest of the group. While I will not name which participant out of fear of incriminating her, the participant in question told me:

> one of us will buy a cd and then just make copies for the rest so we pay her for the CD's and if they have dial up connection we pay a little more so that um that balances out the cost and we all get to enjoy the same music though without having to spend ridiculous amount of money[1].

This participant recognizes the high cost of this entertainment. However, like the Napster users, she is not resisting completely the message of consumerism because she still wants to own the music. She is simply resisting paying for the music. The participants who copy music can also have more control over their music because they choose what order they want the tracks to appear on the disc, and can make their own "mixed" discs that reflect their own taste. This gives them much more control over what music they actually listen to.

The participants also resist cultural messages by using information technologies. Five of the six participants said they watched less television than before because they

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[1]While the legality of this practice is questionable, the reasons the participants are doing it are not.

were spending more time on the computer. Information technologies gives users more control and more choice then passively watching television. Information technologies allows the participants to choose more specific entertainment than television can offer. Having to sit and watch a television show that you have no control over and cannot interact with does not compare to the control and choices the participants have online. Amy said that "I don't watch barely any TV now and I did before. Television is boring." The binary of pleasure/boredom is used again to describe the Internet where the participants have more control as pleasurable and television as "boring." Lynne uses information technologies to enhance her television watching. She watches music videos on her computer because she can then pick exactly what videos she wants to watch and there is less advertising. Ginger has found that getting a computer in her own home has "totally taken over my TV watching time." While I would express concern about the effect information technologies are having on attention span if television is not interesting enough to hold the participants' attentions, they are resisting passively accepting storyline interrupted with advertising by choosing online activities over television.

The participants also resist consumerism by checking out *www.seventeen.com* online before going out and buying the magazine. If girls do not find enough material that they are interested in, they simply do not buy the magazine. In addition, they have found sites on the Internet that allow them to get the same kind of information that *Seventeen* offers without paying for the magazine. Candy points out that she goes to "teen sites teen stuff where there is like stories and stuff." Here she gets many of the

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same things found in magazines that she would otherwise have to purchase without having to buy the magazines. While this site is clearly intended to encourage the girls to buy the magazine it may have just the opposite effect.

The participants also use technologies as a way to resist the beauty myth. The degree of separation that communications programs such as ICQ, MSN and even chatlines offer means that girls cannot be judged on their looks by the person with whom they are chatting. ICQ and MSN can remove some of the barriers the beauty myth creates because looks are completely irrelevant when communicating through text. The person chatting is free to create whatever fantasy image they choose. Nonetheless, the mediation of the technology allows for a person to try on different descriptions of image in a fantasy situation that they may not be able to try in actual space.

6.6 Conclusions

Both the beauty myth messages and consumerist messages are prevalent on the Internet. The sites frequented by participants are laden with advertising messages and information on beauty, body image and fashion. The interconnection of the advertisements of consumerism and the reinforcement of the beauty myth results in powerful messages aimed at adolescent girls. However, as Roberts (1993) points out, adolescent girls are not one mass market that passively absorb these messages without question. They are individuals with different values, needs and desires and each of them will take and accept different messages from the advertisements and images. They are, in general, accepting some of the messages of consumerism and ideal beauty, but the fact

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that they are resisting these seemingly overwhelming messages is both a positive sign now and encouraging for their futures. In the final chapter I will look at how the participants are sorting through these complex and sometimes contradictory social messages and what impact this may have on their future decisions.

