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# BUILDING A TECHNOLOGY INCLUSIVE AGENCY: A CASE STUDY OF TECHNOLOGY USE BY WOMEN IN RECOVERY

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James H. Edwards II, LMSW

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Paul P. Freddolino

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# BUILDING A TECHNOLOGY INCLUSIVE AGENCY: A CASE STUDY OF TECHNOLOGY USE BY WOMEN IN RECOVERY

BY

James H. Edwards II, LMSW

## A DISSERTATION

Submitted to Michigan State University In partial fulfillment of the requirements for the degree of

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## ABSTRACT

## BUILDING A TECHNOLOGY INCLUSIVE AGENCY: A CASE STUDY OF TECHNOLOGY USE BY WOMEN IN RECOVERY

By

#### James H. Edwards II, LMSW

The development of low cost and practical information and communication technologies (ICT) has led to increased pressure on social workers and other human service providers to insure their clients are not digitally disenfranchised. In fact, the National Association of Social Workers (NASW) and Association of Social Work Boards (ASWB) Standards for Technology and Social Work Practice require social work practitioners to insure their own access to technology as well as insuring access to technology on behalf of their clients. The first step in carrying out this mandate is to understand how, why, and for what purpose clients use ICT. Secondly, we must understand the role that human service agencies can play in insuring their clients are not digitally disenfranchised. To this end, the qualitative study presented here is comprised of two components: first, an exploratory study examining how women in recovery from chemical addiction view, use, and envision their use of technology; and second, an evaluative component examining an effort by their provider agency to promote digital empowerment through the use of computer access and training.

The findings suggest the participants were empowered through increased access to technology and increased computer skills. The agency struggled to maintain an adequate technology infrastructure for the participants, but found the intervention to be beneficial and consistent with its overall mission of empowerment. In general, the participants expressed an increased frequency of computer use outside of the training as well as increased confidence in their ability to use a computer. The participants expressed feelings of joy, excitement, pride and an overall sense of empowerment as a result of the computer training experience. This was evident by the perfect attendance at the trainings and confirmed in the statements by the executive director.

#### ACKNOWLEDGEMENTS

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## CHAPTER ONE

#### Introduction

The expansion and use of Information and Communication Technology (ICT) in our society is having a profound effect on the way we interact with one another regardless of our age, gender, ethnic background, sexual orientation, or physical location (Miller-Cribbs, 2001; Warschauer, 2003). Interestingly, while this digital culture has the potential to remove barriers to education, employment, health care, housing, and other consumer needs, it also possesses the ability to further marginalize members of our society who have limited or no access to ICTs (Lazurus, Lipper, & Roberts, 2003; Warschauer, 2003). Based on a 2007 population estimate of 300 million people in the United States, it is reported that over 212 million people have Internet access. This means that approximately 70% of people in the U.S. have the ability to participate in education, citizenship, employment, entertainment, and exchanging information and knowledge through the use of technology (Miller-Cribbs, 2001; Internet World Stats, [n.d.]; Warschauer, 2003). For the remaining 30% of the population, this digital barrier will increasingly represent an inability to fully participate in society (Harlow & Webb, 2003; Hick, 2006; Warschauer, 2003, 2006).

The continuous and present development of new Information and Communication Technologies (ICTs) has led to a strong interest in the creation of models with the ability to predict what technologies will be used, by whom this technology will be used, and for what purpose this technology will be used (Taylor, 2004). While models of technology acceptance and adoption have provided a great deal of insight into the process of technology use in corporations, non-governmental organizations (NGO) and

governmental organizations, most of these models are based on a top-down application design and pay little attention to end user dynamics beyond the individuals' technical and literacy skills (Bakardjieva, 2003). This is especially true for vulnerable populations such as ethnic minority populations and individuals with behavioral health conditions (Rotondi, Sinkule, Haas, Spring, Litschge, Newhill, Ganguli, & Anderson, 2007).

How, why, and for what purpose vulnerable populations use ICTs take on increasing importance as the expanded networking capabilities available through Web 2.0 have allowed for the creation of digital networks and resources that offer treatment potential and opportunities for economic advancement (Freddolino & Blaschke, 2008; Madden, 2006; Warschauer, 2003). According to Madden (2006), Web 2.0 has allowed the World Wide Web (Web) to morph into a multidimensional tool that goes beyond providing information to the public. In addition to providing information and entertainment, Web 2.0 has evolved into a global community where resources and information are exchanged among people and organizations, which prior to the development of the Internet would have had a minimal chance of interacting (Warschauer, 2003, 2006). For vulnerable populations who already lack access to resources and opportunities, the evolution of the Web represents both an opportunity and a threat (Sandberg, Gardelli, & Stubbs, 2005).

Much has been written about this 'digital divide' where the 'information haves' become increasingly separated from the 'information have-nots' based on access to technology and opportunities created through digital networks (Lazurus, Lipper, & Roberts, 2003; Miller-Cribbs, 2001; Sarnoff, 2002 Warschauer, 2003). This gap in technology, computers, and Internet usage affects disproportionately individuals and

families with incomes less than \$25,000, as well as ethnic groups such as African Americans, Latinos, and single female-headed households (Bakardjieva, 2003; Miller-Cribbs, 2001; Roach, 2007; Sarnoff, 2002;).

The consensus of the current digital divide literature is that ethnic minorities, families living in poverty, older adults, and individuals with disabilities are least likely to have access to ICTs or posses the skills and knowledge necessary to participate in a digital society (Bakardjieva, 2003; Blaschke, Freddolino, & Mullen, 2009; MacLeod, 2005; Roach, 2007; Sarnoff, 2002; Warschauer, 2003, 2006). For all practical purposes, individuals and families not participating or unable to participate in the use of ICTs to access resources and digital networks maybe experiencing similar limitations as individuals who have been subjected to discrimination based on race, gender, sexual orientation or socioeconomic status (Martin & Robinson, 2007; Miller-Cribbs, 2001; Warschauer, 2003). This does not mean that one cannot survive without being digitally connected; however, the lack of connection to the digital culture will increasingly become problematic as the access points for resources such as employment, political representation, and education become embedded within ICT infrastructures (Bakardjieva, 2003; Martin & Robinson, 2007; Miller-Cribbs, 2001).

As noted in Chapter Two below, access to ICTs means more than just having the necessary hardware and software. Access to ICTs is an increasingly complex interaction among many variables including, but not limited to, hardware, software, content, skills, culture, modeling, and motivation (Warschauer, 2003). In fact, despite millions of dollars allocated to K-12 schools for technology hardware, software, and infrastructure changes, several studies have found only minimal changes in teaching pedagogies over the past ten

years (Christensen, Johnson, & Horn, 2008; Cuban, 2003). The consistent findings with regard to the deployment of ICTs in educational settings have led to the evolution of digital divide theories. Current digital divide theory recognizes that the simple deployment of ICTs will not by itself produce technology use (Christensen, Johnson, & Horn, 2008; Cuban, 2003; Warschauer, 2003). However, while understanding that the impact of the digital divide on vulnerable populations requires an examination of multiple variables, providing physical access to technology is an important first step (Hick, 2006; VanDijik & Hacker, 2003; Miller-Cribbs, 2001; Warschauer, 2003).

According to the National Association of Social Workers (NASW) and the Association of Social Work Boards [ASWB] (2005), the lack of client access to technology in the 21<sup>st</sup> century is a social justice issue that must be addressed on behalf of the client, as well as for the social worker. What these two social work organizations have recognized is that without access to technology, already vulnerable populations will increasingly become disenfranchised as resources and social interactions take on new forms through the use of ICTs (Oliver-Parker & Demiris, 2006; NASW & ASWB, 2005).

Under these new conditions, social workers attempting to empower vulnerable populations should consider client access to technology as an empowerment strategy (Harlow & Webb, 2003; Larrison, Nackerud, Risler, & Sullivan, 2002; Miller-Cribs, 2001; NASW & ASWB, 2005; Sandberg, et al., 2005). Further, if social workers and others who view the digital divide as a social justice issue are to intervene on behalf of individuals and families who lack access to ICTs, we must first understand the complex interactions that combine to create access barriers for those we serve (Larrison, Nackerud, Risler, & Sullivan, 2002; Miller-Cribs, 2001; NASW & ASWB, 2005).

One method for understanding of how vulnerable populations use, view, and think about technology use is to engage in community-based research focused on vulnerable populations who historically lack access to technology (Bakardjieva, 2003; Miller-Cribbs, 2001). Populations such as families with incomes below \$25, 000, ethnic minorities, single-parents, older adults, and individuals with disabilities or behavioral health conditions have been identified in the literature as less likely to have access to technology (Bakardijeva, 2003; Blaschke, et al., 2009; Hick, 2006; Miller-Cribbs, 2001; Warschauer, 2003). In fact, Sandberg, Gardelli, and Johnson (2005) called for the use of "qualitative case studies" to uncover the computer training and use experience of vulnerable populations (p. 235). To this end, the current case study provides an initial examination into how one vulnerable group, ethnic minority women in recovery from chemical addition, view and use information communication technologies. Additionally, the second phase of this study explores the treatment agency's attempt to empower its clients through increased access to technology and computer training. Findings from this study provide a glimpse into the technological needs of a vulnerable population and one avenue through which social workers and human service administrators can assist in dismantling barriers to technology use.

As described in detail in Chapter Three below, the design for this study has two components. The first utilizes an exploratory research design based on the key concepts of the Technology Acceptance Model [TAM] (Davis, 1989) and its expanded model the Unified Theory of Acceptance and Use of Technology [UTAUT] (Venkatesh, Morris, Davis, & Davis, 2003), as well as theoretical principles from *symbolic interaction* [SI] (Rank & LeCroy, 1983) and *empowerment* theory (Cox, 2001). The second component is

an evaluative phase based on the Cost, Procedure, Process, and Outcome Analysis (CPPOA) model proposed by Yates (1996). The case-study approach to this topic allowed for an in-depth look at a single agency and its service recipients. Through this study participants provided qualitative data on the type of technology used, preferred online activities, preferred access point(s), technology skill level and the amount of support they need to breach the digital barrier. For the provider agency this study examined the development of a technology-focused intervention and the impact of this effort on the agency and its clients. The findings from this study highlight one strategy for the re-conceptualization of the client/agency relationship that extends beyond typical program designs by including opportunities for the digital empowerment of vulnerable populations.

In designing a meaningful intervention, it has been the intent of this study to expose current clients to the potential resources accessible to them through participation and utilization of web-based resources. To this end, participants were provided meaningful opportunities to engage in technology use within their community. The longrange effect of this intervention will not be a part of this initial study. However, the longterm vision is that as vulnerable populations are able to breach the digital barrier, they can begin to exercise their digital voice to increase awareness of their needs.

As Wilhelm (2004) and Warschauer (2003, 2006) have discussed, the potential of ICTs for empowerment of the poor, ethnic minorities, older adults, and other disadvantaged populations is an important by-product of increased access to technology. As a contribution to this discussion, the findings from this study will have implications for social workers, human service providers, and community ICT access projects, as well

as for recipients of human services. Additionally, for social workers practicing under the NASW and ASWB Standards for Technology and Social Work Practice (2005), this study provides an opportunity to increase client utilization of technology while empowering clients through the use of web-based resources.

## Key Terminology

Because of the unique perspective of this case study, it is important to define a few of the terms used in this study prior to going any further. For example, the term "information and communication technologies" (ICTs) is commonly referenced in discussions of modern devices used for the purpose of exchanging, extracting, and retaining information regardless of ones' physical location via the Internet, Intranet, and/or the Web (Harlow & Webb, 2003; Warschauer, 2003). This term is important as it distinguishes a specific category of technological devices from other devices, and it excludes software lacking the ability to mediate communication (Warschauer, 2003). Throughout this study the term "ICTs" and the term "technology" are used interchangeably; however both terms, as used in this study, refer to the class of software and hardware that have the ability to mediate communication in some form or fashion. Additionally, because social workers practice in a variety of settings the term "human services" is used so that non-traditional social work settings are not excluded from this discussion. The definitions below provide additional information about three of the terms commonly used in this study.

**Definitions:** 

**Information and Communication Technologies** (ICTs): refers to the use of hardware and software designed to mediate communication between individuals or groups.

Examples of these technologies are computers, personal digital assistants (PDAs), cell phones, MP3 devices, text messaging, e-mail, web cams and digital videos, instant messaging (IM), blogs, and wikis.

**Human Service Agency**: refers to public agencies, for-profit agencies and non-profit agencies providing services such as mental health, child welfare, substance use services, housing, and developmental disability services and who are staffed by social workers and other helping professionals.

**Technology**: this term is used synonymously with the term Information and Communication Technologies (ICTs). Both terms, as used in this document, refer to the use of hardware and software designed to mediate communication between individuals or groups.

## CHAPTER TWO

## Literature Review

## The Social Work Perspective on ICTs

To provide context for this discussion, it is important to understand the development of technology use in human service agencies and social work practice. Many practitioners have met ICTs used for the delivery of social work services with resistance and skepticism, while managers in human service agencies have viewed the use of technology as a cost-saving measure (Parker-Oliver & Demiris, 2006).

According to Kirk and Reid (2002), the earliest articles discussing social work and technology appeared in the literature in 1967 and 1968. These two articles were in response to the notion that computers could be used to support social casework. As with much of the early literature discussing social work and technology, data storage systems that could be used to provide efficiencies in the management of a human service organization were the primary focus (Cwikel & Cnaan, 1991; Kirk & Reid, 2002).

In the mid-sixties, computer technology was thought of as an instrument for business or research institutions (Taylor, 1981). The technology of this era consisted of large database storage systems that were designed to automate office processes and to serve as a tool for storing large amounts of financial data and performance information (Taylor, 1981). It was designed for corporations, universities, and large agencies, not for individual users. This corporate/business focus of this period is in contrast to the emphasis on personal devices we experience today (Gere, 2002; Tapscott, 1998).

In the seventies and early eighties technology evolved from mainframe computers to affordable PC-based computers. While this transformation in the size and cost of computers was occurring, the utilization of ICTs expanded to include educational applications (Cuban, 2002; Gere, 2002; Tapscott, 1998). With the exception of researchers, early adopters of technology in the social work profession began to embrace the use of ICTs for education purposes in the late eighties to early nineties.

During the nineteen-nineties computers became smaller, faster, and possessed greater memory at significantly lower prices. These price reductions and simplified operating systems made PC ownership more practical for individuals as well as for human service agencies (Carrilio, 2007; Cuban, 2002; Schoech, 2003). In addition to these changes, the Internet became more accessible than ever, and the development of the World Wide Web in the late eighties provided a range of new possible uses for this technology (Gere, 2002; Madden, 2006). This Internet explosion led to the creation of "dot.com" businesses that took advantage of this new technology for the delivery of information, goods, and services to consumers (Gere, 2002). Billions of dollars were invested into the development, research, and application of these new technologies throughout the world (Gere, 2002; Tapscott, 1998). The social work literature during this period is dominated by discussions on the use of ICTs for distance education and classroom simulations (Freddolino, 1998; Reinoehl & Mueller, 1991).

Technology was viewed as a solution to many of the inefficiencies within business, educational institutions, and human service agencies. On this point, Schoech (2002) states, "thus, human service technology applications require that we closely examine social work organizations, techniques, processes, and client outcomes. Properly applied, technology becomes an informational model of the organizations, processes, and systems that the technology supports" (p.1).

Human service administrators have slowly embraced the use of technology as a way to improve efficiencies within their agencies. The use of technology often accompanied the adoption of a managed-care philosophy in social work that emphasized the use of ICTs to gather, analyze, store, and disseminate outcome information and other mandated reporting requirements attached to service funding (Harlow & Webb, 2003; Harris, 2001; Kirk & Reid, 2002). In fact, the Princeton Survey Research Associates (2001) conducted a study of 203 non-profit human service organization executives on the use of technology in their organizations. This study found that for most organizations (84%), technology had changed the way they operated over the past five years. In this same study, 83% of the executives viewed the use of technology as positively impacting their services. Furthermore, the executives believed that improvements to technological capacities and infrastructure positively changed their agency's research capabilities, communication abilities, fundraising and overall daily operations. Additionally, the majority of executives believed their use of technology translated into overall costsavings for the agency (Princeton Survey Research Associates, 2001).

While the Princeton Survey Research Associates (2001) study presented a very positive view of technology use among nonprofit human service executives, this perspective was not without its detractors. One quarter of the executives surveyed believed enhancing their technology would not improve their ability to carry out their agencies' mission. While they were positive about the use of technology overall, 29% of the executives feared that increased technology use in the agency would negatively impact the job performance of their staff. The implication was that staff would be

distracted from their work by engaging in personal online activities (Princeton Survey Research Associates, 2001).

Similar to the findings discussed by the Princeton Survey Research Associates (2001), Hughes, Joo, Zentall, and Ulisheny (1999) found that despite some concerns on the part of managers and practitioners, ICT use in human service agencies is a common phenomenon. Further, in their survey of 149 Ohio human service agencies, Hughes, et al. (1999) found that provider access rates to technology was high (75%), but those less likely to have access to technology performed direct service functions. While the sample used in Hughes, et al. (1999) consisted of more administrators than direct service providers, the study's findings citing limited use of technology by direct service providers is a consistent theme in the literature (Edwards, 2007; Oliver-Parker & Demiris, 2006; NASW, 2006)

The reasons for the limited use of technology in direct practice have been multifaceted. Social workers often argue that the use of ICTs for service delivery is inconsistent with the personal relationship underpinnings of the profession (Parker-Oliver & Demiris 2006). Others cite computer-mediated communication as an inferior way of communicating with clients or other professional (Walther & Parks, 2002). Additional criticisms of technology use for service delivery and reasons for limiting how technology is used include the inability to read nonverbal cues, concerns over privacy and confidentiality, and the cost of ICT infrastructure (Parker-Oliver & Demiris, 2006; Walther & Parks, 2002).

In contrast to reasons for limited use of ICTs, proponents for increased use in social work direct practice tout potential service efficiencies and monetary savings as

reasons for increasing the use of ICTs in direct practice (Parker-Oliver & Demiris, 2006; Princeton Research Associates, 2001). This argument is especially appealing to middle and upper level managers who are constantly looking for more efficient ways to deliver quality services (Princeton Research Associates, 2001). The issue of how, when, why, how much, and who should use technology, especially in direct practice, continues to be a controversial topic within the social work profession (McFall& Freddolino, 2008).

Proponents of increased ICT use in social work practice have attempted to sway some practitioners to incorporate technology into their practice. Gifford (1998) persuasively discusses ICT tools such as e-mail, listserves, bulletin boards, chat rooms and the Web as useful in social work practice. Karger and Levine (1999) published a how-to-manual complete with descriptions of how to connect to the Internet and how to map the Internet using Uniform Resource Locators (URLs). Vernon and Lynch (2003) discuss how the social work profession could use websites to facilitate professional collaboration as well as direct practice.

In 1999, Schoech authored a book that provided a basic understanding of the relationship between ICTs and the delivery of human services. Schoech (1999) proposed several key assumptions for understanding technology use in human services practice:

- 1. A primary human service activity is decision making
- 2. Decision making requires information
- 3. Access to low cost ICTs is critical
- 4. Clients will have access to ICTs
- 5. Adaptation of ICTs for practice is essential
- 6. Understanding of technology and practice techniques is essential
- 7. Assessment is essential to facilitate change
- 8. Human service practice can be improved
- 9. ICTs will have a significant influence on society

In the years since this text was written, there have been dramatic changes in the type and scope of ICTs available to social workers and their clients (Madden, 2006; U.S. Department of Commerce, 2004). Schoech's (1999) prediction of access to low cost ICTs for clients and practitioners is on the verge of coming true.

The Pew Internet & American Life Project, a division of the Pew Research Center, is dedicated to examining the intersection of technology and our communities. As a part of this mission, the Pew Internet & American Life Project (n.d.) has produced over 150 research reports discussing the way technology is shaping our society. In a recent Pew Internet & American Life Project report by Horrigan and Rainie (2006) found 44% of Internet users logged-on at least once a day. Further, information obtained through the Internet was used to assist in making important decisions for approximately "60 million Americans" (p. 1). The information sought for these major decisions included health information, career information, financial information, educational information, housing information, and consumer information for major purchases (Horrigan & Rainie, 2006).

While the influence of ICTs on our society is irrefutable, the influence of ICTs on direct social work practice requires additional exploration (Hick, 2006; Miller-Cribbs, 2001; Schoech, 2003). A review of the articles published in the journal Social Work between 1998 and 2008 found 13 articles specifically written about ICTs in social work practice. Of these thirteen articles most were theoretical arguments about how technology could be used in social work or how technology is changing the role of the social worker. Expanding this review to other human service literature found several themes with regard to the role of technology in human services. These themes can be summarized as

discussion of: (a) Advocacy Models (b) Interpersonal Interventions (c) Empowerment/Inclusion and (d) Values and Ethics. The following section is a brief overview of the current discussions in the literature about how ICTs may be used in human service practice.

## Advocacy

Social work literature discussing micro and macro advocacy methods has begun to include the possibility of using technology-based advocacy interventions. In articles by Fitzgerald and McNutt (1999) and Queiro-Tajalli, McNutt and Campbell (2000), the use of technology for the purposes of advocacy at a national and international level are highlighted. Although these articles are primarily 'thought pieces', they provided interesting analysis of the potential for electronic advocacy to influence social policy at a local, state, federal and international level.

Fitzgerald and McNutt (1999) discuss how e-mail can be used by constituents to influence policy makers, and the potential impact of the "push" technology, that allows information to be sent from the Web to an Internet appliance automatically (p. 335). This technology allows Internet systems to deliver information to a recipient without the recipient searching for the information. For example, this technology allows automatic feeds that alert the user to new web or blog content. Additionally, several companies push software updates to consumers automatically as they become available. The significance of this technology is that it has enabled advocacy groups to keep their members updated regardless of their location (Fitzgerald & McNutt, 1999; Maney, 2004).

#### Interpersonal Interventions

The social work literature on electronic interpersonal interventions is not as plentiful as other professions; however, there is increasing attention to the ways social workers may intervene with clients using ICTs (Castelnuovo, Gaggioli, Mantovani, & Riva, 2003; Finn & Schoech, 2008; Matano, Koopman, Wanat, Winzelberg, Whitshell, Westrup, Futa, Clayton, Mussman, & Taylor, 2007; Murphy & Mitchell, 1998; Oravec, 2000; Riemer-Reiss, 2000; Sandberg, et al., 2005; Smokowski, Galinsky, & Harlow, 2001). The methodology most discussed in the literature is the use of ICTs to conduct therapy sessions and/or client support via the Internet. According to Reimer-Reiss (2000) this new technology allows individual access to services that previously would not have been accessible. An attractive element of this technology is that it allows the practitioner to provide a therapeutic service to a client irrespective of the location of either party (Beder, 2005). While this intervention has elements in common with traditional outpatient therapy, it also requires a special skill set to deal with issues specifically related to the use of a computer-mediated intervention (Castelnuovo, et. al., 2003; Elleven & Allen, 2004; Murphy & Mitchell, 1998). Still a relatively new intervention tool, online therapy has been used for the treatment of anxiety disorders, alcohol dependence, phobias, and other disorders (Castelnuovo, et. al., 2003; Matano, et. al., 2007). This technology can be used synchronously, as in the case of a chat room, or asynchronously as in the use of email (Castelnuovo, et. al., 2003; Clingerman & Benard, 2004). Although not fully embraced by practitioners, this form of clinical intervention is gaining in acceptance (Freeny, 2001; Leibert, Archer, Munson, & York, 2006; Rochlen, Beretvas, & Zack, 2004).

In fact, Murphy, McFadden, and Mitchell (2008) recently discussed the introduction of a "cybercounseling" certificate program within a school of social work (p. 448). This training in asynchronous counseling using secure e-mail as the delivery system began in 2004. The training has a basic level certification and an advanced certification. The course covers the ethics of online counseling through e-mail as well as clinical challenges and benefits associated with this type of therapy. Thus far 66 practitioners have received training through this new program (Murphy, et al., 2008). Interestingly, Finn and Krysik (2007) discuss the need for training and clear agency policies for clinicians to follow as a result of receiving unsolicited e-mails from clients. The link between the need found by Finn and Krysik (2007) and the certificate program reviewed by Murphy, et al. (2008) represents an move toward a more technology enhanced social work practice.

Along this same theme, Freddolino and Blaschke (2008) discuss the potential use of online gaming in therapy. Games designed for vulnerable populations such as teens, substance users, and older adults provided feedback on behaviors and feelings, mental exercise, as well as social connections. One of the more mainstream role playing games, Second Life, boast more than sixteen million players world wide. In fact, the authors call for agencies to have at least one computer available for clients to be exposed to the potential benefits of Internet resources such as online gaming (Freddolino & Blaschke, 2008).

## Empowerment/Inclusion

One of the fundamental roles of social workers is to empower the individual, families and communities that are the focus of our interventions (Cox, 2001). Because

much of our society has become digitized, empowering vulnerable populations with the knowledge, skill, and access to technology has become increasingly important (NASW & ASWB, 2005). As an example, Opalinski (2001) attempted to empower older adults through the use of technology. To accomplish this empowerment, older adults were trained to use computers and provided computer access. The results of her study with older adults showed 100% of the respondents described computer use as providing a valuable source of communication. According to Opalinski (2001) fifty-three percent of respondents used chat rooms and other forms of technology to communicate with others and reduce isolation. Opalinski (2001) found that given the proper training and access to technology, vulnerable populations could participate in a digital culture.

In study with a similar population of older adults, Slegers, van Boxtel, and Jolles (2008) found that participants who regularly used the computer reported feeling "more in control of their lives" (p. 182). Although the overall study findings were inconclusive, the authors encouraged further research in this area to assess the impact of increased access and skill development with other vulnerable populations (Slegers, van Boxtel, & Jolles, 2008).

In other studies technology has been used to develop and maintain supportive relationships for individuals dealing with serious physical illness or caring for someone with a serious illness or a disability (Barrera, Glasgow, McKay, Boles, & Feil, 2002; Wright & Bell, 2003). The ability to access health-related information, and to give to or receive support from others struggling with similar issues is a growing part of Internet activities. In fact, according to Wright and Bell (2003) these 'weak tie' networks (meaning there is no close relationship) provide opportunities for the exchanging of

information including disclosure of information that may carry with it significant personal risk of stigmatization. Further, "finding individuals who share similar experiences of illness or addiction online allows people to discuss fears, ask factual questions and discuss common experiences with their peers, and may help reduce isolation" (Wright & Bell, 2003, p. 44). While online support groups have become more popular, additional research is needed to explore the nature of these relationships with regard to their impact on the individual's health status (Barrera, Glasgow, McKay, Boles, & Feil, 2002; Galinsky, Schopler, & Abell, 1997; Wright & Bell, 2003).

#### Values and Ethics

As early as 1991 social workers began to pose ethical questions with regard to the use of technology in social work practice. Cwikle and Cnaan (1991) challenged social work to think more broadly about the use of expert systems, therapeutic games, e-mail and online communications in clinical practice, while paying attention to our professional values and ethics. Equally important, the authors accurately pointed out the social justice implications related to the digital divide, and they questioned the competency of social workers in the use of technology (Cwikle & Cnaan, 1991). The sentiments expressed by Cwikle and Cnaan (1991) were shared by Schoech (1999, 2003), as well as Miller-Cribbs (2001). However, the social work profession did not formally respond to the concerns of these authors and others about the lack of ethical guidelines or the lack of technical competency within the profession until 2005.