Chapter 7

"I'll Tell You What I Want" : Adolescent Girls' Negotiation of Virtual and Other Spaces

7.1 Overview

Throughout this research project, I have been examining three main questions: what are adolescent girls doing on the computer, how are they influencing and being influenced by virtual space and how do the messages they are receiving from both virtual space and other spaces affect their understanding of themselves and their plans for the future. In Chapter Four, I looked at how the participants' sense of self was being negotiated and performed through interactions with the technologies. In Chapters Five and Six I looked at how the participants are negotiating the influences of family and peer groups (Chapter Five), and then broader societal pressures (Chapter Six) in relation to information technologies. I found that the participants in this study are not passive users of technologies. They are not accepting unquestioned societal views of how adolescent girls should relate to technologies. They are also not absorbing all of the societal messages presented through advertising and by the beauty myth. However, the conflicting messages they are receiving through their interactions with family, friends and the technologies themselves result in confusion for the participants as they explore options for the future. They possess the computer skills to have fun on the computer, but may not be ready to accept that they could enhance those skills to pursue careers in

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information technologies. They are taking the messages that are useful and positive for them, and creating a sense of self and a sense of community that claims a place for them in cyberspace. However, I am not sure this space includes definitions of self that go beyond what I would describe as socially sanctioned, traditional definitions of femininity.

7.2 Findings

Throughout this study, I have seen the participants taking what they need both from information technologies and family, peer and societal expectations to form their own sense of identities as Internet users. They are constructing their sense of selves by negotiating between their own interests and desires, and the messages they are receiving from family, friends, schools and society in general. Unlike Furger's (1998) findings that mothers have the greatest impact on girls, I have found that societal messages of consumerism and the beauty myth compete with messages from families, friends and teachers. How are the participants sorting through these contradictory messages?

I would argue that the participants are using a form of bricolage to create space for themselves that accepts both their femininity and information technological ability. Citing Levi-Strauss, Turkle and Papert (1990) describe bricoleurs as those who:

> do not move abstractly and hierarchically from axiom to theorem to corollary. Bricoleurs construct theories by arranging and rearranging, by negotiating and renegotiating with a set of well known materials (136).

Sturken and Cartwright (2001) simplify this definition by stating that bricolage means "'making do' or piecing together one's culture with whatever is at hand" (64). Bricolage

is originally a french term that is used widely in both Quebec and France as a term for work done around the house by someone who is handy at fixing things or "making do" with the material at hand. In the case of my participants they are performing bricolage by bringing together the places where they feel affirmed in information technologies, specifically the area that allow them to be both Internet and computer users as well as feminine girls. They are redefining what it means to be a geek either in positive ways for those that embraced the term, or in ways that clearly define themselves as "not geeks" for those who saw the term as negative. They are sorting through the information in cyberspace and deciding what information is valuable. They are even sorting through societal expectations and deciding which they will accept, and which they will either resist or reject outright. In these ways, these participants have been able to claim a place for themselves within information technologies and also within cyberspace. They can be adolescent girls and be savvy computer users. They can use bricolage to continue to draw on different ideas to perform their identities in ways that will help define who they are and who they hope to become.

However, the participants do not appear to be overcoming the ideological technologies that determine what it means to be an adolescent girl in Western society. They are careful to use their technological savvy in ways that are sanctioned by the dominant societal messages of consumerism and the beauty myth. They demonstrate their computer abilities by negotiating their way through cyberspace, but are careful to remain in areas that reflect stereotypical ideals around beauty, heterosexism, relationships and consumerism. They are told they can do anything they want by parents,

teachers and even certain friends, and at the same time are told by society as a whole that if they deviate from these stereotypical constructs of what it means to be feminine there will be sanctions. Parents, teachers and friends both reinforce the notions of the beauty myth and counteract them when they send girls positive messages about their futures but then reinforce that it is important for them to be pretty, sweet and quiet. The participants are for the most part throwing off the "geek" label in relation to the computer, but not able to throw off the demands that they remain in feminine approved spaces. They can explore information technologies only as far as the stereotypes around femininity allow them. Any further exploration could risk social sanctions of unpopularity or peer rejection. The participants use bricolage to construct spaces where they can use technologies, but cannot reconstruct the culture to allow unrestricted use of technologies.

The participants are creating for themselves a space where they can play with information technologies, but not in a way that lets them enter public space in a meaningful way. They are creating what Virginia Woolf would refer to as *A Room of One's Own*, but are not creating public space where they are comfortable being both adolescent girls and computer users. The room they are creating connects to public space through their Internet connections, but is still private enough for the participants to feel safe performing their computer selves. In her room, Woolf wanted a safe space to write. The participants' "rooms" may be a place where they can feel safe using the computer, but ironically enough are not the safe havens Woolf envisioned because of the security risks the Internet poses. However, they are a space of their own where they can explore their identities as computer users and where the only social sanctions come

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through the Internet itself.

How will this fragmented yet authentic conglomerate of identities affect the participants' decisions about the future? One of the motivating questions for this project was why are there so few women pursuing computer science and other computer related careers? I wondered at the time if the generation of girls I am interviewing will be the generation that finally breaks through and achieves a more equal representation in computer science classes and in future decisions. They are labeled "the information generation" by society, and I had hoped that because they have grown up with these technologies, the barriers that have existed for women who have first encountered technologies as an adult would be less of an issue for this younger generation. However, having completed the study I am not as hopeful. Out of the six participants in this study only half of the girls are seriously considering pursuing careers in information technologies. While this may seem like a large percentage, these participants are drawn from a pool of individuals selected by their schools as students who would benefit from a conference aimed at getting students to pursue careers in information technologies. Even out of this select group, only fifty percent of the participants are seriously looking at information technologies as a career. The other participants either really have not thought about what they would like to do, or already have different dreams that they are pursuing. While it is not necessarily negative that they are considering other areas, it does not look like computer science numbers are going to substantially increase once the girls who grew up with technologies enter the universities.

Even though the participants have a great deal of experience with information

technologies, that is not necessarily translating into their taking computer classes in school. Out of all of the participants, only one has taken a computer science course in high school. The rest of the participants have all taken a required computer applications course, but these courses teach the student word processing and other skills rather than programming. One or possibly two of the other participants were considering taking a computer science class but had not yet signed up for one. The one participant that did take computer science was one of only four girls in her class. Even at the high school level these participants who have grown up with access to the technologies are not signing up for computer programming classes.

Computer programs at both the university and high school levels may also be contributing to adolescent girls choosing other career paths. Debbie, the only participant to take advanced computer programing classes in high school programed games as part of her assigned work for the class. One of the specific assignments was creating a program that would show cars moving around on a racetrack. These assignments may appeal more to adolescent boys than girls. I recently attended a three day workshop on online learning at the university where the course we were using to practice creating online web sites was titled "How to change the oil in your car." While all of the instructors were male, about half of the participant were women. The material being used to teach however, appealed more to the men in the class. I wondered at the time how the participants in this study would have reacted to the course material. Here is another example of the contradictory messages that society sends to girls and women. Women on campus are encouraged to take these courses to improve their computer skills

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yet the subject material appears to be designed to make the men in the room more comfortable. Women are expected to fit themselves into this male model or else not participate in the course. Adolescent girls and women may be interested in pursuing careers in information technologies, but not be willing to participate in formal computer classes that are not necessarily designed to address their interests or needs.

The question remains: why are these girls not pursuing careers in information technologies? I believe the answer to this lies with the idea of bricolage. These girls are choosing ideas, images and understandings of information technologies and societal norms that allow them to be users of information technologies without buying into the more negative stereotypes. They have redefined information technologies in ways that allow them to be comfortable with their own use of the technologies. However, this very redefinition may exclude the participants from following careers in information technologies that are more rigidly defined as some of the very things they are trying to avoid. Throughout the interviews the participants focused on the fun they could have with the technologies and how the technologies could be used as a form of communication. For many of the participants the social nature of their Internet usage made using the technologies acceptable. They are using the technologies in ways that are fun, but they are not able to challenge the societal messages that constrict their computer activities to "fun" and "social" activities. Pursuing a career in information technologies may mean accepting some of the more traditional definitions and understandings of what it means to use the technologies, and this may be beyond how the participants are at this point willing to define themselves. They may have to accept the geek labels that they are

resisting in order to study computer science at the university level. They are not able to challenge the overwhelming messages derived from consumerism, the beauty myth and the technologies themselves that allow the participants to "play" on the computer but not to challenge societal norms for adolescent girls. They can create their own environments and their own situations to allow them to use and enjoy the technologies within their families and peer groups, but they cannot change the more universal definitions of what it means to study computer science in our culture. The very culture that tells adolescent girls they must be thin, pretty, obedient and not take up too much space in society must be challenged before there will be any significant increase in girls pursuing careers in information technologies.