The social work response to the use of emerging ICTs in practice was the development of the NASW and ASWB Standards for Technology and Social Work Practice (2005). These standards provide the basis for social work action with regard to

the implementation and utilization of ICTs for the delivery of social work services and the empowerment of service recipients (NASW & ASWB, 2005). These new standards discuss the responsibilities of social workerto work on behalf of their clients to address the digital divide. Further the standards call for all social workers to develop technical competencies, maintain competency as new technologies emerge, and to advocate for the technology needs of their clients (NASW & ASWB, 2005).

These standards were based on the NASW Code of Ethics and the Model Social Work Practice Act. They are designed to guide social work practitioners at all levels in the use of technology. NASW and ASWB Standards for Technology and Social Work Practice (2005) acknowledge the significant influence technology is having on social work practice and the need for guiding principles to shape social work practice. The areas covered in the technology standards are listed in Figure 1. However, this table does not include the interpretation that accompanies each standard in the original document.





Among the many areas addressed by the standards, there is a specific directive calling for social workers to "take action to ensure client access to technology" (NASW & ASWB, 2005, p. 8). This statement places the burden of advocating for client related access squarely on the shoulders of social work practitioners, educators, advocates, and researchers. What is not mentioned in the standards is a plan of action for social workers to meet this goal. To this end, the current study will examine the intersection of this digital divide through the eyes of the client and the human service provider.

## Digital Divide

The term 'digital divide" was first coined by researchers as a way to describe the diffusion of computer technology in this country and abroad (Bakardjieva, 2003). Over the years the meaning of the digital divide has been reconceptualized based on changes in the capabilities and portability of ICTs and in response to widespread diffusion of technology (Bakardjieva, 2003; Warschauer, 2003).

The Digital Divide literature can be categorized into three distinct phases:

- 1. Access to hardware/software
- 2. Computer training/literacy skills
- 3. Social Inclusion

## Access to Hardware/Software

Early discussions about the digital divide focused on the gap in computer ownership between wealthy and poor Americans (Bakardjieva, 2003; Warschauer, 2003). These early discussions led to the creation of programs designed to move computers into the homes, schools, and communities (Cuban, 2002; Hick, 2006). One common method for increasing exposure to technology was to focus on the introduction of computer systems into K-12 education (Burbules & Callister, 2000; Cuban, 2002; Zhao, 2003). Other programs distributed laptops to elementary students and teachers (Zhao, 2003). Grants were developed that assisted K-12 schools to become physically wired to the Internet as a means to ensure access to technology by children, especially those who otherwise could not afford such technology at home (Cuban, 2002; Burbules & Callister, 2000).

In response to the gap in computer ownership, some communities developed community access points such as public libraries and community centers. Hick (2006) studied the operation of one community center in Canada. According to Hick (2006) the focus on physical access to computers is a simplistic view of the digital divide. Further, Hick (2006) observed that computer use became a group activity among the teens in his study. This socializing in connection with computer use adds another dimension to the increasing complex digital divide issue.

## Computer Skills/Training

As efforts to distribute ICT hardware underwent evaluation, the issue of how ICTs were or were not being utilized became a focal point of the literature (Zhao, 2003; Cuban, 2002). The digital divide was found to reach beyond the deployment of hardware to include user computer skill level (Cuban, 2002; Zhao, 2003). The concept of Computer Self-efficacy (CSE) based on Bandura's concept of self-efficacy became a prominent construct for the investigation into computer users' or potential users' perception of their ability to use technology (Bandura, 1977; Marakas, Johnson, & Clay, 2007). According to Marakas, Johnson, and Clay (2007) the CSE construct measure contains more than just

a perceived computer skill level assessment; it contains information on the individual's motivation toward a task and a global computer use level.

Similarly, VanDijk and Hacker (2003) describe the acquisition of "digital skills" as a significant element in the digital divide concept (p. 316). They define these skills as including the ability to operate the computer, search for information, select information and to utilize this information (VanDijk & Hacker, 2003). According to VanDijk and Hacker (2003) computer skill acquisition can only be met after there is first, exposure to technology, and second, an opportunity to use technology. In other words, the acquisition of computer skills comes after the recognition of the importance of using technology, and then having physical access to the technology.

#### Social Inclusion

The latest departure from a focus on hardware and skill level of the computer user in the digital divide literature has focused on the concept of 'social inclusion' (Hick, 2006; Miller-Cribbs, 2001; Warschauer, 2003). Social inclusion, as it relates to the use of ICTs, refers to the ability of those lacking access to the Internet to participate in the functions of citizenship, access to resources, education, and digital networks through the use of ICTs (Warschauer, 2003). In other words the replication and in some cases the expansion of life roles through the use of ICTs may widen the gap between those with access to digital resources and those without access to digital resources. In this way access to technology is viewed as more than hardware, software or skill level, but as an essential function for full participation in society (Miller-Cribbs, 2001; Vernon & Lynch, 2003; Warschauer, 2003). For example, Horrigan and Rainie (2006) found that nearly 60 million Internet users turned to the Internet for assistance with major life decisions.

Additionally, Madden (2006) from a survey of Internet users found that daily Internet use was associated with positive views of using the Internet to enhance the respondent's employment, seek health information, gain access to information on hobbies, and participate in online shopping. The significance of this trend is that without access to this digital information and participation in digital networks, vulnerable populations are at risk for further disenfranchisement (Warschauer, 2003).

Along this same line of theoretical exploration, Bakardjieva (2003) discusses the relationship between diversity and the social uses of ICTs in Canada. This qualitative review of data collected from a larger study highlights the patterns of ICT use for Canadian immigrants and individuals with disabilities. The information in this study was collected through structured interviews, observation of the participants' home computer space, a review of computer use history (including bookmarks), and a group interview with the families of the participants (Bakardjieva, 2003).

According to Bakardjieva, social uses of the Internet for the immigrants in this study consisted of connections with their communities of origin through web-based news outlets and/or participation in culturally similar web-based groups. Further, individuals living with various disabilities perceived the use of the Internet as useful for sharing their experiences and to receive support from people with similar life circumstances (Bakardjieva, 2003).

Bakardjieva (2003) makes the argument that digital divide research should be "guided by the concept of intersections of diversity should focus on identifying those intersections that spell marginalisation [sic], but also of a great potential gain from the new media" (p.15). In other words, research should focus on the ability of vulnerable
populations to use technology for the purpose of empowerment. Conceptually the present study has similarity to the research discussed in the Bakardjieva (2003) article in that both seek to understand the interaction between vulnerable populations and the use of ICTs.

The Bakardjieva study provides a beginning qualitative look at this issue of diversity and access, but it differs from the current study because it was dependent on a retrospective approach using only current Internet users. The exclusion of non-users who may provide a unique perspective on the diversity intersection originally sought by Bakardjieva limits the utility of the study. The assumption in this study and many others is that sufficient opportunity, training, and content already exist to entice diverse populations to explore using the Internet. As a departure from this approach, non-users and vulnerable populations described as lacking access, skill, and training in the use of technology will be included in the sample population for this study.

#### Technology Acceptance Models

So how, why and for what purpose do people use technology? To explain this question several models of technology acceptance have been proposed. For the purpose of this study, literature from business, management, social work and information technology journals was reviewed. Particular attention was given to research involving human service agencies and their use/acceptance of technology. Three primary models were repeatedly discussed in the literature, 1.) the Technology Acceptance Model [TAM] (Davis, 1989) and 2.) The Theory of Planned Behavior [TPB] (Ajzen, 1991). Both the TAM and TPB are derived from the Theory of Reasoned Action [Figure 2] (Chau & Hu, 2001). The Theory of Reasoned Action (TRA) asserts that attitudes and beliefs shape intentions, which influence behaviors (Chau & Hu, 2001). TRA forms the basis for both TAM and TPB; however only TAM was designed specifically to address technology acceptance. TRA and TPB are theories designed to predict general human behavior (Mathieson, 2001).





Theory of Planned Behavior (TPB)

TPB, like TRA is based on the belief that attitude can direct intentions which in turn shape behaviors. TPB takes this one step further by adding perceived behavioral control as an influencing factor (Chin & Hu, 2001). This perceived behavioral control is in part the individual's perception of the organization's capacity to support technology use (Chin & Hu, 2001). A second difference between TPB and TRA is that TPB addresses situations in which the individual's behavior is not purely volitional (Brown, Massey, Montoya-Weiss, & Burkman, 2002). TPB is applicable to a wide range of settings. However, according to Mathieson, Peacock, and Chin (2001), TPB and other instruments must be tailored to fit each unique situation or specific behavior of interest to be effective.

Technology Acceptance Model (TAM)

The Technology Acceptance Model as developed by Davis (1989) differs from TPB in that it was specifically designed to assess situations involving the use of technology (Davis, 1989; Mathieson, Peacock, & Chin, 2001; Taylor, 2004). TAM asserts that perceived usefulness and perceived ease of use are significant predictors for the use of technology (Davis, 1989; Mathieson, Peacock, & Chin, 2001; Taylor, 2004). Davis (1989) defines perceived usefulness (PU) as "the degree to which a person believes that using a particular system will enhance his or her performance" (p. 320). Therefore, the concept of perceived usefulness includes internal and external rewards and sanctions the individual may perceive are tied to her/his use of the technology (Davis, 1989). The concept perceived ease of use (PEU) is defined as, "the degree to which a person believes that using a particular technology would be free of effort" (Davis, 1989, p. 302). PU and PEU individually and/or together predict attitude, which influences intention and finally the use or non-use of the technology (Davis, 1989; Mathieson, Peacock, & Chin, 2001; Taylor, 2004). TAM has been widely researched and has proven to be reliable in predicting variation in the acceptance of technology (Mathieson, Peacock, & Chin, 2001; Taylor, 2004).

The major limitation to TAM, as highlighted by Mathieson, Peacock, and Chin (2001), is that it assumes technology adoption decisions to be voluntary and within the control of the individual. For example, an individual may find a software system useful and easy to use but not be able to use the technology because it is cost-prohibitive for the individual or organization. Another example of this shortcoming is that regardless of the individual's perception of usefulness or ease of use, if the technology is mandated to be used, the individual's attitude and intention may not adequately predict her/his behavior

(Mathieson, Peacock, & Chin, 2001; Taylor, 2004). To address this limitation, Mathieson, Peacock and Chin (2001) propose an extended TAM that includes perceived user resources. Others in the literature have adapted the basic TAM model to account for other unique situations while still adhering to the basic concepts of PU and PEU (Taylor, 2004). Venkatesh and Davis (2000) introduced a TAM2 with the addition of social influences and cognitive processes as other factors that help explain technology adoption. In TAM 2 and other expansions of this model, PU and PEU are still the prominent structures.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), was proposed by Venkatesh, Morris, Davis, and Davis (2003). UTAUT is based on the Technology Acceptance Model (TAM) and TAM2 (Davis, 1989; Taylor, 2004; Venkatesh, et al., 2003). UTAUT is an expanded version of TAM, incorporating other models like the Theory of Planned Behavior (TPB), and Innovation Diffusion Theory, which better explain the use of technology in involuntary situations (Ajzen, 1991; Taylor, 2004). UTAUT, like TAM and TAM2, is based on the belief that PU and PEU are significant factors in the acceptance of new technology (Davis, 1989; Taylor, 2004). The concepts PU and PEU have been renamed in this new model to be more encompassing (Performance Expectancy and Effort Expectancy) but once again remain prominent structures of this unified model.

The UTAUT model is unique in that it highlights four primary determinants of technology acceptance which are moderated by other factors, such as age, experience with technology, agency leadership, funding, etc. (Taylor, 2004; Venkatesh, et al., 2003).

Taylor (2004) found that the UTAUT predicted seventy percent of the variance with regard to intention to use technology. The chart below (Table 1) illustrates the relationship between the four determinants and the moderating factors.

 Table 1: UTAUT Four Determinants (adapted from Taylor, 2004)

1. Performance Expe	ectancy
Definition	The degree to which an individual/organization believes that using the system will help attain significant rewards
Related terms	Perceived usefulness; extrinsic motivation; job-fit; outcome expectations; attitude toward using technology
Moderators	Gender, age, occupation, services provided
2. Effort Expectancy	,
Definition	The degree of ease associated with use of the technology
Related terms	Perceived ease of use; complexity; computer anxiety
Moderators	Gender, age, experience with technology
3. Social Influence	
Definition	The degree to which an individual/organization perceives that important others believe the technology should be used
Related terms	Subjective norm; social factors; image; social norms; peer dynamics
Moderators	Gender, age, experience, voluntariness, governance, funding sources, competition
4. Facilitating Condi	tions
Definition	The degree to which an individual believes that an organizational and technical structure exists to support the use of technology
Related terms	Perceived behavioral control; compatibility; trust
Moderators	Age, experience, technology plan, training, technology support

The expansion of the UTAUT from the original TAM provides the potential for improved predictability by addressing macro, mezzo and micro influences for technology acceptance (Taylor, 2004; Venkatesh, et al., 2003). Based on this review of these three technology acceptance models (TPB, TAM, & UTAUT), UTAUT appears to be the model most appropriate to assess technology acceptance and the complex interaction that leads to an intention to use technology. This model offers the possibility to capture influences such as funding for technology, usage by peers, referral source perspectives, and consumer influences in addition to the internal and external rewards/sanctions for workers and clients (Venkatesh, et al., 2003).

Interestingly, despite the significant expansion of the UTAUT model from the original TAM model, its core elements remain the concept of PU (renamed Performance Expectancy) and PEU (renamed Effort Expectancy). While these determinants have received a lot of attention in the literature, there remains the potential for greater expansion of these models through their application in other disciplines, such as social work (Taylor, 2004).

## Computer Self-efficacy

The TAM model and its later expansion UTAUT, retain a focus on the two primary concepts of perceived usefulness (PU) and perceived ease of use (PEU). The concept of PEU or Effort Expectancy as it was renamed in the UTAUT model (Venkatesh, et al., 2003), is mediated by six factors: Computer Self-Efficacy; Facilitating Conditions; Intrinsic Motivation/Computer Playfulness; Emotion/Level of Computer Anxiety; Objectivity Usability; and Perceived Enjoyment (Wexler, 2001). Of these factors the concept of Computer Self-Efficacy (CSE) has received significant attention in

the literature. As discussed earlier, CSE is the application of Bandura's self-efficacy concept to explain the use or lack of computer use (Venkatesh & Davis, 1996). According to Bandura (1977) the term self-efficacy refers to an individual's perception of their ability to perform a task or activity. This concept as applied to computer use refers to the individual's perception of their ability to use a computer (Venkatesh & Davis, 1996). While the early literature focused on CSE related to general computing, more recent literature discusses the CSE concept in relationship to general computing and specific computing task or activities (Marakas, Johnson, & Clay, 2007). In other words, an individual with a high general CSE score may not be a predictor of an individual's perception of her/his ability to perform specific activities such as navigating the World Wide Web (Web). Because the concept CSE is influenced by factors such as motivation and technology experience among other factors, using a specific task measurement has proven to be the more successful way of assessing CSE (Fagan, Neill, & Wooldridge, 2004). For vulnerable populations who may have limited or no exposure to ICTs, their perception of computer skills and the benefits to be gained from computer use may greatly influence their willingness to participate in computer related activities (Venkatesh & Davis, 1996).

#### Chapter Summary

As Vernon and Lynch (2003) discuss, "The reality is that many service consumers use the Web, if not from home then from other locations...Access is becoming less of a problem, but other barriers such as language differences, literacy levels, typing skills, manual dexterity and visual acuity thwarts access as well as poverty" (p. 38). On the one hand there are access issues that require attention for both clients and social workers, and

on the other hand the potential use of ICT to empower vulnerable populations is emerging from the literature. Additionally, we know that without access to technology and the skill to use technology vulnerable populations will be unable to compete for resources.

Further, the emergence of ICTs as a primary resource for many common tasks increases the risk for vulnerable populations to be disenfranchised. Using models such as TAM as a framework can assist in understanding technology acceptance, use, and inclusion. For social workers, the development of practice standards provides the foundation for an examination of how ICTs can be use at all levels of practice and how we can advocate for technology access on behalf of our service recipients. Chapter three describes the initial process used in this study to explore how the participants use technology.

## CHAPTER THREE

#### Research Methodology

The purpose of this case study is to understand the extent to which women in recovery from chemical addiction use ICTs, and how the treatment provider can empower and support this population in their quest for digital inclusion. To accomplish this goal this study has been divided into two separate phases. The following chapter describes the sample population, the setting and the research methodology used to collect the data and analyze the findings. The research methodology for Phase II of this study will be discussed in Chapter Six.

#### The Setting

The agency participating in this project is an urban nonprofit 501(c)3 substance use treatment provider located in an urban area of a Great Lake state. The mission of the agency as reflected on their website is to:

> "provide an extensive continuum of community-based therapeutic intervention and support for underserved women and women with children, including a range of outpatient services, community outreach, case management, and supported housing in order to empower recovery, self-sufficiency, family reunification, spiritual growth and positive inclusion in the community" (October 15, 2007).

This small grassroots agency is operated through a combination of paid and volunteer staff. The staffing pattern for the agency consists of an executive director (paid staff), a Program Director (volunteer), one Administrative Assistant (volunteer), and four part-time Peer Specialists (1 paid and 3 volunteer). The executive director started this agency in 2005 after a long career as a therapist in the local community. The current services provided by this agency include prevention services, early intervention

(outreach) services, individual and group counseling, case-management and supportive housing services. Recently the agency was awarded a local community mental health substance use contract through a competitive bid process. The new prevention services were not scheduled to begin until January, 2009 (Personal Communication, October, 15, 2007).

To increase community support and to avoid duplication of services, within the first year of operation the agency entered a partnership agreement with a neighboring church. The agreement with the church provided financial and organizational support, and spiritual guidance for the agency. Additionally, the church partnership has provided office space, group meeting space, and a lease arrangement for the agency to use one of the church's renovated houses as a supportive housing facility. The agency does not provide any financial remuneration for the church support as long as they continue to provide services to women and children in the immediate area surrounding the church (Personal Communication, October, 15, 2007).

In 2007, the Community Research Institute (CRI) conducted a study of the area surrounding the church and the agency's target service area. This study found that only 29% of the 165 respondents described the neighborhood as 'very safe'. This finding is in contrast to 72% of residents in the same county who describe their neighborhood as 'very safe'. Further, 69% of the households in this neighborhood are female-headed. With regard to income the vast majority of the households (73%) have incomes less than \$25,000. In fact, nearly 40% of these households have incomes of \$10,000 or less. The ethnic make up of the target neighborhood consists of 74% African American, 13% Caucasian, and 8% Latino/Latina households (Community Research Institute, 2007).

Additionally, the CRI report describes this neighborhood as "an area of crime, blight, closed businesses, and vacant housing" (2007, p. 2). The demographic and economic status of the residents in this urban area is consistent with populations described in the digital divide literature as having little or no access to ICTs, which makes this area desirable for a study of this nature (Miller-Cribbs, 2001; Warschauer, 2003).

# Agency Cooperation

Over the past three years the executive director of this agency has consulted with the researcher about the agency's desire to become a licensed substance use provider. These uncompensated consultation meetings have occurred up to twice a year since 2005. During a consultation meeting in the fall of 2007, the executive director expressed a desire to improve access to community resources for her clients through increased use of technology and through the development of an agency website (Personal Communication, October 15, 2007). To this end, the director was presented with a description of the current study. After several revisions the executive director and the agency board of directors approved the study in February, 2008.

## Methodology

The literature describes ethnic minority women in recovery as having little formal education, often living in poverty and frequently having been victims of domestic violence or other violent crimes (Lapidus, Luthra, Verman, Small, Allard, & Levingston, 2004). In terms of technology use, the literature describes poor women living in urban environments and having a behavioral health disorder as generally lacking access to ICTs (Bakardjieva, 2003; Miller-Cribbs, 2001; Warschauer, 2003). However, the degree and scope of involvement in the use of ICTs for urban, ethnic minority women in recovery

has not fully been explored. Because of the limited research specifically addressing how, why and for what purpose this population uses ICTs, this study will take a qualitative approach using an exploratory design (Dudley, 2007; Marshall & Rossman, 2006; Richards, 2005). According to Marshall and Rossman (2006), a qualitative approach is particularly useful to understand the experience and/or perceptions of individuals belonging to oppressed groups defined by race, gender, sexual orientation, class, or disability.

According to Dudley (2007), in addition to observational techniques, exploratory research designs typically involve smaller sample sizes and the use of surveys, focus groups, unstructured or semi-structured questionnaires and/or interviews as the primary methods of data collection. In contrast to exploratory research designs, the primary methods of data collection for explanatory research involve the use of large sample sizes, structured interviews, observational techniques, and structured questionnaires to collect data (Dudley, 2007). Consistent with research design principles from Dudley (2007) and Richards (2005), this study will use focus groups, surveys, and semi-structured interviews as the principal methods for data collection.

A Grounded Theory approach will be utilized for the first phase of this study to understand and theorize how poor ethnic minority women in recovery use technology. LaRossa (2005) states that, "GTM [Grounded Theory Methods] are a valuable set of procedures for thinking theoretically about textual materials" (p. 855). More specifically, Grounded Theory is particularly suited for this study as the perceptions of women in recovery toward ICT use has yet to be explored in the human service literature (Dudley, 2007; LaRossa, 2005; Richards, 2005).

## **Theoretical Foundation**

## Symbolic Interaction

The three theoretical frameworks used to inform this study are Symbolic Interaction (SI) (Rank & LeCroy, 1983), the Technology Acceptance Model (Davis, 1989), and Empowerment Theory (Solomon, 1976). SI provides the context for how individuals use symbols and communication to form meaning of their life circumstance (White, 2002). The continued and rapid expansion of ICTs and their use in accessing resources and information and in developing relationships makes SI particularly salient as a framework for this study (Anderson, 2005; Merkle & Richardson, 2000; McOuillen, 2003; Rumbough, 2001). The process of construction and reconstruction of meaning as described in SI helps individuals make sense of their role and the relevancy of technology to their daily lives (Fulk, Schmitz, & Ryu, 1995). The patterns of interaction and the subjective interpretations of the individual will assist in providing meaning to the experience of using or not using technology (Rosenblatt & Fischer, 1993). The meaning individuals attach to technology use or non-use will operate within the context of their social norms and values (Rosenblatt & Fischer, 1993). The exploration of these meanings from the perspective of the participants will take place through data collected from surveys and focus group discussions.

Unified Theory of Acceptance and Use of Technology (UTAUT)

Derived from TAM, and incorporated into its later expanded model UTAUT, the concepts of Perceived Usefulness (PU) and Perceived Ease of Use (PEU) add understanding to how and why individuals use ICTs. As discussed earlier in the review of the literature, TAM is the most widely researched of the technology acceptance models and has been extended beyond the information systems field to other professions to assess intention to use technology (Taylor, 2004). According to the model these two determinants, PU and PEU, combine to shape attitude toward a technology, which in turn predicts intention to use the technology (Davis, 1989, Taylor, 2004, Venkatesh, et al., 2003). As a theoretical framework for this study, the concepts of PU and PEU provide explanatory guidance for the participants' use or nonuse of technology. PU and PEU work in concert with SI as the participants describe in their own words how they use or do not use technology and the circumstances influencing their decisions.

## **Empowerment** Theory

Working for change on behalf of those we serve is one of the fundamental principles of the social work profession (Boehm & Staple, 2004). The outcomes, processes, and tools involved in facilitating change are referred to together as "empowerment" (Bohem & Staple, 2004, p.270). Empowerment can occur at personal, familial, community, or a social level. Further, empowerment strategies as used by social workers are particularly salient for use with vulnerable populations (Cox, 2001). According to Cox, empowerment is "the process of assisting individuals, groups, families, and communities to discover and expend the resources and tools within and around them" (Cox, 2001, p. 306).

From this perspective, empowerment theory provides an appropriate lens for this study in two ways: first, in a technology-focused world the uncovering of the ways women in recovery currently use technology to empower themselves, their families, and community is important for human services agencies to learn and possibly replicate. Secondly, the study process itself may give voice to concerns, frustrations and beliefs of this population that previously may have been unknown or ignored (Banyard & Miller, 1998).

## **Research Questions – Phase I**

Guiding the research process is a set of questions derived from review of literature, previous research, and areas of interest expressed by the agency executive director, the board of directors, and the researcher. According to Marshall and Rossman (2006) research questions should be focused on the problem, be general in nature, and become more refined through the research process. Further, they describe three main categories of research questions in qualitative research: a.) theoretical questions, b.) population questions, and c.) site related questions. Consistent with the exploratory case study design, research questions for Phase I are best categorized as population specific questions. However, while the research questions seek to illuminate the experience of a select group, women in recovery, the questions are general enough to allow for refining through the research process (Marshall & Rossman, 2006).

For example, question #1 examines the experience of the participants with ICTs. To fully understand this experience, areas such as the participants' interest in using technology, their pattern of use, and the accessibility of ICTs for this population were examined. This question is important to this study in that the digital divide literature clearly highlights that ethnic minority women, individuals living in poverty, and individuals with a disability tend to have low levels of access to technology and often lack basic computer skills (Miller-Cribs, 2001; Warschauer, 2003).

Question #2 examines the scope, frequency, and purpose of technology use. As Horrigan (2007) showed, ICT use is more complex than simply assessing use versus non-

use. In fact, Horrigan (2007) found ten distinct types of ICT users, which include a group of moderate users labeled "Connected but Hassled" (p. 6). This group is significant because although they use technology they do not feel good about their use and likely would not view their use of technology as empowering. Research question two follows a similar pattern of exploration described in Horrigan by examining not only the devices used but also the purpose for this use and the frequency of their use.

Research question #3 was designed to examine the factors discussed in the literature on technology acceptance. In particular, question three focuses on the determinant areas from TAM and UTAUT: Perceived Ease of Use (PEU), Perceived Usefulness [PU] (Venkatesh, et al., 2003). This involves an examination of internal motivation, external motivation, social setting, perceived benefits for using or not using technology and perceived technology skills among other variables (Venkatesh, et al., 2003; Taylor, 2004).

Research question #4 is linked to Empowerment theory, the NASW and ASWB Standards for Technology and Social Work Practice (2005) and Warschauer's (2003) theory of digital inclusion. As a first step to building a model of digital empowerment it is important to understand how human service workers perceive the use of ICTs by those they serve. Worker misconceptions or over generalizations about the scope, frequency and purpose of client technology use may lead to poorly designed interventions. Table 2 lists the questions used to guide the research process for Phase I of this study and the data collection methods used.