The use of the pleasure/boredom binary may be another way that the participants are negotiating cyberspace without endangering their socially accepted femininity. Activities that are stereotypically masculine such as hacking, creating viruses and, for some of the participants, certain types of game playing are dismissed as "boring." Activities such as chatting, email and ICQ that are more acceptable activities for adolescent girls are "fun" or pleasurable. Candy and Ginger, the participants who were most concerned with not being labeled geeks, were also most likely to dismiss anything that they did not like as boring. They were careful to point out that their activities were "social' and "fun." Boredom may be defined as nothing more that anything that does not catch the participants' attention at that particular moment, but it may also be a way of self-regulating what is appropriate for "girls" to be doing in society. The participants may be dismissing activities as boring if they challenged the stereotypical ideas of what

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it means to be an adolescent female in Western culture.

Western society itself also tends to dismiss adolescent girls' activities as frivolous or silly. The girls are encouraged to think of their computer activities as "just playing" or "just talking." Judith Escott spoke at the "Go For IT Girls" conference in 1999 of the importance of communication skills in high technology careers, yet the communication skills girls and women often excel at are dismissed as "just chatting." Researching the activities of adolescent girls in relation to technologies is also apparently not considered real research in mainstream institutional discourse. In the course of my research, I have had more than one senior level professor at this university with interests in technologies ask me "how my little project is going," or make similar condescending remarks. These remarks demonstrate to me that there is an assumption, at least on the part of these professors that adolescent girls have nothing of value to contribute to technological research and that my work is "soft" research. I should not be surprised that the participants dismiss their computer activities as "just playing" when the institutional discourse on the campus is determined to dismiss their activities as frivolous and my own work as a "little project."

Methodologically, I feel this study contributes to a small body of literature that discusses the benefits and complications of interviewing adolescent girls. Like Gilligan (1990) and Pipher (1994) I found that the interviews themselves were contradictory in nature, but that this reflects the performative nature of self, rather than the authenticity of the interviews. I also found the negotiation of power between myself as the researcher and the adolescent research participants complex. The age and education level

differences between myself and the participants resulted in some of the participants seeing me as an authority figure, and I had to reassure several participants that the answers they gave were the "correct" ones. Finally I found that issues of confidentiality become more complicated when interviewing minors that are old enough to speak for themselves, but not old enough to give consent.

Further research in the area of adolescent girls and information technologies could continue to explore how girls are specifically using information technologies. A study looking at how girls negotiate the spaces of ICQ, MSN and chatrooms could lead to a fuller understanding of how girls play with their identities using information technologies. Including the classroom as a place of observation could explore the messages adolescent girls are receiving from schools, the primary institution to which they relate. Finally, a study looking at how boys construct their identities within the context of information technologies could demonstrate the gender differences boys and girls may find in relating to information technologies.

7.3 Conclusion

These adolescent girls are using information technologies in fun and innovative ways. They are creating and defining their own space online and off in ways that allow them to define themselves both as computer users and as adolescent girls. They are using the technologies as a means of pleasure and as a means of communication in ways that have never been available to any generation of girls until now. They are sifting through the cultural messages they are receiving in order to find positive and affirming

messages about their computer usage. However, they are also encountering messages that put too narrow a definition on what it means to be female, an adolescent and computer literate in today's culture. They are not able to resist the overwhelming cultural messages that define the spaces that adolescent girls are allowed to occupy in our Western patriarchal society.

References

" A Girls World" www.agirlsworld.com (15 November 2000).

Barthes, Roland. Mythologies. Trans. Annette Lavers. London: Jonathan Cape Ltd.,
1972.