Research Questions	Data Collection Methods	
What is the experience of the agency clients with ICTs?	Focus Groups & Survey	
1. How often, for what purpose, and under what circumstances do the agency clients use ICTs?	Focus Groups & Survey	
2. What are the factors that influence use or non- use of ICT for the agency clients?	Focus Groups	
3. How does agency staff perceive their clients frequency of use, purpose of use, and access to ICTs?	Survey & Focus Group	

Instrumentation – Phase I

Instruments used in the first phase of this study consisted of a participant survey instrument (Appendix A), three focus group protocols (Appendix C - E) and a staff technology survey (Appendix B). All of the instruments were developed by the researcher and reviewed by the agency board and four local college students. The purpose of the instrument review was to discover confusing questions, and questions with language concerns, and to assess the time needed to complete the instruments. Student volunteers met as a group and reviewed the instruments. The group feedback was noted by the researcher and incorporated into the revised instruments. The same review process was used for all instruments in this study. Agency board of directors involvement was at the suggestion of the executive director, who hoped that board participation in this project would foster support for any recommendations resulting from this study. Board members received the survey instruments via e-mail from the researcher for review and comment. The executive director, who sent a reminder message to the board encouraging them to give feedback to the researcher, supported this e-mail review process.

Survey Design

The initial Phase I client survey instrument consisted of nine questions. The survey began with the IRB approved consent form (Appendix G), an explanation of the survey's purpose and ended with a statement of the confidential nature of responses and that participation in this study is voluntary. Next participants were asked to respond to three technology use questions followed by six demographic questions, which will be used to compare the participants to populations described in the literature as typically lacking access to technology.

The first three questions of this survey were adapted from Horrigan's (2007) technology user survey. Information gathered by Horrigan (2007) led to the development of ten technology user typologies. Similarly, responses to the first three questions in this survey led to the development of participant technology use profile. This profile was later used to classify participants into three groups based on their technology use pattern. As a part of this profile development, questions one through three examined the devices participants used to connect to the Internet and the frequency with which these devices were used. Together, questions one through three provided a technology user profile from which the researcher developed the composition of three focus groups.

Based on responses to the first three questions, survey participants were placed into the following categories: (a) Non-users (b) Moderate-users and (c) Power-users. Individuals responding affirmatively to personally owning a cell phone with Internet capability or a desktop or laptop computer in response to question one (Q1), and daily use of the Internet in response to question two (Q2) were categorized as Power-users. Individuals indicating no personal ownership of a laptop or desktop computer or a cell phone with Internet capability (Q1), and who have access to a laptop or desktop computer

or cell phone with Internet capability through friends/family or through public sources and who indicate use ranging from weekly to monthly Internet use in response to Q1 were categorized as Moderate-users. Individuals who do not have access to a laptop or desktop computer or cell phone with Internet capability through personal ownership or through friends/family or through public sources (Q1) and indicate no current use of the Internet (Q1) were categorized as Non-users. It should be noted that the term Non-user does not mean that these individuals have never used ICTs. Rather, this term indicates no current use or ready access to ICTs. Table 3 is an example of how participants were assigned to categories.

The remaining questions of the initial survey, questions four through nine, explored the participant's demographic information. Information such as age, ethnicity, social economic level and education were collected through responses to questions four through nine.

	Non-User	Moderate User	Power User
Question 1	No ownership	No ownership	Personal ownership
Question 1	No access through friends/family	Access through friends/family	Access through friends/family
Question 1	No access through public resources	Access through public resources	Access through public resources
Question 2	Annual or no use	Monthly or weekly use	Daily use

 Table 3: Focus group categories

The second survey instrument used in this study was designed to explore the staff perception of the participant's access to and use of technology (Appendix B). Staff perception of participant technology use was later compared to participant self-reports of their technology use and discussed with staff. This instrument asked staff to estimate the percentage of clients who own a computer or some other device that connects to the Internet; what percentage of clients have access to the Internet through friends and family; what percentage of clients have access to the Internet through public resources; and what percentage of clients use the Internet weekly. The survey also asked staff to select activities that they believe their clients engage in when using technology. Additionally, this survey captured information about how staff use technology and how they engage participants in the use of technology. The researcher based the questions on extensive review of the literature, as well as by following the same structure as the initial participant survey. Using responses from questions one and two of the second survey the researcher was able to place staff into a technology user profile group, similar to the process used for the client participants. Together, staff user profile and their perception of client access and use of technology provided a springboard for staff and board discussions.

Focus Group Questions

According to Marshall and Rossman (2006), focus groups have the advantage of offering flexibility to address unanticipated issues while providing a supportive environment for disclosure. To uncover additional information about how the participants use, view, and thought about technology, three technology profile specific focus groups were conducted. As discussed above, participants were divided into three distinct groups; Non-users, Moderate-users, and Power-users. Up to ten participants from each user group were invited to participate in small focus group discussions. Focus group participants were asked to respond to six questions developed by this researcher based on sensitivity

to the literature and the research questions guiding this study. Appendices C - E provide listings of the focus group questions designed for each group.

#### Sample Selection/Recruitment

The participating agency offers a range of services from assessment and referral to individual and group counseling. According to the executive director, the most popular service is the weekly support group meeting. This meeting is typically attended by up to 40 women in various stages of recovery (Personal Communication, November 15, 2007). The support group meetings are seen as an essential component of the agency's services; as such the support group meeting was selected as the ideal recruitment setting for this study. Additional supports such as providing transportation, childcare, and a light meal were services offered for each support group meeting.

Like most support group meetings attendance was not mandatory, and the actual number of women attending each meeting was unpredictable. Nevertheless, participants for Phase I of this study were recruited from the approximately 40 women who regularly participate in the agency sponsored support group meetings. A minimum sample size of 30 - 40 client participants was sought for this study. However, there was no preset upper limit for the number of participants. Participation in this study was in no way related to the services the participants were receiving or scheduled to receive through this agency.

Recruitment of study participants occurred through flyers posted in the agency office and displayed in the agency-run supportive housing facility. Additionally, flyers sent to referral agencies about the support group meeting included information about the opportunity to participate in this study. The circulated flyers (Appendix H) directed individuals who wished to learn more about the study, or who would like to participate in the study, to attend a support group meeting scheduled for February 26, 2008. The staff role in the recruitment of subjects was limited to the distribution and posting of flyers.

Further, because the actual number of participants was not known in advance, the aid of a trained research assistant was enlisted to support the surveying process. The researcher provided a four-hour training session for the research assistant prior to her involvement in the study. This training included how to conduct a survey, the intent of the study, and sensitivity training to the ethnic, cultural, and educational backgrounds of the study participants (Silverman, 2005; Marshall & Rossman, 2006).

## Survey Participation Rate

There were nineteen attendees and five staff present at the February 26, 2008 support group meeting. Participants who consented to completing the initial survey were given either a staff version of the survey (Appendix B), or a client version of the survey (Appendix A), based on their role as identified by the agency director. Table 4 shows the rate of participation for the initial Phase I survey.

Of the 19 women in attendance on February 26, 2008, 17 agreed to participate in the study. All five staff present agreed to participate. Because the number of expected attendees was lower than expected, second and third recruitment efforts were scheduled for the March 11, 2008 support group meeting and the March 14, 2008 Narcotics Anonymous (NA) meeting. At the March 11, 2008 meeting, four of the 13 women present agreed to participate in the study. The other nine women stated they had completed a survey on February 26, 2008. At the March 14, 2008 meeting nine of the 16 women present agreed to participate in the study. Only four women present at the March 14, 2008 meeting had previously completed the initial survey.

Table 4: Initial Survey Participation Rate

Recruitment Date	February 28, 2008	March 11, 2008	March 14, 2008	Total
Eligible Participants	19	4	12	35
Actual Participants	17	4	9	30
Participation Rate	89%	100%	75%	86%

Using the same IRB approved protocol for each meeting, the researcher described the purpose of the study, the risks, and the benefits. Participants were given an opportunity to ask questions about the study before consenting to participate. Only two of the 35 potential participants reported not being literate and therefore could not read the survey. Both of these women declined to participate in the study, even though the researcher offered them assistance to aid their completion of the survey. Thirty out of a possible thirty-five active clients participated in the Phase I survey, which represents 86% of the eligible participants.

Focus Group Participation Rate

Following the initial surveying, participants were placed into three groups based on their technology use profile as described above. Each participant who consented to be contacted about participation in a focus group meeting was invited to attend a focus group session. All focus group meetings took place prior to regularly scheduled support group meetings held at the agency's main office. The location and the time of the focus group meetings meant that participants could take advantage the agency's services such as transportation, child-care, and a free meal. As a matter of convenience, the moderateuser and power-user focus groups were held on the same evening. Individuals consenting to participate in a focus group meeting were asked to provide their name and a contact number on the last page of the initial survey. The researcher linked the survey information to the consent for participation through the use of a unique code on the initial survey. Consenting participants were then contacted by the researcher at the phone number they provided and asked abut their willingness to participate in a focus group meeting. If the actual participant was not available a message was left on voicemail asking them to contact the researcher by phone. The agency was given a list of meeting times but was unaware of the identity of the participants scheduled to attend each meeting. Participants contacting the agency about participation in the focus groups were encouraged to follow up with the researcher by phone.

At the conclusion of each focus group meeting, participants were given a tendollar gift certificate to a local retail store as a token of appreciation for their participation. Table 5 shows the number of participants in each group, the number of participants interested in being contacted about participation in a focus group, and the actual number of focus group participants.

 Table 5: Focus Group Participation Rate

Participant Profile	Count	Focus Group Interest	Contacted	Attendees	% Attended
Non-user	14	11	11	5	45%
Moderate-user	8	7	7	4	57%
Power-user	8	8	8	6	75%

Interpretation of the Data - Phase I

According to Richards (2006), good qualitative inquiry includes proper handling of the data and a precise review of the data through which themes can be illuminated. Surveys were collected by the researcher and/or the research assistant at the time of completion. Each survey was coded and entered into SPSS for further analysis. Participants consenting to be contacted about participation in a focus group session had their survey results linked to their name and phone number. Agency staff were not given access to the names of the survey participants or the potential focus group participants. Using descriptive statistics participant demographic information was analyzed. The demographic information was generally compared with digital divide literature in order to assess any differences or similarities between the study population and populations described in the literature as generally lacking access to technology. Further, categorization of survey responses to questions one and two of the initial survey led to the development of a technology use profile. This technology use profile was later used to determine the participants in the three focus group sessions.

Focus group data was gathered and preserved through the use of digital audio recording. This data was later transcribed, coded and analyzed for themes. Consistent with the Grounded Theory model, open coding, axial coding, and selective coding was used to uncover themes and build a model of technology use for these participant groups (LaRossa, 2005). Using open coding, each focus group transcript was coded independently by the researcher and a trained research assistant. Codes were labels given to words, sentences, actions or statements of the participants (LaRossa, 2005). There were no preset codes; all codes were derived from the actual data analyzed. To address inter-rater reliability a research assistant was used as a second coder for all three groups

and participated in the discussion and development of axial and selective codes for all three focus groups. The use of a second coder, according to Rosenblatt and Fischer (1993) is desired for addressing "reliability" as well as having collaboration in discussing the data (p. 172).

The researcher and research assistant met to review the codes and resolve any disagreement over the meaning of the codes (Silverman, 2005). This same process was used to uncover themes using axial coding and selective coding. According to LaRossa (2005) "Grounded theory methods (GTM) are most productive when all three phases of coding are employed" (p. 42). Additionally, field notes from each focus session were used to add context to the themes discovered through the coding process.

The coding process led to the development of themes by combining codes. Each group had its own themes as a result of the coding process, although many of the themes were common to all groups. For example, there were themes discovered specific to the non-user group, the moderate-user group, and the power-user group. Additionally there were across group themes as well. These themes will be discussed further in Chapter Four. A third and final set of themes using selective coding that tie together the stories of the participants from each group is discussed in Chapter Five (LaRossa, 2005).

# Research Process - Phase I

## Initial Participant and Staff Survey

At the February 26, 2008 agency support group meeting, the study was explained to participants verbally and in writing per the IRB approved Research Participation Information and Consent Form (Appendix G). Individuals who consented to participation in this study were asked to review and sign the consent form. The initial survey asked participants to provide demographic information, information about the type of devices used to connect to the Internet, how often they use the Internet and their Internet use locations. Participants completing the survey were offered an opportunity to participate in a focus group discussion on this same topic. Individuals interested in participating in a focus group discussion indicated their interest by providing their name and contact information on the last page of the survey. During this same meeting, agency staff agreeing to participate in the study completed a staff version of the survey (Appendix B), exploring their perceptions of client technology use. Similar to the client process, staff interested in participating in a focus group discussion provided their name and contact information on the last page of their survey, which was separated and coded by the researcher.

#### Participant Focus Groups

Participants agreeing to participate in a focus group discussion about technology were divided into three groups based on their responses to questions one and two from the initial survey. Participants who indicated an interest in joining a focus group session by providing their contact number were called by the researcher and asked to attend the designated support group meeting. To maximize attendance, focus groups sessions took place an hour before the weekly support group meeting. This allowed participants to take advantaged of agency-sponsored transportation, child-care, and food. Table 3 (p. 51) is a description of the process used to determine each group's membership.

The non-user focus group occurred on March 18, 2008 and was led by the researcher. The moderate-user focus group and the power-user focus group both occurred on March 25, 2008. The power-user focus group session was led by the researcher and

the moderate focus group session was led by a trained research assistant. All three focus groups were audio recorded and preserved in a digital format for transcription, coding, and analysis. Coding and analysis were performed using the Invivo 8 qualitative software package. Verbatim transcripts were uploaded into the Invivo 8 program in Microsoft Word format where they were coded for analysis. This software allows for the consistent handling of data and aids the researcher in organizing data as it is analyzed. According to Silverman (2005) transcripts provide a public record, an opportunity for repeated study, and ongoing analysis. In addition to transcripts, the focus group leaders took detailed notes during each focus group meeting to ensure that participant comments were preserved. These notes were coded by hand by the researcher and research assistant.

#### Staff Response to Findings

As a final step, the survey and focus group findings were shared with four of the five staff in a focus group format on March 31, 2008. The purpose of this discussion was to explore differences between staff perceptions of the role technology plays in their clients' lives and the study's findings. Results of this staff discussion are included in the findings section of this study (Chapter 4). The staff focus group was digitally recorded; however, because of background noise during the meeting transcription was not possible. However consistent with proper focus group protocol, the researcher took extensive meeting notes (LaRossa, 2006; Marshall & Roosman, 2006; Richards, 2005). Session notes were later coded and analyzed for themes by the researcher and research assistant. Table 6 shows the overall research process for the two phases of this study.

Process	Client	Staff
Phase I		
Step 1	Client Survey	Staff Survey
Step 2	Client Focus Groups	
Step 3		Staff Focus Group
Phase II		
Step 1	Computer Use (Archival)	Staff Survey
Step 2	Client Survey	CPPOA (Archival)
Step 3	Client Interview	Director Interview

 Table 6:
 Summary of the Research Process

## Chapter Summary

As discussed in this chapter, a qualitative case study is the most appropriate method for uncovering how women in recovery use technology. Using surveys and small focus groups as a part of the discovery process, this study gathered data to uncover the ways in which the participants use, view, and think about technology. Participants included clients and staff of an urban midwestern substance use provider. Further theoretical guidance for this study comes from Symbolic Interaction (SI) which provides guidance to the process participants use to make meaning of their use or non-use of technology. Additionally, the research process was informed by Empowerment theory which provided a framework to examine how participants use technology to access resources and participate in their community. Finally, the Unified Theory of Acceptance and Use of Technology (UTAUT) offers a framework for understanding the participants' decision to use or not use technology. Principal methods used in this phase included surveys and focus groups.

Chapter Four presents the findings from Phase I of this study. Included in this discussion are the participant demographic information and the actual statements of the

participants as expressed during data collection. The findings are organized around the technology user group profile developed from initial survey responses.

## CHAPTER FOUR

## Findings – Phase I

This chapter will provide a discussion regarding the findings for the initial participant survey, staff survey, the participant focus groups, and a staff focus group. The chapter begins with a discussion regarding the participant demographics, and concludes with the findings from a staff focus group.

The participant focus group findings, which begin on page 61, are arranged by each user group profile (non-user, moderate-user, and power-user). It is important to note that many of the participants exercised their right not to respond to particular questions. As a result, there are several questions where the response rate is less than the actual number of survey participants. Actual participant comments are provided in italics whenever possible to allow the participants an opportunity to tell their own story. Each focus group section ends with a discussion of the themes found through the selective coding process, which assists in the process of theory development (LaRossa, 2005). Participant Demographics

Based on the initial survey data, the participants in this study could best be characterized as urban, ethnic minority women. In fact, twenty of the twenty-nine respondents were African American women (Figure 4), and twenty-four of twenty-eight respondents were under the age of 45 (Figure 3). As evidenced by the level of state and federal assistance received by the participants, the vast majority were living in poverty (Table 7).

Figure 3: Participant Age Range



Figure 4: Participant Ethnicity



As an indication of the participants' level of poverty, twenty-two of twenty-seven respondents reported receiving food stamps. Further, sixteen respondents reported having an income under \$10,000 per year. Table 7 shows the types of public assistance the participants reported receiving from the state. Figure 5 shows the distribution of income among the thirty survey participants.

 Table 7: Level of Public Assistance

Response	Medicaid	Medicare	Food Stamps	Subsidized Housing	Social Security Disability
Yes	20	6	22	10	13
No	7	21	5	17	14
No Response	3	3	3	3	3

Figure 5: Annual Income



Despite the apparent low social economic status of this group, the participants report a relatively high educational status. At least one third of the participants (n=10) report having attended some college. Only one participant in this study reported no

education beyond middle school. The women in this study described living a transitional life style. In fact, twenty-four out of twenty-eight respondents either lived in rental housing, transitional housing or were homeless at the time of the survey. There were two 'no responses' to the living arrangement question and two participants selected 'other' as their living status.

#### Access to ICTs

Survey respondents were asked to describe their access to computers, cell phones, devices with an Internet connection, PDAs, MP3 players, digital cable and satellite television. Of the twenty-nine responses to this question, nineteen participants indicated having access to a laptop or desktop computer with Internet capability.

With regard to cell phone ownership, twenty-three of the twenty-nine respondents reported owning a cell phone. One participant reported that although she did not own a cell phone, she did have access through family or friends. Fifteen of the cell phones owned by the participants had text messaging capability, while only five of the cell phones had Internet access.

Other devices such as MP3 Players or iPods were less accessible to this population, as only eight of the twenty-eight respondents reported owning one of these devices. Additionally, there was a great deal of confusion over the term "PDA" on the initial survey. Several of the participants were not familiar with this term. However, one respondent did report access to a PDA through public sources. Interestingly, access to digital cable television was slightly lower than the access rate for computers with Internet access (Figure 6). Satellite television was even less available to the participants, as only two of the twenty-seven respondents indicated having access to this technology.



#### Purpose of ICT Use

The primary purpose for using technology among the respondents was to seek information or education from Internet resources (n=17). This activity was closely followed by communication with family or friends (n=16), employment seeking activities (n=15), and seeking online health information (n=12). Figure 7 shows the purposes for which the participants used technology. Activities with less than seven respondents, such as gaming (n=4) and other activities (n=3), were not included in Figure 7.



Figure 7: Purpose of Technology Use

#### Phase I - Participant Focus Group Findings

As described in the methodology section, several items from this initial survey were combined to create a user profile for each survey respondent. The formation of these categories was necessary to provide cohesion for focus group membership. Following the protocol discussed in Chapter Three the following groups were developed: (a) Power Users – eight participants (b) Moderate Users – eight participants and (c) Non-Users – fourteen participants. Figure 8 shows the distribution of participants among the three groups.





Participants in this study were assigned to one of three groups based on the information they provided in the initial survey. Members of each group were invited to participate in a small focus group meeting to be held at the agency site. Actual focus group attendance ranged from a low of four participants to a high of six participants. The findings for each focus group have been organized around the primary themes found through the analysis process.
### Non-user Focus Group Findings

The non-user group was characterized by a lack of reliable access to computer with an Internet connection or other devices that connect to the Internet. Based on responses to the initial client survey, fourteen women were identified as fitting the nonuser profile. Of the fourteen women identified as non-users, eleven expressed interest in participating in a focus group to discuss their technology use. All eleven participants fitting the non-user profile were contacted by phone and informed of the time, and location, of the focus group meeting. Messages were left for four of the eleven participants at the phone number they provided. Additionally, the agency provided transportation and childcare for each focus group session. Of the eleven eligible nonusers, five participants (45%) attended the focus group session. The eight non-users who did not attend the session all reported no access or use of technology similar to those who attended the session. There was no follow up on the non-attendees to ascertain the reasons for not attending the session. However, an effort was made to address potential barriers to attendance by providing transportation and onsite childcare.

The focus group session began with an explanation of the project and a review of the consent for participation document. After this introduction the participants interested in continuing in the study were given a chance to ask questions before the start of the focus group session. All five participants agreed to participate in the focus group session and gave permission for the session to be audio recorded and transcribed for later analysis.

The transcripts from each of the focus group sessions were initially open coded by the researcher, then blind coded by the research assistant. After discussion and agreement

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on the final set of codes they were grouped into themes. These themes were reviewed and discussed between the researcher and the research assistant for agreement before being included in the final set of themes. This three level coding was designed to provide reliability and trustworthiness, while accurately reflecting the thoughts, feelings, beliefs, and experiences of the participants (Richards, 2006). The findings from the focus group sessions are organized around five themes uncovered through the research process. The five themes developed from the non-user response were: (a) Logging On (b) Skills, Training, and Support (c) Motivation and Belief in ICT (d) Current and Anticipated Uses (e) Privacy, Security, and Safety.

Presented in the following section are the themes found for the non-user group and examples of how each of them related to the thoughts, feelings, and/or behaviors of the participants. Participant comments are in italics and appear as the participants spoke them.

### Logging On

One of the primary concerns expressed by the non-user group fell under the theme of 'Logging On' to computers or other devices with an Internet connection. This theme includes the participants' perception of the cost of hardware/software and their preferred access locations. When asked about their lack of ownership of devices other than cell phones, the non-user group cited the cost of the hardware and the cost of maintaining an Internet connection as a barrier to computer ownership. From the group's perspective current computer pricing was beyond the range of what they could afford. Additionally the group was concerned with meeting their basic needs before considering a computer purchase. Presented below is an excerpt from the participants' conversation on this topic.

Actual participant names have been changed to protect the participants' identity.

Cindy: Make them affordable for low-income families. Ann: Well there should be a discount for people that you know get Disability and SSI. Kendra: Yeah 'cause people on Disability they can't afford it. They get paid once a month you know what I'm saying? They income is not that high. Then you still gotta pay your lights, your gas, your rent. Mollie: Shoot, I'd say about \$100 or less. Cindy: Is there any way we can go about buying one of those computers that the guy is taking overseas for \$200? Tammy: With a payment plan maybe, a cheap one. Kendra. I'd have to have a payment plan.

As part of the cost discussion the non-user group discussed the fact that a Internet

connection is an additional expense to the initial computer purchase. There was some

confusion about what hardware is needed to connect to the Internet by two of the

participants. As the conversation below shows the other group members were aware that

the cost of the computer does not often include access to the Internet.

Cindy: Yeah you know. We were calling for one of my girlfriends to get a phone and they offered her \$12 a month. I thought wow that's the cheapest one I've ever heard for the Internet to be on your phone line. 'Cause everybody else wants a lot of money and a lot of people really can only just afford a basic phone line. So make it you know where it can be an affordable computer and affordable Internet access in your home you know what I mean.

Ann: Well I had the Internet, but after I was paying for the bill I found out that there ain't a modem in there so I was paying for something I couldn't use anyways.

In addition to the cost of hardware/software and an Internet connection, the non-

user group had a tenuous pattern of access to computers and Internet devices. As a part of

the discussion regarding access, the group expressed frustration with access through

public sites. The group was aware of access to computers and the Internet through public

sources, such as the public library system and some community agencies. However each

of these potential access points presented challenges for the group. For example,

accessing services through the public library without having a picture ID was

problematic. Similarly, the library's policy of allowing patrons only one hour on a

computer was equally problematic for the non-user group.

Researcher: If you didn't have a computer, are there computers that you would use in the

community?

Cindy: Library. Ann: I mean it's easy to get a library card. Kendra: Do you have to have a library card? Tammy: Ain't got no picture ID? Mollie: You can get you a library card. Cindy: And that's something I know because I just got one. If you have ID you know they won't give it to you that day, but they'll give you some type of paper and then send you a card. That's easy. Ann: The first one is free, but if you lose it I think it's like \$1 or \$2 or something like that. Ann: Yeah, but the only thing if you don't know how to use the computer at the library you only get a hour on there so by the time, me with my slow self using the computer, so by the time I get to it my hour be up.

Some of the participants have been fortunate to receive donated computers from

local churches or community organizations. However, these computers lacked access to

the Internet because of a missing part or because the computers needed upgrading. For

the women in this group, donated computers did not represent a realistic opportunity to

access the Internet.

Ann: Yeah, well they had won it through a church and I was gonna get the modem put in it. They won it through a church doing Bible speeches and stuff like that, but I'm fixing to just get them an updated one so I'm not even gonna put the modem in it.

Skills, Training, and Support

A second theme uncovered through this analysis of the data was Skills, Training, and Support. This theme included the participants' perceived computer skill level, their interest in learning computer skills, and the type of support needed when accessing the Internet. According to the participants in this group one of the reasons for their minimal use of computers or no computer use, was their perception of their computer skill level as

inadequate. In fact, three of the five participants cited their low skill level as a primary

reason for their minimal use of ICT.

Cindy: I don't know how to work one. Ann: Nope. I know how to turn them off and that's it. Kendra: Don't know how to get to web sites.

Additionally, two of the five participants expressed a fear of using computers and an

overall ambivalence toward technology. This fear was in part related to the participants'

perceived lack of adequate computer skills.

Mollie: Cause sometimes if you don't know about something and you don't wanna learn it and that would be me. I mean because I don't know how to use a computer, I mean not that I haven't tried because as a kid I used a computer in school. And as an adult I just remember one time I used a computer I was at the YWCA and at the beginning I didn't even know how to turn the computer on. My sister had to turn it on. And at the end I was on a web site. Now how I got there I don't know, but I started doing things and I don't know what I had did but I was doing some things. But as of now, I'm not saying that I wouldn't be willing to learn, but because I don't know you know it's just a little fear when it comes to technology things. Even with my phones. Both my phones do so many things and because I really don't know about all the technology I don't wanna figure it out. I just know how to talk.

Tammy: I just ain't interested in one.

To overcome the lack of computer skills, participants have had to rely on children

and other family members to provide technical support and modeling with regard to their

technology use. Ann, one of the participants who own a computer, provides a good

description of the role her children play in supporting her access to the Internet.

Ann: Well once my kids is there they show me then I know how to go from there, but if I was getting started, you know. I have but it's been a while ago 'cause when I was in school, I was going to community college, I had to use the computer, but it's been so many years since I've been out that I lost touch of that so even though I have one at home it's just sitting there 'cause my kids ain't home.

Despite some reservations, the non-user group was in favor of learning how to use a computer and the Internet. However, there was a concern over having a teacher who would "be patient." Even participants who were somewhat resistant to learning expressed more interest if there was a patient teacher.

Kendra: I mean if somebody showed me I'd be willing to learn. Cindy: I see right now we could learn a lot of stuff on this Internet or computer or whatever. There's a lot out there that we can learn. Cindy: Because it would be something interesting to me because it's something I don't know about so that would be a challenge for myself and if someone was willing to be patient with me and guide me through those steps I would definitely do it. Ann: You know what? I always wanted to learn how to work it. I never took the time into learning how to work a computer so I wouldn't mind you know getting a little teaching in there.

Motivation and Belief in ICT

The third theme for the non-user was related to the participants' motivation to use

ICT and their belief in how technology could impact their lives. There was an overall

sense from the group that being able to use ICTs was an important part of their lives and

especially the lives of their children. The group was aware of the technological changes

that have occurred around them and were hopeful about gaining access to this technology

to enhance their lives and the lives of their families.

Ann: My daughter's always telling me, my 10-year-old tells me 'I'm the only one in class Mom that don't have a computer and my homework would be so much easier...Oh yeah, she would be in heaven. She knows how to work stuff.

Kendra: 'Cause that's all they learning in school is computers. Everything's computerized in school.

Tammy: Now that part I'd be willing to learn you know for the sake of me and my children.

Mollie: You know what? They're almost like a cell phone. A lot of people are fighting for cell phones, not to have them on the job, but it's a way of technology, a way of life these days. If your kid was hurt you can't use your phone, and you're at a restaurant like me, 90% of the time you're getting your butt kicked, you can't answer the phone, you got that cell phone right there. Computers are almost a way of living. You have access to so much. Along with the personal reasons for using technology, the participants discussed how improving their technological skills could lead to improved economic opportunities. The opportunities this group discussed ranged from developing online business to working as a IT technician. The possibility of getting hired in the technology sector was very appealing for Kendra and Mollie as illustrated by their conversation.

Kendra: Because I mean you can get a good paying job if you know technology as far as computers and things like that and that would be an uplift, especially for me you know so I can be able to take care of my children because working with computers that's one of the highest paying jobs out there besides doctors and things like that.

Mollie: I would see more value in fixing them up 'cause it seems like they always go down. They always crashing and be getting a virus. I be hearing people 'Oh I just lost everything, the virus.' Sometimes you go to the court and the computer is down.

Current and Anticipated ICT Uses

The fourth theme uncovered through the analysis process for the non-user group was the participants' thoughts about how they would use technology if they possessed the skill and physical access to technology. There was a range of activities the group discussed from activities that were designed to meet the participants' safety needs to greater participation in the community through electronic postings. As presented in the

conversation below, the group was very interested in using the Internet to access

information that would increase their safety.

Cindy: I'd look up sex offenders first thing. Yep. And then I'd look up every friend I hang out with. No, I'm just kidding. [laughter] I would see how many sex offenders are in my area.

Kendra: I would be like her too 'cause there's a lot of sex offenders in our area. That would be the first thing I would look up too. Even though we've got police down the street and whatever still that ain't got nothing to do with all the kids in the neighborhood.

Mollie: That's really funny that she says that 'cause there was a time my husband worked with this guy for some years and the neighbor was divorcing him so she just decided she wanted to pull some people in the neighborhood on the Internet and the guy that my husband was working with for six years, my daughters used to go over there and play in the backyard, turned out to be a sex offender. That made me like oh that's why I never let them go in the house. There was just something about that guy that shaded me, but if it wasn't for the Internet we would've never known. We were devastated. My husband worked with him for six years and there was a side you just never seen. The Internet made that possible. They didn't go look it up in the library, you know what I mean. They don't have open files for people, which they should for people like us that don't have it so we can go in there and look. Know who's who.

Similarly of interest to the group was having access to jail and prison websites

that contain inmate information. The group discussed how access to inmate information

over the Internet would allow them to keep in touch with family and friends, in addition

to knowing what is going on in the community.

Ann: You know also I used to like to look up like when my brother was in prison and when my husband was in prison you know I used to always every night have somebody look up when their out date is and checking up so that's good too, especially with the teenagers and stuff coming up you know.

Mollie: And that is an advantage 'cause you know there's a few people that aren't right that's incarcerated and I know one of the things that I did do with one of my friends because when I first found out that he had got locked up, 'cause prior to that that's when I was in my addiction so I didn't know. But when I found out I had just got clean. I was down there at [Agency Name] and I knew they could get me on the computer so I asked them. I had his first name and his last name and you don't have to have a prison number. You don't have to know their prison number long as you know their first name and their last name. It might be, not their date of birth but the year they were born or something like that so I was able to find him. And this was like 2006 and this was June, and right to this day I still write him. He'll be home next month, but I mean that's just how technology is. It helped me find my friend because he was my friend and I continue to write him.

Other potential uses discussed included engaging in civic activities and informing

community officials know their opinion on topics of concern. Two examples from the

focus group highlighted this potential use.

Tammy: I would like to use it for the school system with these teachers some of them out here now, the way that they're manhandling these children. That's what I would like to be able to have access to you know what I mean? 'Cause I've seen some things with these teachers lately. I mean I was at the Museum and watched two of them drag one out by her arm sockets and I was like excuse me, where do you work, what's your name? So to be able to have Internet access to report something like that you know what I'm saying? Then the lady had the nerve to say 'I've been certified for 7 years' and blah blah blah and I said well I think you better go back for another 7 years 'cause you ever yanked my kid out like that we'd be in the street. You know I wouldn't beat her up, but I sure would let her know how I felt about her. So to be able to have access to report stuff like that with a quick response instead of having to go through where is the school and how do I find this 'cause I had to go through a lot to try to find that school and get to that person to report what I saw. There was 6 ladies standing there and with the Internet it's faster.

Mollie: I'd like to use it to make a complaint about the Driver Responsibility Fees 'cause that's just ridiculous and see how I could go about signing that petition. Or if I could personally talk to Governor Engler.

Cindy: Granholm.

Mollie: Look I paid \$2800 for my tickets and you [Secretary of State] still want \$3000 [reinstatement fee]? You should just drop that off and let me get my license. I'm on Disability. I cannot afford to pay \$3000, but I do want my license.

With regard to the economic impact of using ICT, the group highlighted several

activities they believed would be of financial benefit to them. These activities ranged

from starting an online business to paying the bills online.

Kendra: Me, I would like to try to start up my own web site because I actually went you know, this was some months ago, not too long ago though. I had went to this program, me and my sister, to the Hilton Hotel. They were doing advertising and things like that. But they were talking about just how for instance like I braid hair and if I can design certain types of hairstyles and place myself with like customers on the Internet, people would buy those hairstyles. And that was one thing I learned and I mean I was going to do it, but I was like ok where would I start. It's just small things that people do on the Internet that can pay off later on and that was just something that I did see and I was like wow.

# Cindy: I would pay my bills.

Ann: Yep, and that's a shame. I don't even know how to do that on a computer. That would save me from having to send a stamp.

Cindy: Actually a coworker is. He gets on the Internet to pay his bills, you know for his cable bill and things like that because you know me and him talk and I couldn't even agree because the only thing I could say is I send a check.

Tammy: I know one thing what I would love to do on a computer, because I mean both my sisters they know about computers. They work with, well my youngest sister was working with computers and my older sister she still do, but I would love to be able to print off pictures on the computer you know. Because my younger sister knows how to hook her digital camera up to the computer and me I love taking pictures. I got so many pictures and I mean it's a wonderful experience for me to be able to take pictures now with my life, but to be able to not have to buy this little trinket camera at the store and inconvenience myself to have to take the camera back to the store, go pick up the camera. That's another \$10/\$15. And if I could print them off on the computer I can get any size picture. But then I would have so many pictures I wouldn't even have enough room for them... I had a little picture of my 3-year-old son who I don't have custody of, and she blew it up to an 8x10.

As indicated in the above statement, the need to maintain social and familial

connections was important to several participants. This was especially true for the

participants hoping to locate children who had been adopted outside of the family or

placed with relatives through the child welfare system. As a part of a need for family

connection, one participant described how the use of the Internet could help her find

siblings that she never knew and trace her family tree.

Tammy: Another thing I would do is look up people in the family that you ain't seen in years because my cousin did that and come to find out my stepbrother had died out in California and we just found out. Didn't nobody in the family know, not even his mom, his dad, none of us. And he's been gone for like four years.

Kendra: I think so. That's just like me. 'Cause my dad, I got some brothers and sisters I never knew and I'm the oldest out of all of his kids. I'd like to go through the Red Cross or Maury [television talk show].

Mollie: My sister's kids that were adopted out that I'd be curious to see what they look like. They're better off where they're at, but I'd be curious to see what kind of life they live.

Ann: I want to learn how to find out...I don't know. I wanna look up my son. Uh huh. I wanna find where he at. I know he in, what's that in Canada somewhere.

In terms of the participants' use of ICTs and their recovery from chemical

addiction, the group described wanting to use ICT to share testimony, locate meetings,

and to develop supportive friendships with others in recovery. Most of the group was

interested in participating in online support activities if it did not involve sharing their

personal information.

Cindy: With me, like far as if I go out of town or something, just trying to go on the Internet to find different locations for meetings I can go to.

Kendra: To hear someone else's testimony or story, yeah that'd be awesome.

Tammy: I don't know about telling my story to anybody either you know cause I don't really trust, I go to NA meetings but I'd rather come to this meeting before I go to an NA meeting and really talk because you got too many people trying to tell your story but they switch your story around. And then you got too many of them that's there trying to be cute looking for a man so I wouldn't want to be involved.

Cindy: No. I'd probably do that if I didn't have to use my name or my face.

Mollie: For me it would be beneficial if you could talk to somebody that you would you know maybe sometime in your life meet down the road and establish a friendship, or like recovery friendship only and be able to spill them things that you can't spill to anybody. You got someone that you never see or never know. To me that's recovery because there might be something that girl can give me that I can learn 'cause I learn something off of everybody.

Privacy/Security/Safety

Overwhelmingly, the non-user group was hesitant to share or post any personal

information online. In fact, all of the participants felt they already had negative

information about themselves on the Internet and were generally not interested in having

a personal online presence. Many of the participants' concerns were based in their

negative experience with having their personal information searched used in a negative

way.

Kendra: Yeah because I definitely know that for the simple fact I've been in prison. So they can go type me up at any given time and I know it 'cause my kids' adoptive mother did that and I mean it might have showed my crime or whatever, but I really don't know because I never pulled myself up because you know that's not me no more. I served my time, I'm home now, I've been home. But a person don't understand that a tale, true this is the date I went in and this my tale, but once I finished paying my restitution I'm done with it, but you know I don't know if I'll stay in there or for how long or once I'm done off parole, but I know I'm home but yes I'm in the computer. And I have been looked up. I have been told.

Tammy: You know what's embarrassing though is when you go for a job interview and they go to the back and they pull your name up on the computer and they come back and

they say, 'Sorry, you can't have a job because you're not bondable.' What does that mean? 'Well you're on bond right now for possession with intent to deliver. You can't have a job.' You feel this tall... They're using it as job discriminating issues kind of thing. Regardless of the situation, it was later dismissed, but for them to hold it against me and not hire me because of that. They didn't know the circumstances, I was never found guilty. To me they held that against me before the situation was ever resolved.

Kendra: And I don't like that. There should be certain things that they shouldn't be able to look up. If you ain't working with that agency or if you not a Protective Services social worker, I don't feel that you should have the right to be able to go in there and dig up somebody else's history, they background you know, especially if you not dealing with these people's kids. How is you gonna dig up somebody else's background and then throw that in these other kids' faces? Certain things should be on there. They shouldn't be able to have access to that unless they in that field, in that job field.

In addition to their emotional safety online, the group was concerned about

individuals online that could endanger their physical safety or the physical safety of their

family. As a result, the group was leery of posting information online that could be used

by "stalkers" or "predators."

Tammy: But now it's not really safe to be telling too much of your business on the Internet. You never know they might have some kind of way to find out where you live, try to come do something, ask you some questions, you might have messed with somebody. No, that's a scary sight right there.

Cindy: Stalkers.

Kendra: A lot of these young girls meet these wannabe photographers and they go out and chop them up. Tammy: Use it, but use it with caution. Use the computer with caution. Ann: Now what they call it when them men be meeting those young girls. . . Yeah predators.

Non-user Focus Group Summary

The use of selective coding in GTM provides an opportunity to build theory

through the examination of common themes or variables (LaRossa, 2006). Using

selective coding to uncover the experience of the non-user group, it was clear this group

experience was exemplified in their struggle for technological empowerment on many

levels. The participants expressed frustration, excitement, fear and embarrassment in our

discussion of technology use. Whether it was not being able to use their computer without the assistance of their children, or being unable to access the public library out of concern for not having identification or a lack of time to actually use the computers, this group expressed a range of emotions about their technological disenfranchisement. However, despite the non-users' feelings of frustration they remain hopeful that ICTs can help make their world safer, and offer opportunities for economic empowerment through technology sector jobs and online business.

#### Phase I - Moderate-User Group Findings

The moderate-user group was characterized by use of computers and/or the Internet in a pattern that ranged from weekly to monthly use. Moderate-users typically did not have personal ownership of a computer, but did have computer access through family, friends, or public sources. Based on the findings from the initial client survey there were eight participants identified as moderate-users. Of the eight identified moderate users seven participants indicated an interest in participating in a focus group meeting to discuss their technology use. The researcher invited all seven to participate in a focus group meeting scheduled to take place at the agency's main office. The focus group session was attended by four of the seven interested participants. Follow up on the non-participants did not occur so the reason for their lack of participation is unknown. However, in anticipation of barriers such as transportation and child care, all participants were informed of the availability of transportation and onsite child care for each focus group session.

Similar to the analysis process for the non-user focus group, data from the moderate-users focus group was transcribed and coded at three levels (open coding, axial

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coding and selective coding) by the researcher and a trained research assistant.

Participant responses in this section are organized around the themes found as a result of the open coding and axial coding process. The themes uncovered from the moderate-user group were the following: (a) Logging On (b) Training and Support (c) Social and Economic ICT Use (d) Importance of ICT (e) Privacy, Security, and Safety.

Logging On

Similar to the non-user group, in the moderate-user group the theme "Logging On" was prominent in the focus group discussion. The 'Logging On' theme included the cost of ownership or regular access to a computer with an Internet connection or other devices with an Internet connection. With regard to the cost of owing a computer, the participants found current computer pricing to be out of reach for their families, even though they perceived having access to technology as important.

Karen: Yeah, if I could afford it . . . Well, about my baby's, I just saved the money. I put \$10 aside, sometimes \$5, and it took me a year, but he's got a laptop. It's not a regular laptop like we would use, but it's a children's laptop that teaches him things. So I would do the same thing. . . I would just save, unless I had somebody that would donate one. Sherry: I don't have Internet. I mean I could, but. Karen: But she could come over and use mine, if we ever figure out how it goes.

One of the participants had investigated the possibility of purchasing a computer

through a program advertised on television. However, she ran into some unanticipated

barriers like needing a checking account and a home phone to qualify for the program.

Sherry: Yeah, cause they've had this advertisement on TV. I think they said it was like \$35 a week or something... Something like that yeah. You just have to have a checking account and a home phone... That's another thing too with computers unless you have a separate phone line, if you're on the computer it messes up your house phone.

Nicole: I got it [laptop] through Financial Aid, which I thought would be a good investment because if I had waited until I got the money I would've never got it. Because I would've had good intentions, but some people say good intentions is the pathway to, you know. So I decided to get it through school. And at Community College they have like four to choose from so I got the hi-tech one... I feel good. I feel like I can do whatever I wanna do as far as having one. I can keep up with what's going on. I don't know all the stuff that I have on it. See that's the thing, I don't know a lot of stuff. My dad, 'cause I took it home with me and he looked at it, I got a lot of memory on there that I could use, and burners, and a calendar. Everything, it's a 2007.

With the exception of Nicole, the lack of personal computer ownership among the group meant they had to find other access points for using technology. Whether it was the public library or the home of a relative, the access points discussed by the participants each had specific limitations. For example, having a family member as an access point was positive as long as there was no conflict between the parties and provided that transportation could be arranged. The excerpt below illustrates how relatives often

provided both physical access and technical support.

Karen: I can't afford one. My mother has one so whenever I go over there, like I said, my son shows me stuff I don't know, but certainly when he gets of age there's stuff that he ain't gonna know how to do that I want to be able to help him with... "Well, one because I can't get over to my mother's house to use it or she has an attitude. If she got an attitude I'm hit. If my brother's over there though and he's doing stuff on the computer then he'll put it where I need it to go. He even shows me what I can't get."

When the participants were asked about their level of access to computers through

public sources, the group described access through the public library as problematic

because of limited hours of operation, transportation difficulties, and often having to wait

to use the computers.

Sherry: No not always 'cause they're not open 24 hours a day, 7 days a week. Luckily there is a library within walking distance of my house, within a matter of less than a mile or so, but you know before I got my vehicle I'd either had to walk or take the city bus. Well, because most of the time it takes you two to three buses to get you wherever you need to go and something that you could do in your own vehicle in a matter of a few minutes takes several hours on the bus. It's time consuming to have to depend on public transportation when you don't have transportation of your own.

Sharon: Well, if you don't know what you doing, you just hit. You ain't got nothing coming if you don't know what you doing. And like she said, it's a lot of people ain't got money that can buy a computer. Or even if you go to the library 'cause my brother took

*me up there, everybody was on the computer so you couldn't even get on the computer at the library.* 

Related to the time it took participants to travel to public access sites, time to

actually use the computer was also a concern for the participants. Time was a concern

especially for the participants who perceived their computer skill level as inadequate and

who were involved in educational or work related activities.

Sherry: It's very time consuming you know and if you've got other obligations that are more important then that's one of the things that kind of get put on the backburner so to speak.

Nicole: And see I don't want that on the backburner with me because I only have one semester to go to complete my GED, but I'm not gonna let that put me off and I'm not gonna let this because my son is the one I'm gonna turn to when he needs to get his education. And my baby's going to college. But he can't get there unless he got good grades so that means I gotta go back to school and learn how to use the computer. Mary: But that's ok because it goes aside with my schedule. I work third shift Monday through Friday and I'm in school right after work from 9 to 11. I'm also involved in selfhelp groups for me and I do service work so my schedule is busy.

Karen: If I did it probably like an hour and a half a day or an hour a day every day. See I'm quick to learn and so is she, like I said she just lazy. If I had that then I think that I would be more encouraged, 'oh I got that.'

In contrast to the non-user group, the moderate-user group expressed greater

frustration about the lack of access to technology. Sharon summed up the sentiments of

the group well in the following statements:

Sharon: It is frustrating because you know like there's so many different things now that require you have to go online for this or go online for that, website for this or website for that. It's like, Dang people, not everyone can afford a computer for #1 and #2, even if we could we wouldn't know what the sam hill we're doing!... Yeah, because it used to be for different things they'd just have you call toll-free numbers or whatever, but now it's website this and online this or that.

Computer Training/Support

The second theme for the moderate-user group was the participants' perceived

computer skill level and their perception of the type of support needed to become more

proficient using a computer and the Internet. All of the participants expressed some level of interest in receiving computer training but were very cautious about who might teach them. The participants emphasized that they would be willing to learn from people that were "trustworthy" by which they often meant "patient."

Sherry: It's like with me when I was trying to learn how to drive a stick shift car ... it was very frustrating because the husband that I had at the time was trying to teach me and got frustrated. After stalling it out at the same corner three times in a row, he's like, 'Forget it. Get out. I'm driving.' And how I ended up learning how to drive a stick actually was on my own because my second husband, we had two vehicles, one was an automatic and one was a stick, and we lived in [the country] and he worked in [city]. And knowing I couldn't drive the stick he takes the automatic to work. So it was like if I had to go anywhere I had to make myself learn.

Mary: That's why you don't want to do the Internet, I mean the computer?

Sherry: That's a big part of it.

Karen: Yeah, my brother hollering at me. Like she said, nobody wants to be hollered at. You know especially if I'm trying and telling you I don't know what this arrow going to this means. What does that mean and you're not telling me, you're just telling me to go to it. Yeah, somebody that won't holler at you 'cause you'd be surprised when somebody is teaching you how to do that how angry they get that you're not getting it.

Computer support was an important consideration in deciding to use technology.

In fact, three of the four participants in this group reported needing some help during

their last Internet session. According to the participants, support for their technology use

most often came from their children or other family members.

Sherry: I'd have to follow the instructions or read what it said. Karen: And sometimes the directions is confusing. So I'd probably go get my brother or tell my baby, "Show me how to do this." Sherry: I'd go get my 18-year-old son.

Sharon: No 'cause I kept on trying to do it. See I'm persistent, she'll tell you. It has to be right you know so since it wasn't I kept on doing it like eight times and it didn't work and I had to tell my baby to come do it. It kind of like made me feel 'dang you can't do it and your baby can do it.'

Nicole: Yeah, that's another thing. Like if I look up something, somebody else can come behind me and look it up fast because they know a shorter way than me. So if I had somebody, like a laptop partner or something like that, that could work with me. I want to be more advanced with it, I do. I feel like I'm on a good start. I don't beat myself up about it because I'm not where that person is. I just go on my own pace. I could call my daughters and ask them stuff.

Mary: So basically it's like both ways, half and half, because yeah I think it's kind of good because you can hurry up and do stuff [using technology] you know, but then it ain't because if you ain't got it [lack skill] or don't have the teacher that can explain it to you like you guys[researcher] then how we supposed to know? So that means in like 2000 something we hit [disenfranchised by the lack of skill and access].

Current and Anticipated ICT Use

The third theme for the moderate group included their current and/or anticipated ICT activities. The primary Internet activities for the moderate user group were e-mail and searching the web for job opportunities. Both of these activities were in part related to enrollment in a mandatory welfare-to-work program designed to aide recipients receiving public assistance. This program was a source of considerable concern and frustration for the participants. Among the concerns was the program's requirement for participants to show hard copy evidence from job searches done online. For the participants, not having access to a printer in public locations meant they would not receive credit for some of their job seeking activities.

Sherry: That's one thing that's frustrating for me is because I applied online at [local store], but I didn't get credit for it because they evidently don't have like a printer or whatever hooked up to their computers and unless...Yeah, credit for applying online at [local store] because with [welfare-to-work] you have to show them written proof that you've applied and when you apply at a place like that there's nothing that you can print out to prove that you know? So to me it was like a total waste of time to even make the effort to apply online because I couldn't prove to [welfare-to-work] that I had done it.

Karen: And a lot of places that only do that now like [local store] and [national drug store], [national retail store]. You don't get a paper application; you gotta do it on the computer. And a lot of temporary agencies doing it too. And I know what that's gonna do 'cause I went down there.

Sherry: And that's why I don't think that that [welfare-to-work] thing is very fair because they expect you to show them written documentation, I did such and such and if you do it online there's no way of proving that.

In addition to the frustration over not being able to access a printer, some of

participants felt that the online job application process may be "intimidating."

Nicole: I think that kind of scares people from filling out an application when they see that. Just anybody that might go into a place and it's a computerized application. Sherry: It's very intimidating.

Nicole: If you're not computer literate and you don't understand that they'll just turn away. It kind of discourages people.

Karen: I understand what she's saying. There was three people in front of me when I went to [national retail store], but you know what? All three people they did it for a while and they left the store. But when you know when I couldn't get on I kept on bugging the lady, how I do this, how I do that, which by the time I was done with the application she was ready to cuss me out. So I ain't gonna do that no more.

For the moderate-user group, employment searching, filling out online

applications, and checking email for correspondence from potential employers was a

significant part of their technology use. The group was aware of the need for basic

computer skills to obtain and maintain employment.

Nicole: It was a number of things. The job force, the work places is using them a lot and I have to stay up with that, you know stay in the race with that. Nicole: Yeah, when I first came here. I'm from Chicago so when I came here I didn't know resources so I went to [welfare-to-work]. They used to be down the street. So I would go there and get online and job search.

Sherry: I haven't even really checked [e-mail] it since I've had it. I just mainly got into it because of [welfare-to-work] and looking for employment. That was about the only time I've ever really used it.

One moderate-user, Nicole, was enrolled in a college computer class and

described using Microsoft Office applications. This participant reported a greater range of

computer use than the other participants, which provided an opportunity for the

participants to learn from each other. For example, the group did not know that pictures

could be uploaded to a computer and then printed out for personal use.

Nicole: Like my daughter now has a digital camera so she a cord where we can stick it in my laptop. 'Cause I have a laptop. See I'm not against technology; it's just that I'm old school.

Sherry: I'm so illiterate I can't figure out how to hook up a VCR or a DVD to a TV even. Karen: Me either. Don't feel bad.

Nicole: She hooks her digital camera cord up to my laptop and like when me and her are out taking pictures she puts them on my laptop. Karen: Really? That's good.

Most of the participants did have their own e-mail account as a result of their

involvement in the welfare-to-work program. However, the participants did not regularly

access these e-mail accounts.

Nicole: I know how to work it, but my friend from Chicago, she basically texts me crazy jokes and stuff and I'll just call her. Yeah, and e-mail because I e-mail people back in Chicago. Because it's cheaper than dialing collect, long distance. So I'm not against it at all. It's just some things I don't want to change.

Privacy/Security/Safety

The fourth theme uncovered through discussion with the moderate-user group was

Privacy/Security/Safety. This theme included the exposure of family members to online

pornography, personal safety concerns, and the participants' desire to remain anonymous

online. Similar to the non-user group, the moderate-user group was very concerned about

family members being exposed to Internet pornography. The group was not sure how to

address this situation, but one participant mentioned that users have the ability to block

undesired sites.

Sherry: Yeah, 'cause there was one time when I was with my previous husband and we were actually living with his father at that time, which his father professes to be a Christian and used to be a Pentecostal preacher. We had this male friend of ours come in and was showing us how to do different things on the computer and the main reason why we got it was because when my 18-year-old son was younger we figured it would help him with his schoolwork and stuff like that, but when I looked at it they were looking at, my husband and this friend of mine was looking at dirty pictures. Karen: Yeah it is [embarrassing]. And not only that it's degrading to women, to me. It's very degrading to women. But to each his own. Some of them women I don't knock because you gotta get your money where you can get it, but I wouldn't do it.

Mary: Me either, but I tell ya they got that blocking thing, you know. I have to help my mother to block. One day I went to the bathroom, came back and he[husband] was looking at chicks' boobies. I said, "I will kill you." And I didn't know how to cut it off or block it.

The moderate-user group was aware of the presence of online predators and were

cautious in their use of technology as a result of this concern.

Nicole: No, just by looking at it on television and the news and things of that nature. Like I have a 17 and 16-year-old daughters back home that's with their father so he has their computers blocked for certain stuff. They not really into that stuff, they're really good girls. It could be a help and you could experience some bad stuff on the Internet. So no, I don't go on there for dating. I don't use it for stuff like that.

This guarded behavior extends to other Internet activities such as bill paying or online

banking.

Nicole: I'm not there yet. I'm just basically old school. I don't do my bills on the computer because I don't trust the system like that because there's so much identity theft stuff going on so I'm kind of really skeptical about stuff like that.

Importance of ICT

The fifth theme found through analysis on the moderate-user focus group data

was Importance of ICT. The moderate-users were aware of the importance of technology

and the impact technology is having on their lives. Although there was motivation by the

group to increase their use of technology, some members remained indifferent to using

technology.