Berger, Aurther Asa. "Semiotics and Cultural Criticism" Cultural Criticism: A Primer of
Key Concepts. Thousand Oaks: Sage Publications, 1995.

Berger, John. Ways of Seeing. London: British Broadcasting Corporation, 1973.

Butler, Judith. Gender Trouble: Feminism and the Subversion of Identity. New York:
Routledge, 1990.

Camp, Jean. "We are Geeks, and We Are Not Guys: The Systers Mailing List."
Wired Women: Gender and New Relations in CyberSpace. Cherny, Lynn and
Weise, Elizabeth Reba eds. Seattle: Seal Press. 114-125.

"Candystand.com" www.candystand.com (13 March 2002).

Cassell, Justine and Henry Jenkins. "Chess For Girls? Feminism and Computer
Games." From Barbie to Mortal Kombat. Cassell, Justine, and Henry Jerkins
eds. Cambridge: MIT Press, 1998. 2-45.

Chabaud-Rychter, Danielle. "The Configuration of Domestic Practices in the Designing
of Household Appliances." The Gender-Technology Relation. Grint, Keith, and
Rosalind Gill eds. Bristol: Taylor and Francis Inc., 1995. 95-111.

Cockburn, Cynthia and Ormrod, Susan. Gender and Technology in the Making.
Thousand Oaks: Sage Publications Ltd., 1993.

Cook, Judith and Fonow, Mary. "Knowledge and Women's Interests: Issues of
Epistemology and Methodology in Feminist Social Research." Feminist
Research Methods: Exemplary Readings in the Social Sciences. Nielsen, Joyce
ed. Boulder: Westview Press, Inc., 1990.

Currie, Dawn. Girls Talk: Adolescent Magazines and their Readers. Toronto: University
of Toronto Press, 1999.

"cybergrrl.com" www.cybergrrl.com (November 10, 2000)

De Lauretis, Teresa. Technologies of Gender. Bloomington: Indiana University Press,
1987.

Dietz, Tracy. "An Examination of Violence and Gender Role Portrayals in Video Games: Implications for Gender Socialization and Aggressive Behavior." Sex Roles. 38 (1998): 425-442.

Downe, Pamela. "Playing with Names: How Children Create identities of Self in Anthropological Reserach." Anthropologica XLIII (2001): 165-177.

Drill, Ester et.al. "gurl.com" www.gurl.com (13 March, 2002).

Fahey, Fin. "Games of Power, Pleasure and Wit." New Scientist June (1990): 70-1.

Fleming, Don. Powerplay: Toys as Popular Culture. Manchester: Manchester University Press, 1996.

Forsyth, Louise. Email correspondence: April 13, 2002.

Forsyth, Louise. Email correspondence: June 27, 2002.

Frissen, Valerie. "Gender Is Calling: Some reflections on Past, Present and Future Uses of the Telephone." The Gender-Technology Relation. Grint, Keith, and Rosalind Gill eds. Bristol: Taylor and Francis Inc., (1995): 79-94.

Furger, Roberta. Does Jane Compute?: Preserving Our Daughters Place in the Computer Revolution. New York: Warner Books Inc., 1998.

Gailey, Christine. "Mediated Messages: Gender, Class, and Cosmos in Home Video Games." Journal of Popular Culture. (2000): 81-97.

Gilligan, Carol. "Teaching Shakespeare's Sister: Notes from the Underground of Female Adolescence" Making Connections: The Relational Worlds of Adolescent Girls at Emma Willard School Gilligan, Carol et al eds. Cambridge: Harvard University Press, (1990): 6-29.

Glaser, Barney and Strauss, Anselm. The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine Publishing Company, 1973.

Goffman, Erving. " The Presentation of Self in Everyday Life" Self and Society Ed. Ann Branaman Malden: Blackwell Publishers Ltd. (2001): 175-182.

Griffiths, Morwenna. "Strong Feelings About Computers." Women's Studies International Forum. 11 (1988): 145-154.