Nicole: My daughters are into it and it made me feel bad. So my 21-year-old, 19-yearold, and 17 and 16-year-old daughters are computer literate. Not only that in the work force you've gotta know Microsoft Word and all those other Microsoft stuff that goes along with it.

Karen: Probably if I was more knowledgeable and was able to do it on my own without having to ask someone else for help...That's what I said, especially nowadays because we

in 2008. What about when 2025 get here or when our babies are grown? No I'm talking about as far as technology goes.

Sharon: Well, I personally don't feel that "modern technology" is all that it's cracked up to be because a lot of times like if the weather's bad or something like that it affects computers and stuff like that to where you're not able to access the information you need.

## Moderate-User Focus Group Summary

The moderate-user group reported limited access to technology as a result of the cost of hardware and their computer skill level. The group was aware of the technological changes around them as evident by having to complete online job applications. The group was concerned about obtaining the necessary technology skills, but felt apprehensive about the process and the characteristics of the people providing support for their technology use.

## Phase I - Power-User Group Findings

The power-users in this study were characterized by daily use of the Internet. There were eight power-users identified from the initial client survey. All eight indicated an interest in participating in a focus group meeting to discuss their use of technology. All eight women were invited to attend a focus group meeting at the agency's main office. The focus group was scheduled to coincide with the agency's weekly support group meeting. Six of the eight power-users identified in the initial client survey attended the focus group meeting. Despite being contacted by phone and invited to the focus group two women did not attend the meeting. One woman indicated a potential scheduling conflict at the time she was contacted by the researcher. There was no follow up on the second women so the reason for her lack of participation is unknown.

The women attending the meeting were asked a set of preset questions about their use of technology. Presented in this section are the findings of the power-users focus

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group. These findings are presented under the following themes found through the data analysis process: (a) Logging On (b) Empowerment (c) Social Connection and Support (d) Importance of ICT (e) Privacy, Security, and Safety.

Logging On

In contrast to the previous groups, the power-user group reported having past

training in the use of ICTs through jobs and educational sources such as college or

vocational training centers. However, despite this training there was a degree of

dissatisfaction with their current computer skill level. Several women characterized their

computer skills as "rusty" or not being up to job seeking standards.

Darlene: Yeah I went to a computer technology center and then in like my sophomore year I went to college in Chicago and we took college classes in high school and we learned how to do Microsoft Word, Microsoft Excel. I have had the Internet service before, just browsing different websites and I just taught myself. It has been a while since I use it last time.

Lynn: Back in 1980 something, I used to take a class, but I was basically typing on one hand. When my computer is up I try to practice but I would like to take a class.

May: I worked on a computer most of my life, at different jobs. Sometimes you can get on the Internet and sometimes you are not supposed to be on it (at work).

Darlene: I am not comfortable with Excel or Word, even though I have the certificate. I don't feel secure enough to work into a job and tell them I could create a mailing list of nothing. You know what I am saying?

Even though the power-users were able to access ICTs on a regular basis, their

computer skill level and the type of support they perceived available affected their pattern

of use. Similar to the other groups technology support often came from children or family

members.

Fran: I ain't scared to learn. I used to bogged down by fear but now I am not. I learn by hands on. I can't sit up in no room and let someone talk to me. I have to do it by myself.

May: There is a difference between having an instructor and a teacher. It was a struggle to try to make hay, cause there was nobody but me. You know what I am saying

*Joy: When I was in high school I learned how to type and MS Word and MS Excel in Chicago.* 

Darlene: You know what's so funny though? Because my son is 7 years old and he can tell you more about the computer than I can. Kids are really smart when it comes to computers 'cause when we were young going to school we didn't have computers in our classrooms. Now all the schools got computers in the classroom, computer class that the kids go to. So my son knows a lot about computers. Sometimes I ask him 'Now what I go to?'

Empowerment, Social Connection and Support

The second theme for the power-user group involved the use of the computers and

the Internet to build and maintain a sense of community and personal empowerment

through the use of ICT. Further, Internet use for the power-user group consisted of

communication with friends or family through the use of e-mail, job searching, and some

limited support-seeking activities.

Fran: I used it to get on my e-mail address to see if I have a lot of people who live outside of the area and to see about a job and to see what is going on at church. And to correspond with Christian people, I have to encourage my self.

Similar to the findings for the previous groups, [welfare-to-work] was a pivotal

access point for job searching and other Internet activity. Additionally, the lack of access

to a printer was a barrier for women wishing to use an access point other than [welfare-

to-work] for the purpose of job searching.

Lynn: I had to submit my resume. I was using them everyday at [welfare-to-work].

Joy: I checked my e-mail and did a job search through Monster and Mlive. If I can I try to go online everyday.

Darlene: Not online as far as yet 'cause I just recently started doing it [filling out applications] online 'cause I usually just go to the places where I have applications. But I will continue to look online for a better job because my job I just got only lasts until Ju[y...Like at [welfare-to-work] we have to do applications. It's like a job site that you do a little survey and it tells you what position you would be best doing. And that's how I came about that I want to be a social worker.

As expected, the power-user group engaged in a variety of Internet related

activity. Among the participants in this group, visiting faith based sites such as Joyce

Meyers and Creflo Dollar were important activities. One participant tried to find

Christian friends through e-Harmony, an online dating site, but was disappointed to find

Christians posting revealing photos on the site.

Darlene: I did e-harmony, true dot.com something. The keep saying I got like 300 in my mailbox. Some of them say they are Christian but they are up with pictures in their panties. I don't use it anymore cause I don't get down like that any more.

Joy: I get on to see Creflo Dollar. I use it to check my e-mail. I use it over there. At [community agency]. I went on to Crazy Like a Fox to find information about a home-based business.

Although this group sometimes sought out social support from faith-based sites,

they were not interested in using sites like Facebook, Bebo, or MySpace.

May: No, I am scared of that after watching 20/20. Lynn: No, I have looked at them, but I don't join. Darlene: Yeah, but I go to Yahoo Mail just basically specifically for jobs and important things. I don't get into the MySpace and the Bebo. My nieces and nephews get into it. Norah: I ain't never been on none of those.

However, maintaining or creating family connections was an important activity

for the power-user group. Beyond the sites regularly accessed, the participants discussed

exchanging e-mails with relatives and using the Internet to fill in gaps from their family

tree.

Fran: I have a son I Iraq and that's the only way we can keep in touch. It's like bam, at the flip of a key and we can connect. I think I have e-mailed him 2 or 3 times. I don't do too much communication with him a lot because of their location, but if something jumps off I can e-mail him and he will get back to me.

Joy: I am struggling with my family tree. I keep going through my Bible and I can't find out why I am the way I am. I am not the youngest and I don't look like anyone else. I don't know anything about my father's side of the family. I want to know who I am.

Unique to the power-user group within this theme was a focus on ICT use for empowerment and support. For the power-users, seeking spiritual support through Christian websites was an important activity. For one power-user having her voice heard online was an empowering experience. In fact, this participant sent messages to President Bush, criticizing his No Child Left Behind policy, and a message to Senator Obama. The other participants from this group were less enthusiastic about engaging in civic activities, but seem impressed by the activities modeled by one of their peers.

Fran: Yes, I have wrote Mr. Obama letter. I have no problem letting them know how they feel. The President was in town. Just this summer I was at a leadership conference. I had to tell them the truth. There are certain things you are supposed to do as a Christian. So if I see an opportunity to encourage a brother or sister, I am a Christian so I have to tell them the truth. Like No Child Left behind, what are you really doing to make sure children are not left behind? Do you know what it feels like to sleep hungry? Or to maintain yourself without falling? ... It makes me feel good. It makes me feel that I matter. It is important for me that I am validated. But I am not scared to let people know how I feel. I am Christian so I have no problem telling people how I feel. ... I sure do, because if I don't they will not know how we feel. I am tried of having other people speak for me. Like at the leadership conference I had a chance to sit down with Debbie Stabenow and a whole bunch of other people. For me it was a step in faith because I used to let people speak for me. People need to know how hard it is to maintain.

Privacy/Security/Safety

Another theme for the power-user group was a concern for their physical safety in the community, and their online security and privacy. To address this safety need the participants used sites that provide information about jail and/or prison inmates. Similar to the other two groups, the power-users were interested in using the state's sexual offender registry to address the safety needs of their families.

Darlene: I go to the jail thing to see who got locked up. Norah: Find out who is in prison. Yea. Look up everyone I meet. Fran: Check the sex offender registry. I want to be aware of what is going on in the community. Since I was molested, I would want to know what is going on. There is so much going on so the neighbors should step up and watch the babies.

In addition to personal safety concerns, the power-user group was aware of the

need to protect their personal information online to prevent identity theft.

Norah: Then there is that mortgage stuff where they try to get your information. There are lots different e-mail and advertisements that you just don't address. Lynn: I am scared to do any kind of purchasing. With all the stuff going on, I haven't tackled that one yet.

Motivation and Importance of ICT

In comparison to the previous groups, the power-users expressed less

disenfranchisement, while retaining some of the same optimism about technology use as

the other groups. This acceptance of technology is portrayed through comments such as,

"with a click of a button you can do anything" or "it used to be the phone, and computers

were office things, and now computers are a big part of our lives."

Lynn: I remember see the pager on my doctor when I was little. It has changed so much. I don't know anything about the new funny phones but I am intrigued. Click of a button you can do anything.

Fran: One, it has an impact but it [technology] comes out so fast I do not know how to work it. The CD players with the DVDs, I am still struggling with the cell phone. The information has just gone beyond me. My granddaughter can teach me [how to use technology]. It [technology] has had a great impact. It is like wait up [the pace of technological change]. I had just got it [a technology] down pat and then all the sudden bam, how do you record.

Darlene: I'm just finding technology is getting more and more being a part of life. My boyfriend he has an iMac computer and he had it before they even started the commercials on TV. So it's like wow just to know all the technology that's on the computer. We made movies. We took pictures. Like he raps so he can go on there and make beats. We recorded songs. I mean it's a lot of things and that's without the Internet... I'm writing a book, I mean there's just so much you can do on a computer. I think technology is really a strong part of our world now you know. Not like it used to be. I mean phone and television used to be the major things, and printers, stuff like that. And computers were office type things. Now it's like your kids need a computer to get through school. You need a computer to get through work. So I think technology is a big part of life.

Power-Users Focus Group Summary

Technology for the power-user group seemed to be ingrained into their lifestyle. Even when this group encountered a barrier such as limited time on the computer at the public library, the lack of a printer, or a bad experience on e-Harmony, the participants were not deterred and have continued their use of technology. Further, the power-users engaged in a wider range of activities than the other groups and expressed less concern about their current skill level. Similar to the other groups the power-users were aware of the technological changes around them.

# Phase I - Staff Survey Findings

All agency staff volunteered to complete the initial survey. Staff completing the initial survey, were likely to own a desktop or laptop computer with Internet access (n=4). One staff person did not own a computer but reported access to a computer through family and friends.

In terms of other technology used by staff, all staff reported ownership of a cell phone. The majority of these phones had access to text messaging, while only two phones had Internet access. Only one of the staff participating in this survey had access to an MP3 player, a PDA or access to satellite television. Three staff indicated ownership and use of digital cable television.

With regard to frequency of use, the majority of staff accessed the Internet and used their cell phones daily. The purposes for which staff used this technology ranged from seeking housing, health information, and support, to communicating with family or friends, as well as for entertainment.

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l: R 1 R i 13 X ļ, . Ù( ŀ Ŀ Table 8 shows the staff technology use pattern. Interestingly, only one staff used technology to seek employment and no staff used technology to purchase goods or services, or to participate in gaming activities. Staff reported having confidence in their technological skills. In fact, all staff ranked themselves as having some experience or as having significant experience on the initial survey.

Three of the four staff indicated having referred clients to a web-based resource in the past. However, their survey responses lacked sufficient details about this type of referral. Referral details such as a web address or company name were not entered into the space provided in the survey. Detail about the nature of staff referrals for clients to use web-based resources were explored during the staff focus group session reported below.

Agency staff were asked to give their perception of how their clients used technology. In general, staff completing this survey over-estimated the level of client computer ownership, personal computer access, and public access to technology. The staff's view of technology as having impact in the lives of their clients and their overall belief that client use of technology is important explain their overestimation.

 Table 8: Purpose of Staff Technology Use

Purpose	Count	%
Seek Housing	3	60.0
Health Information	2	40.0
Comm. w/Family or Friends	4	80.0
Meet New People	0	0.0
Entertainment	3	60.0
Seek Employment	2	40.0
Purchase Goods/Services	1	20.0
Information/Education	2	40.0
Seek/Offer Support	2	40.0
Gaming	0	0
Other	1	20.0

Staff perception of client use is illustrated in Table 9. Overall, staff perceived their clients as engaging in online searches for housing, communication with friends and family, seeking employment, entertainment activities, and social networking at rates considerably greater than those reported by their clients. This finding indicates a gap between staff's perception of their client's technology use and reported client technology use.

	Perceived Client Use	Percent	Reported Client Use	Percent
Seek Housing	5	100	8	26.7
Health Information	3	60.0	12	40.0
Comm. w/Family or Friends	4	80.0	16	53.3
Meet New People	3	60.0	7	23.3
Entertainment	3	60.0	8	26.7
Seek Employment	4	80.0	15	50.0
Purchase Goods/Services	1	20.0	8	26.7
Information/Education	3	60.0	17	56.7
Seek/Offer Support	3	60.0	11	36.7
Gaming	N/A	N/A	4	13.3
Other	0	0	3	10.0

 Table 9: Perception of Participant ICT Use

# Phase I - Staff Focus Group Findings

Four agency staff and the agency director participated in a focus group designed to follow up on the staff and client initial surveys and the client focus groups. Staff members participating in this focus group were generally considered power-users based on their daily use of the Internet and cell phones. The meeting began with an overview of the client survey results, followed by a discussion of the client focus group findings.

Staff had a mixed reaction to hearing that half of the thirty participants had regular access to technology. The one staff who underestimated client access to

technology was shocked by this finding and staff over-estimating client access to technology were equally shocked that more clients did not have access to technology. Through the discussion of this finding, the staff came to consensus that the use of technology was important for the empowerment of their clients.

The next discussion focused on the ways in which clients are using technology or wish to use technology. Again, staff indicated being caught off guard by client use of technology to look up sexual offenders. Staff expressed some awareness that many clients use technology to access information about friends or family who may be incarcerated in jail or prison. As verification of this activity one staff commented that they had witnessed a client using the office computer to look up inmate information. Staff agreed that maintaining this connection with one's community was an important feature of client use of technology regardless of the client user typology.

Similarly, their clients desire to access the sex offender registry was a surprise to the staff. The staff speculated that unsafe neighborhoods, past personal experience with child abuse, and clients often feeling powerless to keep their children safe as possible motives to access the sex offender registry. Staff commented that access to the sexual offender websites could be made available through an agency website to support client use of this technology. Further, none of the staff could recall an instance in which they engaged their clients in a technology-related discussion.

When asked about what changes they would recommend to the agency director or board of directors, the staff were interested in developing a computer room for their clients, developing an online intake instrument to streamline their work, and including technology use questions into the initial assessment for new clients. Additionally, staff

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were very supportive of the development of an agency website. This support was demonstrated through the staff's willingness to learn how to update a website as part of their duties. The one staff with little computer experience was concerned about her ability to learn how to use this technology. She received support and encouragement from her peers about her ability to master this new skill.

At the conclusion of the meeting, the staff expressed a favorable opinion about this study and thought the meeting was beneficial to their work. The concluding statements of the staff were consistent with the enthusiasm they displayed throughout the focus group session.

# Chapter Summary

The results reported in this chapter were from 30 survey participants, three small focus groups, a staff survey, and a staff focus group. The results show that the population in this study as predominately ethnic minority women, living in poverty, with limited or tenuous access to technology. Further this group seeks to improve both their technology skills and their access to technology. The participants were hopeful about their future technology use and view technology skills as essential for success. The agency staff overestimated the level of access and the skill level of the participants. Chapter Five presents a discussion of these findings.

## CHAPTER FIVE

## Discussion

The following chapter is organized to provide a discussion of the findings from two perspectives; first the findings regarding each technology user group will be discussed. The findings from each user group are organized around the themes uncovered as a result of the coding and analysis process. Secondly, the findings for all three user groups as they relate to the questions that framed the focus of this study will be discussed.

# Non-user Group

As predicted in the literature, access to technology was limited based on the participant demographics (Miller-Cribbs, 2001; Warschuer, 2003). The non-user group struggled to access technology in part because of challenges associated with gaining regular physical access to technology and in part because of limited technology skills. For this group their perception of their own computer skills made the likelihood of using technology lower, unless they were assured of having onsite support from a trusted person. This finding is consistent with the UTAUT which links the intention to use technology to the user's perceived effort expectancy and facilitating conditions, such as the perception of available technical support (Venkatesh, et al., 2003).

For non-users, computer ownership was not a realistic option. The cost of hardware/software and the cost of maintaining an Internet connection were beyond their economic means. The use of pubic access points as a alternative to computer ownership was limited by the reality of public transportation in addition to computer use policies that increase the anxiety of this group and ultimately contributes to their non-use. Policies

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such as requiring a library card, limiting computer use to one hour, or the lack of access to a printer each provide sufficient rationale for an apprehensive user simply to choose not to use.

The non-user group was responsive to using technology in order to meet their basic needs. For example, their safety need was met through using websites that provided information about family, friends, and even predators who may be in jail or prison, or who may be scheduled for release. Additionally, the use of sexual offender websites offered awareness to some of the participants about their immediate surroundings.

Similar to the findings in Bakardjieva (2003), this vulnerable population was very interested in using technology to develop and maintain family connections. Participants who no longer had custody of their children envisioned using the Internet to locate their children or find information about their child's well being. Other participants wanted to use the Internet to connect with relatives or trace their family tree.

Interestingly, the non-users found out through experience that the search power of the Internet works in both directions. At least two of the five members of the non-user group reported being the recipient of an Internet search. For one participant this search was conducted by a foster-parent, while a potential employer conducted the other search. In both cases these searches negatively affected the participants. Undoubtedly this experience or the potential of having this type of negative experience contributed to the group's apprehension at having an online presence.

Non-user Selective Coding Themes

To further illuminate the experience of the non-user group selective coding was used to arrange themes into an overarching framework (LaRossa, 2006). Figure 9 is a

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visual representation of the overarching themes involved in the non-users' group struggle to access and use technology. On the one hand, the non-user group lacked regular access to technology and the skills to take advantage of technology. Further, the non-user group was concerned about using technology in a way that would compromise their physical safety or online privacy. On the other hand, the non-user group recognized the technological changes happening around them and could envision how technology could benefit them socially and economically and provide them with opportunities to participate in their community. The group perceived these potential uses of technology as empowering but felt powerless as a result of the complex access barriers, privacy and safety concerns.





# Moderate-user Group Findings

For the moderate-user group, the experience of using technology was linked to a desire to improve their socioeconomic conditions. This was evident by the group's focus on using technology to seek employment and job skills. Some of their technology use was mandated by welfare-to-work programs, but even without this mandate the moderate
users perceived the use of technology as a way to access employment opportunities and improve their financial standing.

This group has experienced additional pressure to obtain basic technology skills and secure access to technology because of the emphasis on using technology to improve one's economic situation and the shift on the part of employers from paper applications to online applications. Of the three user profiles, the moderate group expressed the greatest level of frustration over their lack of digital inclusion. The moderate-users discussed feeling frustrated because they were not given "credit" for filling out online applications by the welfare-to-work program and were similarly frustrated by the amount of time it took to access computers through the public library.

The moderate-user group was well aware of the technological changes around them and understood the implications of not having access to technology for themselves and their families. On this topic one participant commented, "What about when 2025 get here or when our babies are grown?" This awareness of the technological changes around them and a lack of consistent access to technology was a source of anger and frustration for the group.

However, the disenfranchisement felt by the moderate-user group did not diminish the group's belief in the importance of ICTs. In fact, the group expressed a willingness to participate in computer training provided the trainer was someone they trusted – meaning someone who was patient with their learning challenges. Currently the participants' siblings or children are filling this computer-training role on an as needed basis.

Moderate-user Selective Coding Themes

For the moderate-users there was a distinct tension between their required use of technology and their perceived computer skill level. Often this tension resulted in the participants passively filling out online employment applications or accepting website referral information from a helping professionals, while knowing they lack the skill and access to complete these tasks. In a sense these participants felt victimized by the technological changes around them and felt powerless to respond.

Figure 10 shows the experiences of the moderate-user group with technology as uncovered through the selective coding process. One moderate-user provided a good summation of this group's experiences with technology during the focus group session: It is frustrating because you know like there's so many different things now that require

It is frustrating because you know like there's so many different things now that require you have to go online for this or go online for that, website for this or website for that. It's like, Dang people, not everyone can afford a computer for #1 and #2, even if we could we wouldn't know what the sam hill we're doing!

Figure 10: Moderate-user Selective Coding Themes



# Power-user Focus Group Findings

The power-users in the study were characterized by daily use of technology. The majority of power-users had benefited from past computer training. However, despite this training the group was not confident in their computer skill level. Similar to the moderate-user group, the power-users frequently used technology in an attempt to satisfy their economic needs such as educational purposes and seeking employment. The power-users distinguished themselves from the other groups through their use of technology to access online support networks. These networks often consisted of interactions through faith-based websites or searching for connections with individuals of a similar faith through friend matching sites.

Despite some advancement in the range of their Internet activities, the powerusers were not comfortable accessing social networking sites requiring identifying information. Sites such as MySpace, Facebook, or Bebo, were of no interest to this group of technology users. However, the group was very interested in maintaining family connections using e-mail as the primary tool.

Also unique to the power-user group was the use of technology for empowerment. Empowerment for the power-user group ranged from sending e-mails to President Bush criticizing his No Child Left Behind policy, to e-mailing Senator Obama (now President Obama) and Senator Stabenow. For members of the power-user group, having their voice heard was a source of pride that re-enforced their desire to continue engaging in community dialogue.

Interestingly, the power-users also felt empowered by having access to sexual offender websites and jail/prison websites. The use of websites that allowed the

participants to feel personally safe or safe as a community was common to all three groups. For example, Fran (from the Power-Users group) made the following comment:

I check the sex offender registry. I want to be aware of what is going on in the community. Since I was molested, I would want to know what is going on. There is so much going on so the neighbors should step up and watch the babies.

Power-user Selective Coding Themes

For the power-user group, the use of technology occurred on a regular basis.

However, their perceived computer skill level limited the range of activities they engaged in on the Internet. The power-users felt empowered through the use of faith-based websites and through engaging in community participation. Further, barriers that impeded technology use for the other groups did not discourage the power-users because of their intrinsic and extrinsic rewards for using technology. Figure 11 shows the selective coding themes that illustrate the power-users experience using technology.

Figure 11: Power-user Selective Coding Themes



# Discussion of the Research Questions

The following section is a discussion of the overall findings from Phase I. For the purpose of this discussion themes from across all three-technology user profiles were

included. Framing this discussion are the research questions that were used to guide this study. To accomplish this goal the research questions are used as headings in this chapter. While there is some overlap, the use of the headings will help to place the findings in their correct context.

How do women in recovery from addiction view the importance of using ICTs?

The survey and focus group data from this study clearly highlights the fact that though the participants lived in poverty and struggled to meet their basic needs, they understood the importance of possessing adequate computer skills and having consistent access to technology such as computers and cell phones. The women who were caring for children expressed the importance of access to technology and the use of technology, not only for their benefit but also for the benefit of their children. Included in this sentiment was the participants' concern for their children's ability to develop skills that would make them successful in life.

The participants in this study acknowledged the necessity to use computers and the Internet to gain access to employment resources and job readiness skills. This viewpoint was quite interesting, as none of the women in this study had ever secured employment as a result of submitting an online application. Nonetheless, these participants were convinced of the importance of job searching online. Some participants who were forced to seek employment online by welfare-to-work programs expressed little animosity about filling out online applications, but were concerned that the lack of a printer in many of their access locations eliminated the possibility of receiving credit for their job seeking activities. Another example of the importance of technology for the participants was the ability to seek and remain in touch with family and friends. Accessing sites to find out if a family member or friend was in jail or prison, and/or searching for children that have been adopted out through the child welfare system were important activities that satisfied some of the belonging needs of the participants.

Interestingly, inmate information searches seemed to take on two primary forms: 1) seeking release date information for a significant other or family member and 2) checking inmate information as a way to keep track of individuals that may pose a threat to the safety of the women and/or their families. Because these participants were in a recovery program, using the Internet to check inmate information was an alternative to frequenting places where similar information might be available such as local bars or drug houses.

While technology is an important feature in the lives of the participants, their lack of access to computers and a lack of computer skills were sources of frustration and even resentment. Several participants commented on feeling "vulnerable" when it came to technology use. Others described feeling "bad" because they were not able to guide their children's technology use. In fact, often the children of the participants functioned as an IT help desk, assisting their parents in the use of technology.

The participants in this study were well aware of the technological changes around them. For instance, the transition from the using toll free phone numbers via a pay phone to now having to access the Internet to find a specific website was an example of how technological change can lead to barriers for vulnerable populations. In essence, this information or resource previously accessible by a free phone call has become inaccessible for some participants in this study.

For the participants in this study, becoming versed in the use of a computer and the Internet was an important goal toward their empowerment as a person with intrinsic value and worth. Although the range of Internet activities for the participants was limited, the value attributed to the independent use of technology was very high. In fact, within each focus group there were times when the participants were in awe of one another's Internet activities. This positive reinforcement often led to greater disclosure of their Internet activities and modeling of Internet use for the rest of the group. This dynamic was particularly true for the moderate-user and power-user groups, although it did occur within the non-user group as well.

What are the type, frequency, and purpose of ICT use for women in recovery?

With regard to the types of technology used by the participants in this study, the participants used cell phones and computers as their primary technologies. In general, cell phone usage occurred on a daily or weekly basis while computer use occurred inconsistently. While cell phones were the most frequently used technology, there were periods of time in which this technology was unavailable to the participants because they had exhausted the minutes available to them through their pre-paid cell phone plan.

Overall, the participants used technology mainly to meet their basic needs, especially social, educational, informational, and economic needs. Many of these needs were met through activities such as e-mailing friends or family, looking up health information, or seeking employment online. Interestingly, very few participants used technology to support their recovery from chemical addiction. The greatest objection to

using technology in this manner was a concern over online privacy and security. However, the participants were willing to engage in online recovery support services through their current service provider, if such services were made available.

For one subgroup of users, the power-users, technology was used for empowering activities such as connecting with other members of the faith community. Additionally, these participants found expressing themselves online to local and national officials a rewarding activity. Equally empowering for the participants was the ability to seek information about sexual offenders or predators that may reside in their community. For a few participants, past victimization and/or the victimization of their children was a driving force behind their desire to keep their neighborhood safe.

What are the factors that influence use or non-use of ICTs for women in recovery?

Clearly the participants in this study fit the profile for what the literature describes as individuals who are affected by the digital divide (Miller-Cribbs, 2001; Warschauer, 2003; 2004). However, the nature of this digital divide can be attributed to multiple factors including lack of computer skills, physical access to technology, available content and motivation to use technology. For example, regardless of the skill level, the majority of participants had or would engage in locating inmate information websites or sexual offender websites. In this example the usefulness of these sites for the participants was an overriding factor for any barrier encountered. Similarly, one participant in the power-user group accessed the Internet from the public library on a daily basis, but rarely used functions beyond e-mail. For this participant, the value of corresponding with friends, family, and potential employers outweighed other access concerns. Drawing from the TAM, the participants were likely to use technology if they perceived the use to be within

their range of skills (Perceived Ease of Use), and if they perceived value from engaging in the activity [Perceived Usefulness] (Davis, 1989; Venkatesh, et al., 2003).

As expected, the cost of computers and Internet access was a significant barrier for many participants in this study. However, this factor alone did not limit the use of computers for participants who felt more confident in their computer skills. It should be noted that accesses to public sources, such as libraries, were not without accompanying barriers. Limits on the amount of time to use the computer, library hours of operation, and the complexity of using public transportation were all viewed as barriers to using this type of access solution.

Additionally, access to technology through family and friends was possible for some of the participants; however, this type of access was inconsistent as it was dependent on relationships that often fluctuated. For example, a power-user described how she used to access the Internet daily on her boyfriend's computer until they broke up. Now she no longer has access to this technology.

As mentioned earlier, all of the focus group participants felt they would benefit from computer skill training and would be willing to attend such training. For the nonuser group, a lack of computer skills was the most significant factor in the lack of technology use. For these participants, working on the computer was intimidating and even embarrassing. Although the non-users recognize the importance of technology, their inexperience with computers posed a major barrier to expanding their use of technology. However, the optimism of the participants with regard to online job seeking was an interesting finding, especially, since using the Internet to seek employment was both a

mandated function and a voluntary function, and since none of the participants had successfully obtained employment using this process.

Privacy and security on the web is of concern for a number of groups in our society, but this was especially true for the participants in this study. Many of the participants report having led transitional life styles that often had legal and socioeconomic consequences (Lapidus, Luthra, Verman, Small, Allard, & Levingston, 2004). As a result, this group has learned to protect their personal information as a way of avoiding stigmatization. For these participants, the registration process for websites that we take for granted is an intimidating experience. In fact, this process may reinforce feelings of inadequacy for many of these Internet users.

How does addiction agency staff perceive the role ICTs in their client's lives?

In general, the staff in this study perceived their clients as having greater access to technology and more extensive use of technology than they actually report. Much of this over-estimation may be due to the fact that with the exception of one staff, the staff would be considered power-users of technology. Staff was not aware of how their clients used technology and the role they have played with regard to client technology use. Staff assumption that the participants had access to technology and were regular users resulted in a lack of attention to the participants' technology needs.

The staff and participants were generally in agreement about the importance of technology. However, there was a clear disconnect over the scope of activities the participants engaged in when using technology, and the staff perception of their technology use. For example, staff believed that all of the clients were using technology to seek housing. The actual percentage of clients who reported using technology to seek

housing was 26.7% or eight of the thirty respondents. Similarly, staff overestimated the participants' use of technology for entertainment purposes, to meet new people, and to give or receive online support. This finding explains why some participants reported being referred by professionals in their lives to websites they did not know how to access or navigate. Staff over-estimation of participant access and utilization of technology was an enlightening and motivating finding for this provider agency.

# Chapter Summary

Based on the findings from the surveys and focus group sessions, it is clear that the participants in the study value the use of technology, not only for themselves but also for their families. For the non-user group and the moderate-user group this understanding of the importance of technology and their reality of limited access was a source of frustration and even anger. Despite this frustration, the participants continue to have optimism over the potential uses of technology to improve their economic, social, and community conditions. While agency staff was in agreement with the participants on the importance of ICT, they often over-estimated the participants' access to technology. Further, staff perception of the types of online activities participants engage in was inaccurate. Phase II of this study examines the agency's effort to support the participants' access to technology and their skill development.

#### CHAPTER SIX

#### Research Methodology - Phase II

Based on the findings of Phase I of this study, there were multiple factors that influenced the participants use or non-use of technology. Two frequently highlighted barriers to expanded computer use for the participants were (a) the lack of computer skills and (b) the lack of access to hardware/software. However, despite the low level of use, staff and participants both had a strong belief in the importance of technology use. The discussion with staff over the initial findings sparked staff interest in reducing barriers for the participants to access technology. This staff concern led to the development of an ICT intervention for the participants. The intervention selected by the staff was the deployment of computers accessible to the participants in their community and an eightweek hands-on computer-training program. The nature of this intervention and its affect on participants, staff, and overall agency functioning will be explored in this phase of the study.

#### Theoretical Framework – Phase II

Cost, Procedure, Process, Outcome Analysis

To understand the effect of this intervention on the participants, staff, and overall agency functioning a Cost, Procedure, Process, Outcome Analysis was implemented (Thyer, 2001; Yates, 1996). The Cost, Procedure, Process, Outcome Analysis (CPPOA), according to Thyer (2001) provides a framework for analysis of the relationships between program resources (costs), procedures, processes, and outcomes. Further, CPPOA is an appropriate methodology for evaluation at a program level or for use at a client level (Yates, 1996). CPPOA as a methodology in this stage of the study will be used to examine the cost, procedure, process, and outcomes specifically related to the agency's development of computers for participant use within an agency-run supportive housing facility. According to agency staff, these computers are accessible to residents of the supportive housing facility as well as others seeking agency services (Personal Communication, July 11, 2008). The focus of this second stage of the study is to provide initial information to the agency about the impact of this new intervention in relationship to the program costs, procedures, process and participant outcomes (Thyer, 2001; Yates, 1996). Figure 12 shows the CPPOA process used in this study.

Figure 12: Cost, Procedure, Process, and Outcome Analysis. Adapted from Thyer, 2001.

Costs	Procedures	Process	Outcomes
• Staffing • Space • Equipment	• Structure • Intervention	• Training • Support	<ul> <li>Computer Access</li> <li>Computer Use</li> <li>Computer Skills</li> </ul>

CPPOA, as used in this study, was implemented at an individual level, with the intent of providing a beginning qualitative evaluation of the overall effect of deployment of computers in the supportive housing facility for participant use (Yates, 1996; Thyer, 2001). Although CPPOA has application as a quantitative evaluation tool, the short duration of this CPPOA evaluation (60 days), and small sample size, limited the use of this tool. Further, the CPPOA evaluation as implemented in this study relied on a mixture of actual cost and estimates by the agency staff and participants. This process as described by Thyer (2001) produces a general picture of program functioning sufficient to allow agency management to understand how resources are used with respect to the

intervention goals. Thyer (2001) describes the CPPOA model as having the following steps (a) develop an initial understanding of the program's operations through "conversations with staff" (b) make "subjective estimates" about the program costs (c) use "objective data" to analyze trends and (d) compare objective data with the subjective data (p. 236).

The first two steps of the CPPOA process as described by Thyer (2001) were the focus for the second phase of this study. Using the CPPOA model in the manner described above produced what Yates (1996) labels "interim outcomes" (p. 85) which have the ability to aid leadership in determining the need for procedural changes, desired modifications in the intervention process, and/or undesired outcomes to be avoided.

# Phase II Sample Selection and Recruitment

The findings from phase I of this study led the agency to consider ways to improve participant access to technology. To this end, the agency deployed computers for participant use in their supportive housing facility. The remaining chapters of this study seek to understand the effects of increased participant computer access and computer training in relationship to the agency costs, procedures, process, client and agency outcomes, and the overall agency functioning.

The location for this intervention is a supportive housing facility run by the agency. This facility had a maximum capacity of eight residents. To be eligible to live there, participants must be women in recovery from chemical addiction and receiving services from the agency. Additionally, potential residents must have a comprehensive biopsychosocial assessment preformed by the agency intake worker, a Licensed Master Social Worker (LMSW). The supportive housing facility was recently renovated through

funding from a local foundation, which has increased the facility's capacity to house multiple women/families while at the same time operate as a office for the agency staff (Personal Communication, July 11, 2008). Programming delivered in the supportive housing facility was historically targeted for the residents of the facility. The renovations to this facility allowed for services to be extended beyond just residents to other clients, and for the purpose of this study all active clients of the agency were invited to participate.

#### Phase II Instrumentation

Instruments used in phase II of this study consisted of a staff survey; two participants surveys; interview protocols for the executive director, staff, and participants; and a focus group protocol for the agency board of directors. The instruments for this study were developed based on relevant literature and adapted from instruments used in previous studies. All the instruments used in this study were previewed for content, clarity, and accuracy prior to use in the study. Four local college students were recruited to preview the instruments. The focus of this review was to assess the reading level necessary to complete the surveys and to eliminate confusing questions. The design of the instruments was to allow them to be read by anyone with at least an eight-grade education. As a result of this review three words were change on the computer selfefficacy (CSE) questions. This review process was the same for all instruments used in this study.

Participant Survey Instruments – Phase II

The initial participant survey administered during the second phase of the study consisted of 16 items and one follow-up question (17<sup>th</sup> item). The same survey was

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administered at the beginning of Phase II (baseline) and after four weeks of computer training (Appendix L and Appendix M). However, one item was added to the follow up survey that was not included in the initial survey. This additional item assessed the participant's frequency of computer use over the previous thirty-days. Structurally, both the baseline and follow up survey were the same.

The first three questions on the phase II surveys were identical to the first three questions used in the initial Phase I participant survey instrument. Participants were asked to respond to a three-part technology use question followed by one Internet interest question and six Internet knowledge and skill questions. The final six questions seek to understand the role the agency played in supporting technology use.

The first three questions of this survey were adapted from Horrigan's (2007) technology user survey. Information gathered by Horrigan (2007) led to the development of ten technology user typologies. Similarly, responses to the first three questions in this survey led to the development of a participant technology use profile later used to assist the researcher in the design of the computer training. As a part of this profile development, questions one through three examined the devices participants used to connect to the Internet and the frequency that these devices were used. Together, questions one through three provided a technology-user profile that was used to plan the type and scope of the computer training needed for the potential participants.

Using the same protocol from Phase I (Table 3), survey participants were placed into the following categories: (a) Non-users (b) Moderate-users and (b) Power-users. Individuals responding affirmatively to personally owning a cell phone with Internet capability or a desktop or laptop computer in response to question one (Q1), and daily use

of the Internet in response to question two (Q2) were categorized as Power-users. Individuals indicating no personal ownership of a laptop or desktop computer or a cell phone with Internet capability (Q1), and who have access to a laptop or desktop computer or cell phone with Internet capability through friends/family or through public sources and who indicate use ranging from weekly to monthly Internet use in response to Q1 were categorized as Moderate-users. Individuals who do not have access to a laptop or desktop computer or cell phone with Internet capability through personal ownership or through friends/family or through public sources (Q1) and indicate no current use of the Internet (Q1) were categorized as Non-users. It should be noted that the term Non-user does not mean that these individuals have never used ICTs. Rather, this term indicates no current use or access to ICTs. The ability to determine the participant's technology-user profile assisted the development of an appropriate computer-training course.

Items five through ten were adapted from Thompson, Campeau, and Higgins (2006) study of an integrated model for predicting intention to use technology. The proposed model integrates concepts from a decomposed Theory of Planned Behavior (Ajzen, 1991) and TAM (Davis, 1989). Adopted from this model, question four through nine examine the participants' Computer Self Efficacy (CSE) related to Internet use, while question ten seeks to understand the participants perception of the Internet's ease of use (Thompson, Campeau, & Higgins, 2006).

The remaining survey questions were designed based on the CPPO analysis model (Yates, 1996). These questions examine the intervention procedures, process and outcomes from the perspective of the participant. For example, question eleven inquires whether the participants have read the agency's computer 'acceptable use policy'. As a

part of the program evaluation process, understanding the agency protocol for orienting the participants to the program provided valuable information.

## **Research Process- Phase II**

The design of this study was shaped to uncover the experiences, attitudes, and purpose of technology use among women in recovery, and the agency's efforts to engage participants in increased use of technology. The process used for this exploratory study consisted of two phases. The first phase described above used an exploratory approach to understand how women in recovery use technology and their technology needs. The second phase focused on a qualitative evaluation the agency's deployment of computers for participant use in their supportive housing facility. To assess the effect of this intervention a Cost, Procedure, Process, Outcome Analysis (CPPOA) was used (Thyer, 2001; Yates, 1996). The steps used to evaluate this intervention are described in the following section.

Step One

As discussed above, the primary focus of the final phase of this study was to evaluate the cost, procedures, process and outcomes of the computer deployment and computer training. Following the Cost, Procedure, Process, Outcome Analysis model as proposed by Yates (1996), this evaluation qualitatively analyzed the relationships between the agency's use of resources, the procedures, processes, and the participant outcomes of this intervention.

All agency clients were invited to participate in the study. To recruit for this research opportunity, flyers describing the study and re-introducing the researcher were posted at the supportive housing facility, the agency main office, and distributed at

agency events during the month of July. Individuals interested in participation were directed to attend the August, 2008 support group meeting. At the August, 2008 support group meeting the study was explained to potential participants. Any person intending to use the agency's computers or wanting computer training, were invited to sign the consent for participation form and complete the initial survey.

Participation in this study had no connection to eligibility for services being received through this agency or scheduled to be received through this agency. Of the fifteen women in attendance at the August, 2008 support group meeting, seven women (47%) agreed to participate in the study and completed the initial survey. Because there was three months between Phase I and Phase II and because of the rapid turnover in the agency's clientele, the researcher anticipated that most of Phase II participants would be new. As it turned out, five of the seven participants had also participated in Phase I.

Participants choosing to participate in the study and who completed the initial survey and attended the computer training were asked to complete the thirty-day follow up survey in September, 2008. The initial survey and the follow up survey were linked by the use of a participant code. Participant identities were only known to the researcher and not recorded on the actual surveys. Agency staff was not given information about who participated in this study.

Participants who completed both the initial and the follow up survey were offered an opportunity to participate in an interview designed to explore their use of the agency computers and their experience from the computer training. Participation in the study was voluntary and in no way affected participation in agency services. Survey participants

who completed both surveys were given \$15 gift cards. Participants who complete two surveys and an interview were given a \$25 gift card as a token of appreciation.

To triangulate the responses from the participants, archival information collected from the Internet use history was collected to permit verifying computer usage patterns. The opportunity to access this archival information is an important method to triangulate staff and participant responses. As agreed to by the agency, individual study participants were not linked to the archival information and archival use information was not shared with the agency staff.

# Step Two

Similar to the participants in this study, staff was invited to participate voluntarily in the study. Staff agreeing to participate were asked to complete a brief initial survey at their staff meeting on August 1, 2008. The focus of this survey was to determine the degree and scope of staff involvement with the participants' use of agency computing resources.

At the conclusion of the intervention, staff were invited to participate in individual interviews designed to explore the staff role in engaging and/or supporting the participants' use of technology as a result of the computer deployment and computer training. The interviews were to take place at the convenience of the staff. Staff were to be invited to participate in an interview through an introductory letter from the executive director explaining the purpose of the study and giving permission for staff to participate in an interview during work hours. Unfortunately, changes in the agency's funding source and staff turnover eliminated the ability of the researcher to gather staff input as a part of this evaluation process. Design changes to this study will be discussed in detail later in this chapter.

In order to develop a comprehensive CPPOA model, the agency executive director was invited to participate in an interview addressing the costs, procedures, process, and outcomes of computer deployment. Information provided by the executive director about the intervention outcomes was used to triangulate against the findings from the participant surveys and interviews. Additionally, archival budget and expense reports from the study period were examined to support the estimated use of resources.

## Interpretation of the Data

All interviews were audio recorded and transcribed for coding and analysis. To ensure inter-rater reliability, the transcripts were coded first by the researcher and then independently coded by a research assistant. Discrepancies in coding were discussed and processed until there was agreement on the coding structure (Rosenblatt & Fischer, 1993). Interview data was coded using the open coding process (LaRossa, 2005; Richards, 2006). The data from the open coding process was grouped into themes using the axial coding process (LaRossa, 2005). The coding and analysis process for the second phase of this study was conducted using word processing software and a spreadsheet software program.

Survey data from the participant and staff surveys was entered into SPSS and analyzed using descriptive statistics. Participant surveys were linked to a specific participant via a code only know to the researcher and entered into SPSS. This code was used to link baseline survey information to survey information provided after four weeks

of the intervention and individual interview data at the conclusion of the study. Results of the data analysis process are reported in Chapter Seven.

### Computer Training

According to Davies (2007) the four components of Accessibility, Connectivity, Education, and Content are essential to the expansion ICT use by individuals facing economic and social challenges. While the primary focus of Davis' statement extends beyond the boundaries of the United States, his premise has been echoed by other scholars with respect to individuals living in poverty and economic distress in the United States (Miller-Cribbs, 2001; Warschauer, 2004). As was found in Phase I of this study, physical access to technology and training/user support were key factors in the limited or no-use of technology by the participants. In response to this finding, the final phase of this study included a voluntary eight-week computer training as well as open access to agency computers with onsite user support.

Participants were invited to take part in an eight-week training designed to improve their individual computer skills and introduce them to a new technology access point. The need for computer training was based on the results from phase I, where the majority of the participants expressed their desire for a computer training to increase their comfort and skill using computers and the Internet. Additionally, the demographic information from Phase I showed that the ability of the participants to read and write would vary. This was evident as several participants required assistance reading the survey questions. Finally, because of the voluntary nature of the computer training, the researcher had no way to predict how many participants would show up for the initial training session or the computer skill level of the attendees. For these reasons no

predetermined computer-training curriculum was selected. Instead the plan was for the researcher, acting as one trainer and a research assistant acting as a second trainer, to assess the participants' computer skill level during the initial session and from there determine a computer training strategy.

This computer training design was adapted from Sandberg, Gardelli, and Stubbs (2005). In their study of ICT use to empower twelve individuals with a mental or physical impairment, Sandberg, et al. (2005) provided ten sessions of computer training that was individually designed, practical, and designed to motivate the user. Following this training model, the current study provided an eight-week hands-on computer-training course for the participants. The participant to trainer ratio was 2:1, which provided opportunities for one-on-one training and support.

To further tailor the computer training to the needs of each participant, the trainers asked participants to identify something they wanted to accomplish on the computer at the beginning of each session. For example, during session six, two participants requested to learn how to register to vote online. While this was not a part of the plan for these participants, their request was incorporated into the training. By the end of the training session both participants were able to register to vote online for the upcoming presidential election. The incorporation of participant-directed activities allowed the training to be tailored to the individual's interest. As Davies (2007) states, "Local, relevant content encourages continued use of the technology – sustainability. The technology is not the goal itself, but a means to accessing information that can be used to improve people's lives" (p. 25).

The overall goal of the training was to increase the participant's skill level in the

following areas:

- 1. Identification of key computer parts (tower, keyboard, mouse, and monitor)
- 2. Understand the purpose of the Internet
- 3. Understand what is the World Wide Web
- 4. Demonstrate the ability to log on a computer and access the Internet
- 5. Complete basic information searches using Google
- 6. Complete specific information searches using Google
  - a. Health Information
  - b. People Searches
  - c. News and Information
  - d. Entertainment
- 7. Establish a personal E-mail account
- 8. Demonstrate the ability to send and receive messages
- 9. Demonstrate the use of the computer for empowerment/inclusion
  - a. Social Networking
  - b. Civic participation
  - c. Advocacy
  - d. Employment
  - e. Family/Friend Involvement

The computer training was scheduled to take place every Thursday evening for one and a

half hours for eight consecutive weeks at the agency's supportive housing facility. The

training began on August 7, 2008 and was completed on September 25, 2008.

# The Setting for the Intervention

The supportive housing facility is a renovated inner city home that is owned by the church next door to the facility. This church has developed a partnership agreement with the agency to provide services to women in the surrounding community who are affected by substance abuse, domestic violence, and mental health challenges. In 2006 the agency and church secured grant funding from local foundation to renovate the church property with the intent to provide housing assistance to women in recovery from chemical addiction. Renovation of the supportive housing facility were completed in

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early 2008. The facility is a two-story home with the capacity to house up to eight women and their children.

At the time of the study the agency had not received city zoning board approval to have more than four unrelated people living in the facility. In fact during the course of this study only two residents occupied the facility. Both of these occupants chose not to participate in the study. Interestingly, both residents had left the facility prior to the second week of computer training. Because of the lack of residents living at the facility the agency's primary use for the facility was as a place to hold their weekly support group meetings and as an office from which new clients could come to seek services.

Inside the facility there were several meeting rooms, a family room, kitchen and formal dining room. The formal dining room was partially converted into a library and a computer lab. Across from the dining room table were two computer desks with a twodrawer metal file cabinet and a plastic five-drawer storage cabinet in between each desk. On each desk was a refurbished desktop computer with a keyboard and mouse (Figure 13).



Figure 13: Supportive Housing Computer Area

Both computers used by this agency were donated by a local community college. In fact, there is a third computer from the same donor in an upstairs room. The actual processor

speed of the computers was not known because the previous owner had modified them. The computer on the left side of Figure 13 used the Windows 98 operating software and the computer on the right used the Windows 2000 operating system. Prior to the week five training session the computer on the left crashed and was replaced with a computer from an upstairs room. The replacement computer was donated by the same source but used the Windows XP operating system. All the computers at this facility used an Ethernet cable to link to the agency's cable modem. All the computers used a broadband connection to access the Internet. Printers were available for each computer. However, neither printer was working properly during this study period.

## Methodology Adjustments

As often cited in the literature, agency based research can have its positive attributes as well as some challenges (Richards, 2006). Phase II of the study was marked by challenges that required adjustments to the original methodology. Several of the initial expectations for which the methodology was built did not occur as expected

The computers in the supportive housing facility where for clients to use. It was anticipated that by the time the study began there would be eight potential participants living in the supportive housing facility and one fulltime house staff. Shortly before the agreed upon start date the executive director reported that the employee who was going to manage the house had relapsed and was not able to continue her duties. Additionally, because of a funding deficit the agency was not able to fill this position. The lack of onsite staff significantly limited access to the facility computers outside of the computertraining schedule and eliminated the opportunity for staff to interact with the participants with regard to their technology needs.

The initial focus of Phase II was to evaluate the agency's attempt to engage and empower their clients through the use of technology available at the supportive housing facility. Of particular interest was the impact of this access and support on the residents of the supportive housing facility. There were two events that altered this original focus. First, the agency and partner church were not able to secure city zoning board approval to have more than four unrelated individuals living in the facility. Second, in the weeks prior to the start of the study there were two women living in the home. However, by the start of Phase II, there was only one resident living in the supportive housing facility. This particular resident opted not to participate in the research beyond the completion of the initial survey. By the second week of Phase II, the only resident living in the supportive housing facility abruptly moved out. Fortunately, the original decision to include both residents of the supportive housing facility and non-residents of the facility proved to be crucial to the continuation of this project.

Finally, the system specifications of the agency computers proved challenging, particularly the outdated operating systems on the agency computers that limited the researcher's ability to deploy monitoring software to analyze the participants use patterns during open use times. Since open use time only occurred four times during this study period the computer's Internet history was used to triangulate with survey, interview, and observation information.

#### Chapter Summary

The second phase of this study sought to evaluate the deployment of agency computers and computer training for the participants. Using the Cost, Procedure, Process, Outcome Analysis (Yates, 1996) this study provides a preliminary examination from which the agency leadership may determine future status of this intervention. Participants in this study were provided with eight weeks of hands-on computer training tailored to meet their individual learning needs. Survey data, interview data, and archival agency fiscal information were used to assess the intervention's outcomes.

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### CHAPTER SEVEN

#### Results

The Phase II research process began with each participant completing an initial survey designed to provide information about her technology use habits. This profile was used to determine the initial starting point for the computer training. This chapter reports the findings from the initial survey, 4-week follow-up survey, four participant interviews, an executive director interview, and weekly training observations from the researcher and research assistant.

## Phase II – Initial Survey

Fifteen women attended the initial recruitment meeting, of these attendees seven women (47%) agreed to complete the initial Phase II survey. The initial survey questions were used to establish a baseline technology use profile for each participant. Survey results showed that while five of the seven respondents owned a computer, when considering access to a computer with an Internet connection the count dropped to four out of seven respondents. The most frequently reported technology owned by the participants was the cell phone. Figure 14 shows the number of participants reporting ownership of common devices. Only one of the seven participants did not own a cell phone. Interestingly, only three participants reported making cellular calls on a daily or weekly basis. Table 10 shows the reported frequency of use for several common activities.





Table 10: Frequency of Technology Use

Use Pattern	Cellular Calls	E-mail Text Messaging		Internet
Daily	1	1	0	1
Weekly	2	2	0	3
Other	1	0	1	0
None	3	4	6	3

On the initial Phase II survey participants were asked to indicate which activities they engaged in while on the Internet. Seeking information on the web and meeting new people were the activities participants reported using most often by the four Internet users. Figure 15 shows the percent of respondents for each activity.



Figure 15: Purpose of Internet Use for Baseline Survey Respondents (n=7)

Based on the Phase II survey-I results, the intervention participants were likely to have some access to computers and the Internet, but were less likely to use the Internet on a daily basis. The participants were characterized by infrequent computer use (weekly or less often) with access to computers through ownership (n=4) or through family/friends (n=1). Only two participants reported no access to computers and no use. Both of these participants met the non-user group profile criteria (Table 11).

Tuble II. Initial Survey Home Thase II							
Profile	Moderate User	Moderate User	Non User	Power User			
Use Pattern	Weekly Use	Weekly Use	No Use	Daily Use			
Access	Own Computer	Friends Family	No Access	Own Computer			
Count	3	1	2	1	Total = 7		

Table 11: Initial Survey Profile - Phase II

Computer Training Setting and Pedagogy

The setting for the eight-week training was the agency supportive housing facility. On the first floor of this remodeled inner city residential home there are two refurbished desktop computers (Figure 13), one computer was an Hewlett-Packard running Windows 98, the other was a Dell running the Windows 2000 operating system. There was a third agency computer located in a second floor apartment. The apartment was occupied by a transitional living resident during the first two computer training sessions.

All three computers were refurbished prior to being donated to the agency. According to the director, the agency was so "thankful" to get the computers that they did not ask about the system specifications. Therefore information about the processor speed, hard drive size, and memory capacity were unknown. Prior to this study the supportive housing facility was equipped with cable television and broadband Internet access through Comcast. All three computers used Ethernet connections to link to the Comcast Internet service. The agency had purchased a wireless router for the house but it was not functioning during the study period. The wireless router is visible in Figure 13 sitting on the small black file cabinet in the center of the picture.

Located in the same room and approximately three feet from the computer stations was a full size dining room table and four chairs. This area was utilized by participants waiting their turn to practice on the computer and by participants who had completed their practice time and were observing and providing encouragement for their peers. The table was primarily used to place food for the evening meal. At the direction of the agency director each week an light potluck style meal was provided for the participants. Either prior to the start of the training or during the training the participants helped themselves to a plate of food. The director provided the food on some occasions, the participants brought food for the group periodically, and the researcher brought food

every other session. Based on the amount of leftovers each session, there was adequate food for everyone each session.