Halpin, Mikki et. al. "Seventeen.com" www.seventeen.com (14 March 2002)

Haraway, Donna. Simians, Cyborgs and Women: The Reinvention of Nature. New York: Routledge, 1991.

Hawkins, Jan. "Computers and Girls: Rethinking the Issues." Sex Roles. Vol. 13 (1985): 165-180.

Kaplan, Sidney and Kaplan Shirley. "Video Games, Sex and Sex Differences." Journal of Popular Culture. 17 (1983): 61-66.

Kendall, Lori. "Nerd Nations: Images of Nerds in US Popular Culture." International Journal of Cultural Studies. 2 (1999): 260-283.

Kilbourne, Jean. Can't Buy My Love: How advertising Changes the Way we Think and Feel. New York: Touchstone, 1999.

Klien, Naomi. No Logo: Taking Aim at the Brand Bullies. Toronto: Knopf Canada, 2000.

Livingston, Ira. "Indiscretions: of Body, Gender, Technology." Processed Lives. Terry, Jennifer, and Melodie Calvert eds. New York: Routledge, (1997): 96-102.

Lockhead, Marlaine. "Women, Girls, and Computers: A First Look at the Evidence." Sex Roles. 13 (1985): 115-122.

Lupton, Ellen. Mechanical Brides: Women and Machines From Home to Office. New York: Princeton Architectural Press, 1993.

McNay, Lois. Gender and Agency: Reconfiguring the Subject in Feminist and Social Theory. Malden: Polity Press, 2000.

Messer-Davidow, Ellen. "Acting Otherwise." Provoking Agents: Gender and Agency in Theory and Practice. Chicago: University of Illinois Press, (1995): 23-51.

Menzies, Heather. Whose Brave New World: The Information Highway and the New Economy. Toronto: Between The Lines, 1996.

Millar, Melanie. Cracking the Gender Code: Who Rules the Wired World. Toronto: Second Story Press, 1998.

Miya-Jervis, Lisa. "Barbie Corner." Bitch. 12 (2000): 19.

Mulvey, Laura. Visual and Other Pleasures. Bloomington: Indiana University Press, 1989.

"Napster" www.napster.com (20 March, 2002).

Ormrod, Susan. "Feminist Sociology and Methodology: Leaky Black Boxes in Gender/Technology Relations." The Gender-Technology Relation. Grint, Keith, and Rosalind Gill eds. Bristol: Taylor and Francis Inc., (1995): 31-47.

Patai, Daphine. "U.S. Academics and Third World Women: Is Ethical Research Possible?" Women's Worlds: The Feminist Practice of Oral History. Gluck, Sherna and Patai, Daphine eds. London: Routledge, (1991): 137-53.

Pipher, Mary. Reviving Ophelia: Saving the Selves of Adolescent Girls. New York: Ballantine Books, 1994.

Plant, Sadie. Zeros and Ones. London: Fourth Estate Limited, 1998.

Pritchard, Robert. "Resistance is Futile: Or is it?" Canadian Women's Studies. 17 (1993): 72-74.

Powell, Adam et. al. "Neopets.com" www.neopets.com (11 March 2002)

Ravetz, Joe. " The Internet, virtual reality and real reality." Cyberspace Divided: Equality, Agency and Polity in the Information Society. Loader, Brian ed. New York: Routledge, (1998): 113-122.

Roberts, Donald. "Adolescence and the Mass Media: From 'Leave it to Beaver' to 'Berverly Hills 90210' " Teachers College Record 94 (1993): 630-644.

Rogoff, Irit. "Studying Visual Culture." The Visual Cultural Reader. Mirzoeff, Nicholas ed. New York: Routledge, (1998). 14-26

Rumpf, Angie. "Bridging Gaps, Breaking Stereotypes: Women in Computer Science." SchoolNet. (2000): 8-9.

Sawicki, Jana. Disciplining Faucault: Feminism, Power and the Body. New York: Routledge, 1991.

Shortt, Denise. "Gender and Technology: Looking to the Past." Canadian Women's Studies. 17 (2000): 89-93.

Smith, Clinton. "Star Trek: Armada." The Sheaf. 6 Aug. 2000, 5.

Spender, Dale. Nattering on the Net: Women, Power and CyberSpace. North Melbourne: Spinifex Press, 1995.

Stabile, Carol. Feminism and the Technological Fix. Manchester: Manchester University Press, 1994.

Star, Susan. "From Hestia to Home Page: Feminism and the Concept of Home in Cyberspace." Between Monsters, Goddesses and Cyborgs: Feminist Confrontations With Science, Medicine and Cyberspace. Lykke, Nina and Braidotti, Rosi eds. New Jersey: Zed Books (1996): 30-46.

Strauss, Anselm. Qualitative Analysis for Social Research. New York: Cambridge University Press, 1987.

Sturken, Marita and Cartwright, Lisa. Practices of Looking: an Introduction to Visual Culture New York: Oxford University Press 2001.

Terry, Jennifer and Melodie Calvert. "Machines/Lives." Processed Lives: Gender and Technology in Everyday Life. Terry, Jennifer, and Melodie Calvert eds. New York: Routledge, (1997): 1-19.

"Toronto Webgrrls: Women on the Web" www.torontowebgrrls.com. (8 November 2000)

Todd, Alexandra Dundas and Fisher, Sue. "Theories of Gender, Theories of Discourse" Gender and Discourse: The Power of Talk. Norwood: Ablex Publishing Corporation, 1988.

Turkle, Sherry. Life on the Screen: Identity in the Age of the Internet. New York: Simon & Schuster, 1997.

Turkle, Sherry and Papert, Seymour. "Epistemological Pluralism: Styles and Voices Within the Computer Culture" Signs 16 (1990): 128-157.

Turkle, Sherry. The Second Self: Computers and the Human Spirit. New York: Simon & Schuster Inc., 1984.

Wajcman, Judy. Feminism Confronts Technology. Pennsylvania: The Pennsylvania State University Press, 1991.

Wakeford, Nina. "Networking Women and Grrrls With Information/Communication Technology: Surfing Tales of the World Wide Web." The Cybercultures Reader. Bell, David, and Barbara Kennedy eds. New York: Routledge, (2000): 350-359.

Wilbur, Shawn. "An Archaeology of Cyberspace: Virtuality, Community, Identity." The CyberCultures Reader Bell, David and Kennedy, Barbra eds. New York: Routledge, (2000): 45-55.

Wilder, Gita, Diane Mackie, and Joel Cooper. "Gender and Computers: Two Surveys of Computer-Related Attitudes." Sex Roles. 13 (1985): 215-228.

Wolf, Naomi. The Beauty Myth: How Images of Beauty are used Against Women. New York: William Morrow and Company, Inc. 1991.

Woolf, Virginia.. A Room of One's Own. New York: Harcourt, Brace, Jovanovich, 1957.

Appendix A

Participant Assent Form

My name is Ellen Whiteman. I am a researcher on a project entitled *Girls, Computers, Leisure Time and Messages Received.*

This project is part of my Master's Program at the University of Saskatchewan in the Department of Women 's and Gender Studies. The intent of this project is to compare how girls are actually using technologies to how society perceives girls are using technologies. I will be measuring society's perceptions by looking at how girls are represented in relation to technologies in media such as television and print advertisements.

I am the principle researcher involved in this project and can be contacted at (306) 747-2828 should you have any questions or concerns. If you have concerns that I have not adequately dealt with you may contact my supervisor, Dr. Louise Forsyth at 966-4327 or the Department of Research Services at 966-8576 (fax 966-8597).