As discussed in Chapter Six, computer training session were scheduled for Thursday evenings, from 6:30 PM to 8:00 PM. The trainings took place as scheduled each week for a total of eight sessions and twelve hours of formal training time. The initial plan was to have open use computer time for the participants 2-3 times each week. Each open use time was planned for three hours, based on participant feedback from Phase I about the perceived time constraints for using the public library computers. The plan was for agency staff to provide computer support during the open access times. However, because of a staff shortage open access time was not available as planned. The director and the researcher agreed to make open access time available upon request of the participants. The RA agreed to provide computer support for the participants during scheduled open access times. The participants were made aware of the availability of scheduled open access times during the first session and were given reminders each subsequent session.

The pedagogy used for the training was derived through literature reviewed, discussions with the agency director, Phase I experience with this population, and the researcher's thirteen years of direct social work practice with this population and similar populations. Because the researcher observed literacy issues during the completing of the Phase I survey, the decision was made to not use written training materials. The use of formal training materials may have increased the formality of the training and take attention away from the hands-on focus of the training, as participants would have tired to digest the written material during the session. Therefore, each topic covered in the
13 -Ċ äi ŝ Ť Ś training was introduced in a lecture format while participants sat at the dining room table and at the two computer stations. This same information was repeated individually with each participant as they practiced on the computer. The role of the trainers was to teach the concepts discussed through hands-on use by the participants. This meant that trainers were not to perform activities for the participants, with the exception of demonstrating an activity when this type of modeling was appropriate. For example, when teaching skills such as changing font size it was sometimes helpful for the participants to see the researcher highlight their text in order to better understand the highlighting concept. After seeing what a correctly highlighted text looked like the participants were often able to recreate this activity without assistance. In summary the training pedagogy consisted of (a) group instruction (b) individual instruction (c) and modeling if needed, followed by (d) practice. There was no formal homework given to the participants, in part because of anticipated access issues uncovered in Phase I, and because of the unknown nature of the level of support they would receive outside of the training and open access time.

One accommodation that was not discussed prior to the training but became a regular occurrence was the modification of the language the trainers used to give instruction to the participants. As the researchers gave instructions to the participants, their verbal and non-verbal responses indicated that they did understand the direction. As a result the researchers gave the instruction using less computer jargon. This real time adaption led to the development of a training vocabulary between the researchers and the participants. Table 12 is an example of the phrases that were modified and the new language created between the researchers and the participants. It should be noted that this

1 Ŕ Τ. 1 1 H. Ţ  language adaption was not a planned part of the study but developed as a result of the

researcher's attempts to communicate directions to the participants.

 Table 12: Examples of Language Adaption

Beginning Language	Adapted Language
Open up your Internet Browser	Click on Firefox
Log in to your G-mail Account	Open your e-mail account
Enter your login name Enter your e-mail address Enter your user ID	Enter your e-mail name
Bookmark this page	Save this web page with your bookmarked pages
Dot (.)	Period (.)
Search for	Google

# Eight-Week Computer Training Observations

Four of the seven women who completed the initial Phase II survey attended the initial computer training. After the initial training session, the researcher linked the four participants to their technology profile, based on the first Phase II survey. Three of the training participants at this first session were moderate-users and one participant was a Non-user. The Non-user participant, LaShaun, was both a client of the agency and a volunteer peer staff. In her volunteer role she assists the director in arranging and running group activities and helps manage basic office functions. While her participation in the study was as an agency client Chapter Eight discusses the effect of the training on her role as a peer volunteer.

Table 13 shows the profile of the training participants. The names listed in this table are not the actual names of the participants in this study.

Participant	Nina	Shela	Tara	LaShaun
Profile	Moderate-user	Moderate-user	Moderate-user	Non-user
Use Pattern	Weekly Use	Weekly Use	Weekly Use	No Use
Access	Own Computer	Own Computer	Access through	No Access
Method			Friends/Family	

 Table 13: Computer Training Participant's User Profile (not actual names)

Based on the initial survey, this meant that one Non-user, one Moderate-user, and one Power-user chose not to participate. It is unknown why these participants did not take part in the training. However, shortly after the start of the training the Power-user who did not participate beyond the initial survey moved out of the supportive housing facility. She did not remain in contact with the agency so her whereabouts were unknown. The other two women who completed the pre-training survey continued to receive services from the agency but did not attend any of the training sessions. Thus there is not enough information to know if the three who chose not to participate were different from those who completed the training in any way relevant to the variables under study.

It is important to note the overall participation rate from both phases of this study relative to the number of enrolled agency consumers. Because this grassroots agency does not require attendance for any of its services, the actual number of active clients can vary month to month. Figure 16 shows the overall participation rate and the number of potential participants for each phase.



Figure 16: Overall Study Participation Rate

The observations reported in this section are the result of researcher and research assistant's field notes and weekly debriefing sessions. Because the RA was unable to attend the first session as scheduled, it should be noted that the researcher alone made the observations reported for this initial training session. Similar to the process used throughout this study, inter-rater reliability was achieved through independent review and editing of field notes, followed by the researcher and research assistant meeting to discuss and resolve any discrepancies.

Session One A	ugust 7, 2008	6:30 PM –	8:00	PM
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The initial training session was attended by the four participants discussed above and described in Table 13. There were two agency computers available for use during the training session and throughout the study period. In response to the previously identified learning needs of this group the researcher began the session with a basic orientation to the computers. This first session briefly covered the following areas:

- 1. What is a computer?
- 2. What are the components of a personal computer (e.g. keyboard, tower, screen, mouse, etc.).
- 3. What is the Internet?
- 4. What is the World Wide Web (www)?
- 5. The role of the browser in accessing the web.
- 6. Introduction to Google searches.

At the start of the training the researcher described the basic components of the computer (tower, keyboard, monitor, and mouse) in a lecture format to the group. This information served two purposes: it indentified the basic components of the computer, and provided a common language for the remaining training sessions. As mentioned earlier in this chapter, having a common language with the participants was an important feature of the training experience.

Individually the participants were asked to point to the basic computer components. They were instructed to look for the power button on the tower and it was the first place to check for a CD or DVD player. In pairs the participants were asked to sit at a computer and demonstrate how they turn on the power and log onto the Internet. The researcher was not sure how many participants would be able to accomplish this task but it was an important indicator of the participants' skill level. Only one of the four participants was able to log on to the Internet using the Firefox browser without assistance, but she was unsure where to go once she accessed the comcast.net home page.

The other participants expressed a great deal of anxiety over trying to log on to the Internet but were very relieved to have support from the trainer. When participants were able to log on to the Internet, with some assistance, they immediately celebrated this accomplishment with a word of praise or a gesture showing their excitement.

From this initial task it became clear that the four participants lacked basic computing skills. Based on this initial exercise, the researcher thought that all four participants fit the Non-user profile. It wasn't until after the training that the research learned that three of the four participants fell with the Moderate-user category based on their pre-training survey. In addition to the need for basic computer skills, the participants struggled with computer terminology, conceptual information about the operation of the computer and the Internet, navigation skills, basic typing skills, and literacy issues. In fact, during this initial session Nina disclosed she attends a local literacy program and Tara reported recently completing a similar literacy program. As each of the participants took a turn on the computer the researcher noticed that they moved within 4-5 inches of the screen at times to read the captions and see icons. The researcher asked if anyone wore glasses and was surprised that three of the four participants wore reading glasses but had either forgotten them at home or did not own a pair of reading glasses. The participants were encouraged to bring glasses with them to each session if they needed help seeing the screen. To compensate for this need, the researcher increased the size of the icons on the screen and adjusted the font size to 14-point whenever possible. While the participants observed this process it was not a part of the formal first lesson.

To teach the concept of Internet searches and to practice this activity, each participant was asked to perform a Google search for her favorite singer. As discussed in Sandberg, et al (2005), generating interest in Internet content is an important element of keeping the participants engaged. Immediately, LaShaun expressed an interest in

searching for the gospel singer Marvin Sapp. Nina also thought this was a good idea and also wanted to search for Marvin Sapp. With some assistance, LaShaun and Nina were able to open the Firefox browser and using the Google toolbar perform a search to find sites containing Marvin Sapp information and videos. The participants were surprised to find a recent interview from the Today show for singer Marvin Sapp and a YouTube performance of his Grammy award winning song. LaShaun commented "I just saw this interview this morning on the Today Show. How did it get there so fast?"

The session ended with two of the four participants completing at least one Google search with minimal assistance. The other two participants required significant assistance to complete this task. LaShaun was the most apprehensive about using computer and spent least amount of time getting familiar with the computer. She did become more engaged when searching for information on Marvin Sapp. Despite some initial hesitation, all four participants were enthusiastic about the training and committed to return the next session.

# Session Summary

Overall, the first session appeared to be a success. The atmosphere of the training seemed to put the participants at ease, and they came to the session eager to learn. Based on the observed skill of the participants they would all fall within the Non-user range. However based on the survey profile only one participant was a Non-user and the other three were Moderate-users. Based on the participant response to Phase I, and the number of women completing the initial survey, the director and the researcher anticipated that at least seven or eight women would participants in the computer training. It was disappointing that the number of participants was below the anticipated level.

Session Two August 14, 2008 6:30 PM – 8:00 PM

True to their word all four participants from the previous session attended the second computer training session. They arrived early and were eager to begin the session. No other participants attended the session. The director and peer volunteer made an announcement at the support group meeting on August 12, 2008 reminding everyone that computer training is available on Thursday evening in the supportive housing facility. Despite this additional recruitment attempt, only the same four participants attended the first five sessions.

This was the first session that the research assistant (RA) was able to attend. The women were a little suspicious of her and asked about her education, background, and her experience having the researcher as a teacher. This session was difficult for the RA as she had no previous contact with this population. Even with pre-study training the RA was struck by the cultural differences between her and the participants. She struggled to understand the language of the participants. This was particularly true for her interactions with LaShaun, who tended to use more slang than the other participants. Fortunately everyone was early for the training so there was time to perform introductions and have informal conversations before we began the session.

It was discussed with the participants during the initial meeting that because of an agency staffing shortage that childcare would not be available during the computer training sessions. Nina did not have child care available for this session but did not want to miss the session so she brought her daughter (age 8) to the training. Just behind the computer area there was a playroom for children. This room was equipped with a television and VCR, a small shelf containing approximately 10 videos and several toys

and board games. Nina asked her daughter to stay in the playroom but she repeatedly came in the computer area to see what her mother was doing. The researcher tried to normalize the child's behavior by talking to her about how hard it must be to stay in the playroom when she is hearing laughter and discussion from the other room. At one point, responding to the child's request for help, the RA walked the girl back to the playroom and put on a video for her.

It was clear that Nina found her daughter's appearances in the computer room to be disruptive. Despite her obvious irritation, Nina did not discipline her daughter. LaShaun and Tara were distracted by this sequence of events. Both commented to Nina about what they considered a lack of parenting. The comments by LaShaun and Tara led to a brief exchange of words with Nina. As the intensity of the conversation grew, the researcher redirected the group to focus on the training. The three women immediately involved in this exchange of words all agreed to get back to learning computer skills.

The focus of the second session was to continue practice with Google searches and to work with the participants on their navigation skills. Based on the skill observed the previous week, it was clear that additional time on navigation skills was necessary. To reinforce our common language about the computer components, the Internet and the Web, we began the session with a review of what we learned the previous week. This review took place around the dining room table as a group lecture. Only one participant (Nina) was able to accurately describe the Internet and the web based on the lesson from the previous week. Because the participants were not able to communicate what they had learned from the previous week, the researcher reviewed the information again with each individual as they began their computer practice time. The remaining time was spent with participants taking turns practicing navigation skills on the Comcast home page. This included learning to use the arrow keys, left and right mouse clicks, and using the scroll bars on web pages. Navigation proved to be a significant struggle for the majority of the group. The participants struggled with independently moving their fingers to perform a right or left mouse click. Adding to this challenge, finding the scroll bars on some web pages was difficult for the participants. This was especially true for web pages that were laden with advertisements, sponsored links, and popup windows. For these participants who have limited experience with web pages and who struggle with literacy, learning to read a web page using traditional left to right reading rules without the presence of clear borders was problematic.

Midway through the session one of the two computers would not go beyond the Comcast home page. Because of this technical problem we decided to teach two women how to navigate using MS Word and PowerPoint. This proved to be a really good exercise on the computer. One participant, Nina, made a flyer using PowerPoint for which she received praise from the other participants and her daughter. Her daughter commented to the group, "my mom made that?" "Good job mom"!

On the other computer Shela was bored with practicing navigation skills and wanted to look for people on the Web. She Googled a few names of people she knew without success. The researcher explained to her that often former classmates could be found through a website called classmates.com. She became very excited about trying classmates.com. With some coaching Shela was able to find the website, although she required a lot of assistance to navigate the site. One of the primary problems was the busyness of the screen, which was distracting and hard for her to understand. The process of registering to be a member of this site provided opportunities for Shela to practice her navigation skills. Pointing and clicking on text boxes was a challenging skill for her. Midway through the registration process, she was required to enter an e-mail account. Since she did not have an account yet, we opened another window and created a G-mail account. Because she had a lot of difficulty entering and re-entering her password and replicating the security word, the registration activity took the remaining session time. Shortly after 8:00 PM we were finally able to get Shela registered for her G-mail account. She was very proud of having her own e-mail account. She immediately wrote down her address so that she could give it out to others. The other participants all requested to have help getting an e-mail account during the next session.

Through the course of the evening two of the four women seemed to be more comfortable with the RA's presence than the others, who remained guarded and only interacted with the RA when the researcher was not available. The RA also was more comfortable with the women by the end of the session. Later in our debriefing the RA commented on her struggle with the noise level in the room and the lack of formality. While she could see that this environment was comfortable for the participants, it was very different from the learning environments she had experienced. The session ended with all the women wanting to return next week for the third session.

# Session Summary

The second session provided an opportunity for the group to continue their work in getting comfortable with the computer and improving their navigation skills. The session was disrupted by technical difficulties with one of the two computers but we adapted the learning plan to include learning navigation skills in an offline environment.

The introduction of the RA, while not disruptive, did give the women some concern. Similarly, the lack of childcare assistance for the sessions led to brief distraction for the group. The enthusiasm of the group toward learning was incredible. While the researcher knew that having an e-mail address was important, the level of importance the participants placed on this goal had not been anticipated.

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Session Three August 21, 2008 6:30 PM – 8:00 PM
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Again, despite another recruitment effort by the peer volunteer (LaShaun) no other women have decide to join the training. The same four participants attended the third session. While on the one hand having a small group was disappointing, on the other hand it was positive in that it allowed the participants additional computer time. This was particularly important because open access times that allowed the participants time to practice were limited. Surprisingly, one participant decided to bring food to share with the group. The researcher also provided chicken wings at the request of the director and participants. As with each session, the food was placed on the dining room table and people helped themselves when they were ready.

The participants came to the session very excited about establishing an e-mail account and learning how to send and receive e-mails. One participant (Nina) had her own Yahoo account but did not know how to get beyond the Yahoo home page, and another participant (Shela) had established her G-mail account the previous week. Because the session ended just as Shela was able to complete the registration process for her new G-mail account, she did not have an opportunity to learn how to send or receive e-mail. The remaining two participants were eager to establish their own e-mail accounts. Again, it was amazing to see the importance the group placed on having an e-mail account.

Even though the group was still struggling with basic navigation skills and lacked a conceptual understanding of the search process and the Web, the decision was made to focus the session on establishing e-mail accounts. Nina and Shela were the first to sit down and begin working on opening e-mail accounts. The researcher was concerned that these two women had dominated the computer time last session and that the other participants needed equal time and attention this session. Again, although Nina had her own Yahoo account, she had not been able to log into this account for some time. She had forgotten the password and did not know how to navigate the Yahoo home page. It was clear that both Nina and Shela would require a lot of assistance logging in to their email account. The challenge would be to give then adequate time while still allowing time for the other women to practice.

Surprisingly, in the middle of the session LaShaun requested to have some individual help from the RA. She contacted the director by cell phone about using an upstairs computer. Since the room was now vacant the agency director was fine with that computer being used for the training. LaShaun reiterated to the RA that she felt further behind than the others and needed additional help. Since this request was a surprise, the researcher encouraged the RA to honor this request. LaShaun and the RA went to the upstairs room to work on a third agency computer. The RA and LaShaun worked for over an hour on basic web navigation and establishing a G-mail account for LaShaun. The process of establishing a Gmail account took multiple attempts because LaShaun had trouble entering her registration information and remembering her password.

Interestingly, even though the passwords LaShaun was selecting were things and names familiar to her if she had to add a number or letter to make the password the acceptable length she was not able to replicate the password. Eventually, out of frustration the RA had to write down LaShaun's login information to help her avoid having to re-register each time.

The training downstairs continued with the remaining three participants. The range of activities covered during this session was limited because the participants had significant difficulty with navigating and completing the online registration. The process of pointing and clicking in a text box was difficult for them. Equally challenging was using the tab keys to navigate the form. Once the form was complete, the next challenge was to establish a memorable password. While this seems to be a routine part of the day for regular technology users, for the participants in this study the concept of creating and remembering a password was problematic. Added to this challenge was the participants' limited typing and literacy skills. These limitations became evident as all three participants spent most of their computer time correcting login and password typos. Despite several occasions when the Gmail or Yahoo system would not take their login attempts, the participants remained enthusiastic and focused on the goal of establishing an e-mail account. It is important to note that both the researcher and the RA struggled to remain patient, as each trainee required multiple attempts to establish their e-mail account. While it was tempting to logon for them, the researchers only provided assistance and support for the participants.

Because of the significant trouble logging into the their e-mail system, the researcher encouraged each participant to write down their password and to use one of

their peer's e-mail address as a secondary address. Both of these strategies proved helpful as two of the three participants forgot their e-mail address immediately after logging off the computer.

Upstairs LaShaun and the research assistant had a very similar experience. The following excerpt is from the research assistant's field notes from her private time with

# LaShaun:

LaShaun told me that she wanted to set up an email account, so that is what we did the whole evening. She found the website for G-mail, and I helped her navigate through the questions and blanks. It took us a little longer because she had to re-do her registration form several times due to typos in her password and several other things...She also had a difficult time understanding what her email address was opposed to her Log-in name and password...I was so encouraged by LaShaun's eagerness to learn and master email. She wrote down step-by-step how to get to the G-mail page and log into her email. After I walked her through it, I let her try it one time by herself without me telling her what to do. She did make one mistake, and when she realized it, she knew exactly what she forgot to do. I did help her fix it, but then she continued on independently. I was so excited for her when she successfully logged in to her email! I did get a little discouraged when she came downstairs and seemed confused about the information we had just gone over.

## Session Summary

The third session was a more focused work session that session two. The women were focused on establishing their own e-mail account and learning how to send and receive e-mails. Unfortunately, because of their limited skill level we were not able to go beyond the registration process.

Session Four	August 28, 2008	6:30 PM – 8:15 PM
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The four regular participants attended the fourth session. LaShaun had transportation problems but received assistance from Nina in getting to the session. Once again the researcher provided a light meal that was waiting for the participants on the dining room table located in the same room as the computers. The participants were thankful that the researcher provided the food for them. Even though having food at the session was a regular occurrence, the women went out of their way to acknowledge the researcher's efforts to provide them with food. It appeared there was a symbolic meaning attached to providing food for the group that went beyond the simple need to eat. For this group, the meal had more to do with respect for them as people than simply satisfying their hunger. Because the researchers were "outsiders" the offer of food for the group helped to build trust.

Session four proved to be challenging for the researchers because right from the start one of the computers would not go beyond the Comcast home page. This was the second time this computer had become locked on this home page. Despite multiple attempts to fix the computer it was determined that the problem needed to be fixed by the Internet service provider. Unfortunately, this would have been a good opportunity to demonstrate how to problem solve a computer performance issue, but the agency director was the only one with the account information necessary to make the repair call. Instead we left a message on the director's voice mail alerting her to the problem.

With only one computer connecting to the Internet we decided to work on logging in to G-mail on one of the computers and on the other practice using the navigation skills with Microsoft Word. Using Word, Tara and LaShaun worked on changing font size, highlighting text, changing font color, and the copy and paste functions. Tara seemed to grasp these tasks much more easily than LaShaun. In fact LaShaun seemed distracted much of the session. Overall, both women did much better than they did the previous week in using the mouse and keyboard functions. Part of this improvement may have been working with a screen that was not as busy as some of the web pages we had visited previously.

As the group was able to perform activities with more steps, they spent more uninterrupted time at the computers. Having women at the computers for long periods of time raised a concern over the ergonomics of the computing area. For example, often participants struggled to find adequate space to move the mouse from one side of the screen to the other. Additionally, their chairs often rocked back and forth forcing the participants to readjust their body position continually. At times this looked as if the women were fidgeting in the chairs when they were actually trying to maintain or find a comfortable position. Compounding the situation, the use of an older style computer monitor on a narrow desk forced the placement of the keyboard to be off to one side. instead of straight ahead (Figure 17 and Figure 18). To compensate for the position of the equipment the participants had to look down and to the right (or left) to see the keyboard and up and to the left (or right) to see the monitor. In addition to the placement of the keyboard and monitor, the desk height was a concern, especially since the chair height was not adjustable (Figure 13). Despite these challenges none of the trainees complained and they seemed to just make do with what equipment was available. It may be that because they had such little computer experience there was no awareness of the need for ergonomically appropriate equipment.

Figure 17: Computer Monitor





Figure 18: Computer Desk, Keyboard, and Monitor

During this session Nina and Shela had a chance to login to their email accounts. Similar to the previous week both participants had significant trouble with the login to their accounts and required several attempts. One participant had to have her password reset after several failed attempts. Most challenging for the women this evening was getting past the security word that must be retyped as it appears on the screen. Identifying the security letters for the trainees was a challenge, but it was especially problematic for the Tara and Nina who struggle with literacy and vision issues. However, even the one participant lacking literacy and vision issues struggled with replicating the security code word. Despite this challenge all the women remained positive and continued trying to access their e-mail accounts.

This was the first session that all the women had an e-mail address, so they began experimenting with sending each other e-mail messages. The messages were very simple and encouraging of the other participants. LaShaun struggled to login to her e-mail. She had misplaced the notebook containing her e-mail address and password. After finding the notebook and managing to navigate the login there was not enough time in the session for her to send a message. Both the researcher and the RA noticed that there appeared to be a competition developing between Nina and LaShaun. Throughout the evening LaShaun would comment that "Nina knows how to do this because she has a computer at home." The other participants gave nonverbal acceptance to these comments but never initiated this type of conversation. Nina never responded to the comments and continued to work at the task she was doing. In many ways LaShaun viewed herself as the leader of the group. Her status as a peer support volunteer along with a dominating personality enhanced her standing in the group. However, LaShaun's attention seemed drawn to Nina, the most passive group member who was progressing slightly faster in her computer skill development. Interestingly, at the end of this session, LaShaun asked the research assistant to schedule an open use time for additional assistance. The RA and LaShaun were scheduled to meet for 2:00 PM - 3:30 PM on September 4, 2008.

At the end of this session the participants were asked to complete the four-week survey. All the participants agreed and completed this survey. Each survey was collected by the researcher and stored for analysis. Survey data was linked to the initial Phase II survey through the use of a unique ID.

#### Session Summary

The fourth session was the first session where it was evident that the participants were making improvement in their computer skills. They expressed that they were very excited to get e-mails from each other. Once again technical issues prevented us from accomplishing a lot on the Web, but the enthusiasm of the group remained very high.

	Open Use Time	September 4, 2008	2:00 PM – 3:30 PM
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At the request of LaShaun, the RA agreed to provide a one-on-one training at the supportive housing facility. The training took place as scheduled on September 4, 2008. To the surprise of the RA LaShaun arrived for the session with a young child she was watching for a friend (4-years-old). She stated that the child would not "bother us" because it was her nap time. This did not turn out to be the case as the child often required LaShaun's attention. Despite LaShaun not remembering the RA's name, the training proceeded with LaShaun attempting to log on to the computer and to open Firefox to access the Internet. Logging on was made easier as LaShaun remembered to bring the notes she had made the week before.

The main goal for this extra session was to strengthen LaShaun's navigation skill and to work on accessing her G-mail account. Similar to the struggles reported in the previous sessions, LaShaun had a great deal of trouble typing her user ID and password for her G-mail account. Once her correct user ID and password were confirmed LaShaun then practiced logging in to her account several times. After she was comfortable with the login process, LaShaun wanted to learn how to read and send e-mails. The RA explained the process for checking mail in her Inbox and LaShaun wrote down key words to help her remember the steps. LaShaun felt that writing down the verbal instructions was the best way for her to learn. She was the only participant to record anything other than passwords and user IDs. After a few minutes of trying to log in to her in box, LaShaun became confused and asked the RA for assistance. The RA referred LaShaun back to her written notes but the notes were not helpful for LaShaun. The session ended with an agreement to continue working on sending and receiving e-mails at the next session. It should be noted that the RA observed that LaShaun seemed very distracted during this session. For example, LaShaun engaged in paper shuffling and attending to the child she was watching for a friend, all of which lessened her attention to the task at hand. She also talked about many topics from faith to differences between African Americans and European Americans.

 Session Five
 September 4, 2008
 6:30 PM - 8:00 PM

The four regular participants attended the fifth session. All arrived on time and were eager to get started. The goal for the fifth session was to have all the women become comfortable with logging in to their Gmail account and sending and receiving emails. Nina and Shela were the first two to practice on the computers. Nina logged on to her G-mail account with ease. From her account she sent several messages to the other participants. The messages were kind and designed to be uplifting for her peers. For instance, on message sent to Shela asked how she was doing and then stated "you're doing great in the training."

On the second computer, Shela struggled to login to her account and needed assistance from the researcher to access her G-mail. Similar to previous sessions, Shela required several login attempts (four) before she successfully logged in to her account. The primary problem for Shela was the spelling of her login ID and password. Even with this information written down it was challenging for her to replicate the information on the computer screen. Once she logged in Shela was excited to have an e-mail waiting from Nina. The two-line message seemed to energize Shela. She immediately wanted to respond, so the next task was learning how to reply to a message. Navigating the reply

text box was not easy for Shela. She struggled with figuring out where to begin typing because the original message was so close to the top of the text box. Once she learned to move the original text down by using the enter key, she was able to type a brief reply to Nina. The task of formulating a simple two-sentence response took approximately fifteen minutes to complete. After completing this task Shela typed a new message to both Tara and LaShaun. She was able to complete the task much quicker than before, but she still struggled with her spelling.

Similar to Shela, Tara spent her time on the computer learning to respond to emails from her peers. Tara had trouble with the login to her e-mail account because she had forgotten her e-mail address and lost the paper on which it was written down. She eventually got her e-mail address from Nina, who had a copy of an e-mail Tara sent her the previous week. Tara was delighted to see the e-mails in her inbox. She responded to Nina and Shela with brief messages. Tara needed some help with her spelling and finding the send button but overall appeared much more comfortable navigating through her email account. She inquired about the chat button on the left side of the screen of her email account. We tried to open a chat window but the computer froze, forcing her to log off and start all over again.

Meanwhile, Nina was felt so comfortable with using e-mail that she wanted to email Senator Barack Obama. One participant in a focus group during the first half of this study described e-mailing Senator Obama last spring. Apparently, the participants had heard about this use of e-mail for this purpose and wanted to try it themselves. It is likely that this information came from comments made during one of the Phase I focus groups. After searching without success several times Nina asked for help finding Senator

Obama's website. The RA assisted Nina with this task. The reason for Nina's lack of success was that she had spelled the senator's last name wrong. She spelled "Odoma" instead of Obama. Once she had the correct spelling, Nina found Senator Obama's website without problem; however, the process of registering her address and contact information required a few attempts because she could not type her password without errors.