Thank you for being willing to participate in this project. Before we begin the interview, I would like to assure you that as a participant you have several specific rights:

- My participation in this project is entirely voluntary.
- I am free to refuse to answer a question at any time.
- I am free to withdraw from the project at any time and all data will be returned or destroyed.
- This interview will be kept strictly anonymous and confidential and will be available only to the supervising professors and the interviewer.
- The tapes and transcripts of all interviews conducted for this research will be stored by Professor Lesley Biggs for five years at the university of Saskatchewan. After this time all documents will be destroyed.
- Excerpts of this interview may be made part of the final report, but under no circumstances will my name or any other identifying characteristics be included in this report.
- I will be asked to sign a transcript release form once I are satisfied with the accuracy of the transcript.

I _____, understanding that I have the above rights as explained to me by the researcher and agree to participate in this study.

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_____   _____
(signed)   (printed)

Do you agree to having our interview taped?   YES   NO (circle one)

I _____ agree to the taping of this interview.

_____   _____
(Signed)   (Printed)

Appendix B

Parent/Guardian Consent Form

My name is Ellen Whiteman. I am a researcher on a project entitled *Girls, Computers, Leisure Time and Messages Received.*

This project is part of my Master's Program at the University of Saskatchewan in the department of Women 's and Gender Studies. The intent of this project is to compare how girls are actually using technologies to how society perceives girls are using technologies. I will be measuring society's perceptions by looking at how girls are represented in relation to technologies in media such as television and print advertisements.

I am the principle researcher involved in this project and can be contacted at (306) 747-2828 should you have any questions or concerns. If you have concerns that I have not adequately dealt with you may contact my supervisor, Dr. Louise Forsyth at 966-4327 or the Department of research Services at 966-8576 (fax 966-8597).

I appreciate your willingness in allowing me to interview your child. As a participant in this project your child has the following rights.

- My child's participation in this project is entirely voluntary.
- My child is free to refuse to answer a question at any time.
- My child is free to withdraw from the project at any time and all data will be returned or destroyed.
- This interview will be kept strictly anonymous and confidential and will be available only to the supervising professors and the interviewer.
- The tapes and transcripts of all interviews conducted for this research will be stored by Professor Lesley Biggs for five years at the university of Saskatchewan. After this time all documents will be destroyed.
- Excerpts of this interview may be made part of the final report, but under no circumstances will my child's name or any other identifying characteristics be included in this report.
- My child will be asked to sign a transcript release form once she is satisfied with the accuracy of the transcript

I _____ understand that my child has the above rights as a participant in this study as explained to me by the researcher and I give permission for the researcher to interview _____ (child's name).

_____   _____
(parent/guardian's signature)   (printed name)

Appendix C

Transcript Release Form

I, _____ have read the transcripts from my interview for the project *Girls, Computers, Leisure Time and Messages Received.* I have been given the opportunity to read the transcripts and delete, add or correct to reflect the conversation we had together. I hereby release the transcripts to be used by Ellen Whiteman in the ways outlines in the consent form. I have received a copy of this transcript release form for my own records.

_____   _____
(Name)   (Printed name)

Appendix D

Interview Guide

Have you taken any computer courses at school?

Do you use your computer for school activities? If so what?

What do you use your computer for outside of school activities?

Do you have your own computer or do you share one? If you share with who?

Do you go online? If so how much time do you spend there a week?

What do you do online?

Have you ever built anything online?

Do you play games? If so what?

Who first taught you about computers? How old were you?

Do you talk to anyone about what you do with your computer? If so who?

Do you use ICQ? If so how often and what do you use it for?

Do your friends have computers? Do you ever use them together?

Have you ever had a bad experience with computers?

What is your best experience or memory using a computer?

Do you parents worry about you being online? Are there any special guidelines?

Do you plan to take computer courses in school or university?

Will you demonstrate what you usually use your computer for, and show me some of your favorite activities?

Appendix E

Coding Sheet

Codes:
activism
advertising chatlines competence/incompetence
email
family members (mother, father, sister, brother and parents)
friends
online friends
games (online and offline)
geek/not geek
concepts of self
general fun
definitions of fun
ICQ
MSN
information
others online
school
sexuality
security
viruses
television
webpages
power
agency
beauty myth connections
community