As Nina typed her e-mail to Senator Obama she made many spelling and grammatical errors. Some of the errors she was able to catch while others she did not seem to notice. Even with the use of spell check the process of writing her e-mail to Senator Obama took approximately forty-five minutes. It became obvious that Nina was going to dominate the entire session, leaving LaShaun with no time to practice. In fact, while Nina was still composing her e-mail to Senator Obama, LaShaun stated that she wanted Nina to use the rest of the time and that she would use the computer later. When she completed the e-mail she insisted that everyone read it before she clicked the send button. In her e-mail to Senator Obama, Nina wrote about being a single parent of a "biracial child" and her struggles with getting child support because the father of her child is receiving Social Security-Disability. She went on to inform the Senator how thankful she was for having this agency in her life and to have God in her life. She included the agency name and contact information in case he wanted to share this information with others. The other participants were impressed and congratulated Nina on her accomplishment.

As time was running out on the session, Tara and LaShaun requested to have an open use time in the afternoon before the next training session. The RA agreed to meet both participants on September 11, 2008 for open use time.

### Session Summary

The fifth session was highlighted by the women engaging in computer mediated communication, e-mail. There were still struggles with the login process, but once into their e-mail account the women were enjoying sending and receiving e-mails. As they engaged in more time-consuming activities it became more difficult to make sure that everyone had equitable time to practice.

Open Use Time September 11, 2008 2:00 PM – 3:30 PM When the RA arrived for this session, LaShaun was already present and working on the computer. She had managed to log on to the Internet and search for G-mail but was stuck on the next step. Once the RA reminded her to click on the G-mail link she knew the next steps. Once again the log in process to access her G-mail account was problematic. LaShaun acknowledged that she was not able to access her account since September 4, 2008 because she was stuck on this one step. LaShaun spent the remainder of the session creating and responding to e-mails from friends.

The RA recorded the following in her session notes:

I let her (LaShaun) do as much as she could before I stepped in and helped her. She realized that the part she was getting stuck on was actually clicking on the Gmail website. She knew how to search for Gmail, but she forgot to click on the website. Once I helped her with that part, she was able to do everything on her own. She was really frustrated that she forgot that one small part and because of that, she couldn't access her email. I was frustrated also because if she had someone to ask earlier in the week, she could have accessed her email much earlier. Instead, she had to wait a whole week for us to come and help her with that. I wish that someone could have been at the house at some point during the week to help her, or it would have been helpful if she had someone to call with questions. On the other computer, Tara was having trouble logging in to her Gmail account. She had forgotten her password and failed to login after trying several combinations of passwords. Eventually, she was assisted in creating a new password that would be easier to remember. The RA wrote down the password for Tara to keep in her purse. Just after Tara was able to log on the computer crashed. Since this computer has had problems during previous sessions, LaShaun called the executive director, who was next door at the church. She came over and moved the upstairs computer downstairs to replace the computer having problems. This allowed the training to continue with two working computers.

One final observation by the RA was that because of traffic in the house during the day the training environment was loud and distracting for the trainees and the RA. While the benefit of having an open computer area was the interaction with others in the house, the challenge is that there are days when normal business activities can create significant traffic.

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Session Six September 11, 2008 6:30 PM – 8:00 PM
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The regular four participants attended our sixth session along with two new women who heard about the training through the agency weekly support group meeting. The group welcomed the new participants and they were able to participant in the training, although there was an initial tension in the room as the regular participants recognized that additional people meant less computer time. The new participants changed the trainee to trainer ratio from 2:1 to 3:1. Because there were only two sessions remaining the researcher did not collect data on the new participants.

The addition of two new participants forced the researcher to change strategies and have the RA to work with the new participants. The focus of the RA's training was to assess the level of computer skill for the new participants and to assist them toward establishing an e-mail account. Lori was a quick learner with some basic computer skills. Lori reported having accessed computers at the public library, but not being confident in her computer skills. In contrast to Lori, Michelle had never used a computer before. In fact, she reported being afraid of computers but was encouraged to come to the training after hearing how much support was available. Based on her observation the RA estimated that Lori was a Moderate-user and Michelle was a Non-user.

While Lori and Michelle worked on one computer the other participants worked with the researcher. The first task for each participant was to log on to their e-mail and send a message. Nina and Tara were the first to use the computers and had little trouble accomplishing this task. It should be noted that this was the first time the participants were able to login to their e-mail accounts with minimal assistance. Both Nina and Tara were very proud of their accomplishments tonight.

When it was LaShaun's turn, she asked about registering to vote, "I heard you could register to vote on here, cause I ain't never voted." LaShaun said the site she heard about was "blackamericaweb.com." She Googled this site and found the register to vote link without trouble. LaShaun then proceeded to complete the online registration form but experienced several errors on the first page and had to repeat the process three times. Eventually, the site accepted the information she provided on the first page and allowed her to move to a second page where she was asked for more personal information, such as her driver license number. Because LaShaun does not have a car and hasn't driven in

years, she did not know her driver license number. Additionally, because she does not drive she does not carry her license with her. LaShaun was frustrated with getting so close to registering, but abandoned her quest, vowing to try it again at the next session.

In the time while LaShaun was working on her registration, Nina and Shela became very interested in registering to vote. Although time was beginning to run out for our session, both Nina and Shela were able to login to the registration site and register to vote. They were both very excited and spent the rest of the time talking about Senator Obama. LaShaun shared in the excitement of the other women, but it was obvious she was disappointed at not being able to complete her registration. At the end of the session Michelle and LaShaun asked the RA to join them during the open use time next week. Open use time has become a regular feature each Thursday afternoon. In fact the RA has now set aside this time to be at the facility.

## Session Summary

The addition of two new participants required the researchers to make some adjustments, but overall the session went well. While e-mailing each other was still an exciting task for the group, two of the four regular participants were beginning to expand their use into other areas. The online voter registration provides a good example of how the Web could offer the women a tangible benefit.

Open Use Time	September 18, 2008	1:00 PM – 2:30 PM

LaShaun and Michelle came to the session as promised and the RA was available to assist the participants. At the beginning of the session LaShaun graciously insisted that the RA help Michelle set up an email account. Michelle was really eager to set up her email account. She did fairly well on the computer for a beginner. She was improving

on her mouse skills, and she seemed to have a better grasp on what to click and how to scroll down a page. She had some difficulty with typing. Adding to her difficulty typing was the length of her long fingernails, and a fear of pushing the keys too hard. Michelle did well with filling out the registration form to get an email account. She practiced getting out of her email and then logging back into her account. She practiced two or three times, and each time she needed some assistance. She would sometimes forget where to type the Gmail website address or what to put for her Username and Password.

Interestingly, Michelle learned about the value of computers through her sisters that use computers. She had also heard about some jobs online that she wants to apply for. At the end of the session. Michelle said that she was really thankful for the training and that she likes the one-on-one style of teaching because she learns better that way.

LaShaun spent most of the session sending and receiving messages from the director and her adult daughter. LaShaun seemed content to allow Michelle to receive the support today. It was a sign of progress that LaShaun was able to work independently the majority of the time today. Near the end of the session LaShaun asked the RA if she could e-mail her. The RA gave LaShaun and the Michelle her e-mail address and they exchanged the following e-mail:

I,m happy that I have you and Jim as my computer instruter. Im very happy because every one to teach me they never have time. Thats ok because I now have you..Remember when a door is closed another one is open, I woud like to show you about the black culter dont be scarde I will protect you. im for real we shoud hang out some time maybe I will take you to chuch one day so dry so you can hear some real real preachin.

### *Reply>Hi*, *LaShaun!*

I do want you to learn more because I know you can, and I want you to feel comfortable with using the computer. I'm excited for tomorrow! I'll see you at 1pm. Thanks for the emails this week. They have been encouraging to me. :) I'm so excited that you can get to your email by yourself and respond to people. See you soon!

 Session Seven
 September 18, 2008
 6:30 PM - 8:00 PM

Tonight was bittersweet as the participants began to realize that this was almost the last session. The regular four attendees were present and ready to get working. The new participants left word that they could not attend tonight but would return next week. The session began with a review of everything that we had taught up to this point. We discussed how to access the Web using Firefox, how to find their e-mail account, bookmarking sites (saving sites), and how to search for information using Google. Nina recapped that she came to the training not knowing how to get into her own e-mail account, but now she is e-mailing Obama. LaShaun echoed this sentiment and recounted that she did not know how to turn on the computer the first session and now she has an email account. She went on to say how "blessed" she felt at having this training and working with this agency.

One of the last tasks we discussed with the participants was getting them comfortable with filling out online job applications. The RA worked one-on-one with Shela showing her how to job search on Mlive.com. Shela did very well navigating around the web pages. She needed some direction to know where to click and what key words to use in her search for jobs. Because Shela was not currently looking for a job, she found this activity boring. Interestingly, throughout the evening, Shela talked about buying a laptop. This is interesting because of all the participants Shela seemed the least interested in learning the computer. She spent some time learning how to do things, but was pretty quick to get off the computer to allow someone else a turn. So as an alternative to practicing online job search skills, Shela decided to search for affordable laptops. On the other computer, Nina found an article online that she had read in the press. She was offended that the person in the article had her arrest history revealed and decided to e-mail the author. It took Nina most of the night to compose her e-mail. Her low literacy level made this task very time consuming. However, Nina never became discouraged and continued to use spell check to correct her spelling. Frequently, she would turn to the researchers to make sure she was choosing the correct word from the list the spell check program displayed. Eventually, her e-mail was completed. She read her e-mail out loud, seeking affirmation from the group before pushing the send button. The other participants gave Nina some praise but did not show the same level of enthusiasm as shown during previous sessions.

Tara and LaShaun spent most of the evening sitting at the dining room table participating in general discussions with the group. Tara was preoccupied with the possibility that she could reconnect with one of her siblings who had been placed outside of her family by the child welfare system. When she did get on the computer, she responded to a couple of emails and logged off. She still struggled with the login process but was much more confident about her ability to get into her e-mail without assistance. And she did! One of the improvements for Tara was to have a shorter more memorable password that she created with the RA.

LaShaun displayed little interest in using the computer. She remained engaged with the group but was not interested in practicing tonight. When she was not talking with everyone she was sweeping the floors and cleaning the living room. She commented about becoming a social worker someday. The researcher and RA encouraged her to

think about going to college. She seemed surprised about the support and asked for confirmation that we were serious several times throughout the evening.

Both the researcher and the RA agreed that this session was different than the previous sessions. In fact, it seemed as though the participants had developed enough independence in accomplishing basic activities that the role of the trainer had changed to one of support and encouragement. Despite struggles with user IDs and passwords they were able to navigate websites, search for information and realize when they had made a mistake and correct their error. While this was a wonderful milestone, this independence changed the feel of the session for the researchers. While the participants often directed the activities of the training sessions the participant's acquisition of basic computer skills led to a shift in the balance of power. For example, Tara, Shela, and Nina all came to the session with specific tasks they wanted to accomplish. For Tara the primary task was to check her e-mail, Shela wanted to search and compare laptop prices, and Nina wanted to give a local writer a piece of her mind for what she felt was an injustice. The change was that rather than coming to the session to learn a specific skill, the group was now coming to the session with the goal of using technology to achieve a specific purpose. For most of the group their agenda consisted of sending and receiving e-mails.

# Session Summary

In terms of their skill development the participants were beginning to become consumers of Web information. Activities such as reading news online and shopping were an expansion of the participants' Internet activity. As mentioned above, the participants' use of technology was becoming purposeful. It also appears that the group may have reached a plateau in terms of learning new computer skills.

Open Use Time	September 25, 2008	1:00 PM – 2:30 PM
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As planned LaShaun and Michelle attended the open use time this week. Because Michelle is not comfortable doing things on her own, the RA spent the majority of the time with her. Michelle worked on logging in and out of her email for most of the time. Interestingly, when the RA stepped out of the room for minute she returned to find that LaShaun was helping Michelle with the login process. This was the first example of a peer feeling comfortable enough to offer technical support to another peer. Previously, the participants' only offered verbal support and occasional verbal direction, such "click over there" to their peers. In this instance, LaShaun was modeling how to login for Michelle while adding verbal directions.

Michelle struggled with understanding how to use the arrows to move her cursor, and did not seem to understand the concept of backspace. She made a lot of typing mistakes when entering her username and password, so a lot of time was spent correcting her errors. In many ways working with Michelle was a good reminder of where the rest of the women were at the beginning of the training. Michelle did mention that her boyfriend suggested that she cut her nails so that she could type better. While her long nails were an issue the RA was concerned that Michelle may also have vision problems. At one point she counted the keys to find the number three. Near the end of the session, Michelle showed the RA a pamphlet she had from the library for free computer classes. She was intending to go to this training because the current training was ending.

On the other computer LaShaun was working independently. She did need some assistance to open an attachment about AmeriCorps that was in a message from the

Director. She spent a lot of time responding to director's emails. The session ended with both women acknowledging looking forward to the last session tonight.

Session Eight September 25, 2008 6:30 PM – 8:00 PM

Prior to the session the director informed the researcher via e-mail that there was some significant problems at the board level, but that it should not affect the training. Because of this information the researcher decided to ask the participants if they would like to participate in their post-training interview tonight. Even if only a couple of the participants were willing to be interviewed this would preserve some data in case the agency had to close its doors.

The four regular participants (Tara, Shela, Nina, and LaShaun) attended the last session. Shela and Tara voiced their sadness about the training ending. In fact, Tara wanted to know when she would get her certificate of completion for the training. When she was informed that the researcher had forgotten the certificates (oops!), she gave a deadline of one week to get her certificate to her (we made her deadline). As mentioned above, the participants were offered an opportunity to participate in an interview after their computer time tonight. All the women agreed to be interviewed during this session. In fact, Tara and Shela commented that interviewing tonight would save them gas money. The individual interview process and findings are discussed later in this chapter.

For this last session the women were asked to "show off" for the trainers. The participants were to access their e-mail and favorite sites without assistance. The point of this exercise was to give everyone a chance to be praised for her hard work over the past eight weeks. While we were fairly certain all the women would be able to accomplish this task with little assistance, it was not a sure thing. In fact, Tara and Nina had to refer to their written user IDs and passwords to access their e-mail accounts but they accomplished their login independently. LaShaun and Shela were able to accomplish this task without assistance or the use of written login information. Each time a participant completed her task, she received applause from the group. The women seemed to really enjoy the acknowledgement of their improved computer skills.

Later in the evening, Shela logged on for a second time to continue looking up computers to buy. She often asked the researchers their opinion about the computer she was looking at, but she performed her searches independently. She had engaged in this activity before but this time she seemed more serious about buying a laptop. LaShaun did a search on Oprah, and knew where to click on the website to find the information she wanted. Additionally, she was able to access her e-mail independently.

All the women were very animated during this session. The atmosphere seemed to be one of celebration for their newly acquired computer skills. There was a lot of discussion of many different topics tonight. In fact, Shela shared how she used to be a bitter person who swore a lot and was mean-spirited. She shared how she has changed and how she works to control her speech and improve her attitude. LaShaun shared about some of her struggles and how much progress she has made in her life. LaShaun described getting off crack as one of the hardest things she had ever done. She credited this accomplishment as giving her the belief that she can do anything. LaShaun attributed much of her success to the support of the director and the agency. The other women also shared how much the agency has meant in their lives and how important their relationships are with each other. In many ways the conversation seemed to be an attempt to explain how they got here and their optimism about improving their lives.
The session ended with a round of applause for all the work the participants had put into learning computer skills. The researchers further acknowledged that LaShaun, Tara, Nina, and Shela made it to all eight sessions. The participants were proud of their accomplishment and requested to have another round of training in the winter or spring.

## Session Summary

This final session was a time to praise the women for their hard work over the past eight weeks. In essence very little skill development occurred during this session as the trainers and participants had discussions about how far they had progressed in the training and in life. The participants wanted the sessions to continue and described feeling good about what they had accomplished.

## Participant Interviews

Post training interviews took place concurrent to the last session. The participants increased autonomy on the computer allowed the final session to be primarily led by the RA while the researcher conducted structured interviews with each of the participants after they had completed the task for the evening. Following the protocol approved by the IRB and discussed in Chapters Three and Six, participants interested in participating in an interview were asked to meet individually with the researcher in a room adjacent to the computer area. All four computer-training participants agreed to take part in a post-training interview. Each interview lasted approximately twenty-five minutes. All four interviews were recorded and transcribed for coding and analysis as described in Chapter Six. The interview findings in this section are presented under the four themes uncovered through the coding and analysis process. While these themes are not mutually exclusive to one another, they reflect the experience of the participants. The themes found through

the data analysis process were: (a) Technology Acceptance (b) Personal Empowerment

(c) Education and Literacy and (d) Connectivity.

- 1. Technology Acceptance
- All of the participants described feeling thankful for the training and expressed

positive feelings toward computers and technology. For example, women stated the

following about their experience:

LaShaun: [the Director] been telling me for 20 years that she was gonna teach me how to work on the computer. God just do things in his own time. When I heard about it, oh yeah I jumped right on it. And yes, I love working on the computer now.

Shela: Oh yeah, I enjoyed it a whole lot. I learned a lot.

Tara: That's why I am glad I got into this class. I want my own computer so I can learn more about how to find different things and how to really work on the computer.

Nina: Very interesting...Learning how to get on websites and learning to talk to people like Obama and Tyler Perry. I just clicked on one today, House.

In terms of the frequency of technology use as a result of the intervention, the

participants reported accessing the computer more often than they reported on the initial

survey.

Nina: I'd say two-three times a week. When I am in the area I pop in.

Shela: Maybe twice, three times a day...Yeah, I never even messed with it to be honest, you know before I started coming here.

LaShaun: Monday through Friday, and if I ain't got nothing to do I will come down here on Saturdays...I'll come down here on Sunday if I just need to get away.

Tara: Just once a week, but I learned a lot out of that once a week so that was good.

2. Personal Empowerment

The participants consistently reported feeling empowered as a result of this

experience. The significance of this experience was reflected in the participants'

comments.

Tara: I never finished school, I never graduated so this is the type of things that I really want to learn how to do...Like it, love learning.

LaShaun: Okay, thank you Jesus, You hear that? Computer class, I've been blessed...It makes me have a lot of gratitude because I never took computer training and like I said with my addiction I missed a lot.

Shela: Yeah, just didn't know how to use it. You know I did when my son was there, but once he was gone I was lost...Yeah, well I do want to say I had a great time in this class. Had to say that. Just get better and won't have to take as much time to find something.

Nina: It was just a good program and they need more. They need to continue... Yes, it's a good program 'cause I knew just a little bit and now I know a big part.

For each participant there were parts of the training that provided them with a

sense of accomplishment and pride. For Nina, the experience of interacting within the

larger community was very meaningful.

Tara: I learned how to log in and passwords. See I didn't even know that I had to do a log and a password. I didn't know none of that so that was good. I learned how to log in, but I didn't know how to get the newsletter and all of that, and the entertainment. I learned how to read the things.

Nina: Oh man it was wonderful. I emailed Obama. Then I emailed the Press 'cause they had an article that I didn't like in there and that was wonderful. Then I emailed Tyler Perry today. I was like wow, I'm not afraid to voice my opinion...It's new. I'm not afraid to voice my opinion. I'll let somebody know how I feel right then and there. And you can look at websites and it's more exciting when you have the support and when you have, you know, hands on, one person at a time instead of like a whole classroom. It's easier. So I'd say they need to have more classes.

The participants found a sense of pride in learning how to search for information on the

web.

Shela: Learned how to do my email. Learned how to use the Google. Learned how to find things that I wouldn't have knew how to find if I hadn't came to this computer class on the computer.

LaShaun: It's helping me to get connected to things I was never connected to. It helped me get an email. The computer is a directory for me 'cause I can go in there and see anything, read anything.

*Tara: I learned* how to go into Google to start off. And how to go find the email, check my email. I learned a little bit about MySpace. I don't know too much. I learned a little

bit about to find the newspaper, different articles about the news, how to find entertainment. A lot of things I learned...I really do. I want us to continue. I really don't want this to be the last day. I know I want to get my certificate and everything, but I want to continue. I'm serious, I really do. I want to continue to work on the computer 'cause I don't have one and this is something that I've really want to do for a long time.

3. Educational Achievement and Literacy

Interestingly, the participants' success in the computer training seemed to have

implications for their perspective on general education. In a sense, the participants

interpreted this successful learning experience as a sign that they can learn in other

settings. Additionally, for a few of the women the spell check function on the computer

helped them manage some literacy issues.

Tara: And another thing I really like is, 'cause my spelling is not good, and I learned on the computer if your spelling is not right it'll correct you or it won't go through if you're spelling is wrong.

LaShaun: But yeah the computers have really helped me and I'm still learning. Like when I try to get on the computer and go somewhere I'm learning how to go somewhere else. I just feel blessed. And then it helps me to spell again. I mean leaving high school, I don't know how to spell a lot of stuff or do a lot of things and the computer is helping me with that, especially my spelling.

4. Connectivity

The final theme highlighted during the interview was the establishment of a connection beyond their immediate surroundings. For Nina, this process included sending e-mails to Senator Obama and the local press. For Shela this connectivity meant she could look up news articles or other websites of interest to her. LaShaun experienced this connectivity through the use of inmate websites and a sexual offender registry. She also exchanged frequent e-mails with her adult daughter, and in her role as a peer support volunteer exchanged frequent e-mails with the agency director. The participants also found sending and receiving e-mail among themselves an enjoyable activity.

LaShaun: This is a bad thing, but one day I needed to look up my cousin in prison and I called my daughter on the phone when I got there and she talked me through it. My daughter is a computer wizard you know and I felt proud of myself. And then she showed me how to do the sexual predators according to your zip code.

Shela: I just use them more of less for finding out things that's going on in the world you know. Anything that might pop in my head. I don't really use it for games and stuff like that, but just informational. You know access around the world what's going on, stuff like that.

Overall, the intervention participants experienced a growth in their comfort with computers and their basic computer skills. For the majority of the participants the computer training offered them more than computer skills. It offered them an opportunity for personal growth and an opportunity to become empowered. The participants clearly felt this was a positive experience for them. This was evident in their comments, attendance, and desire to continue the training. All the participants reported an increase in their frequency of computer use when compared to their initial survey.

Phase II Follow-up Survey

As described in Chapter Six, the training participants were asked to complete a second survey after the fourth week of computer training. Following the approved MSU Institutional Review Board protocol, all four participants consented and completed the second survey. The purpose of the second survey was to identify changes in the participants' perception of their technology use patterns and computer skills, specifically Internet skills.

In comparison to the baseline survey, the follow-up survey showed the participants generally engaged in greater use of computers with an Internet connection. Additionally, three of the four participants went from no use of e-mail to weekly use of email (Table 14). Similarly, there was an increase in the participants' perception of their own ability to use the Internet "when no one was around", "if there was someone watching", "if there was someone to call for help", and "if there was adequate time to learn (Table 15 & 16). When asked whether learning to use the Internet would be easy, two of the four participants were more confident in their ability to learn at the follow-up survey. One participant reported a decrease in her perception of the ease of learning to use the Internet, and one participant reported no change in her perceived ability to learn the how to use the Internet (Figure 19). With regard to the purpose for using the Internet there was an increase in activities reported on the follow up survey (Figure 20). Participants increased their use of the Internet to seek information, job search, social connections, meeting new people, seeking support, search for health information, and for entertainment purposes.

Participants	Internet Use		E-mail		
	Baseline	Follow-up	Baseline	Follow-up	
LaShaun	None	Weekly	None	Weekly	
Tara	None	Weekly	None	Weekly	
Shelia	Weekly	Weekly	None	Weekly	
Nina	Weekly	Weekly	Weekly	Weekly	

Table 14: Internet and E-mail Use Comparison

Table 15: Perception of Internet Skills: No one around and with someone watching

Participants	Belief in use w/ No One		Belief in use w/Watching		
	Baseline	Follow-up	Baseline	Follow-up	
LaShaun	None	Unsure	Unsure	Somewhat	
Tara	None	Somewhat	Probably	Definitely	
Shela	Probably	Probably	Definitely	Definitely	
Nina	Definitely	Unsure	Definitely	Definitely	

Participants	Belief in use w/Call for Help		Belief in use w/ Time		
	Baseline	Follow-up	Baseline	Follow-up Probably	
LaShaun	Unsure	Definitely	Probably		
Tara	Probably	Definitely	Probably	Definitely	
Shela	Definitely	Definitely	Definitely	Definitely	
Nina	Definitely	Definitely	Definitely	Definitely	

Table 16: Perception of Internet Skills: Call for help and time to use

Figure 19: Perception of Ability to Learn Internet Skills





Figure 20: Purpose of Technology Use

# Agency Director Interview

The purpose of the interview with the agency director was to better understand the structure, procedure, processes, and outcomes from this intervention. This one on one structured interview lasted approximately 40 minutes and was audio recorded and transcribed for analysis. The executive director interview occurred one week after the completion of the training. The following discussion is a summary of the two primary themes discussed by the agency director.

1. Program Costs and Infrastructure

According to the director, the agency was the recipient of donated computer hardware and software form a local educational institution. The computers at the time of this donation were thought to be for shared use among the staff, volunteers, and clients. The director searched the Internet to find an existing "acceptable use" policy, which she

adapted for use at her agency.

CEO: Well we had initially kind of set up a generic use policy that we had received somewhere and we didn't really implement that very consistently to be honest. Other than that we really kind of launched things through this project, is when it really began. It was more that they were being used by staff prior to the project starting.

CEO: To be totally honest I think it was just copied off the Internet from some other organizations or something that was Googled and found by one of our volunteer staff so it was not real specifically adapted to [agency]. So I think we need to revisit that as we look at our technology policies and technology as a service part of our outpatient program.

As was discussed in Chapter Five, the use of donated computers can become

complicated and even expensive for the recipient. Additionally, this particular agency

struggled to obtain funds to make sure their ICT infrastructure was in place.

CEO: you know with an agency that is grass roots and has a very small budget. I mean I think that's been kind of a problem for us in terms of dealing with outdated computers and not really having up to date technology and it's kind of reduced the capacity to some degree that we're able to use technology.

Because of their limited budget the agency has had to rely on donated technical support

time from community or church volunteers.

CEO: So there's really no technical support other than what you've provided through the project and the limited that I'm able to do. We also have a couple of volunteers from the church that have helped us when we first set up the computers in terms of cleaning them out and getting them hooked up. But other than volunteers there's really no tech support... There's no budget item for tech support at this point

When asked about future technology needs the director reported needing to address her

outdated equipment and revise agency policies. She said much of this would be

accomplished through the use of donated funds.

CEO: Well I think we would like to have some more updated systems you know that will remove some of the barriers that we've had with access and the training that's hindered some of that process because of you know not having current operating systems, running so slow, not being to put certain software on there because they're outdated. So I think a huge need is just to have some real functional and up to date systems. We should start there. I think we would need to look at some of our policies and procedures and really building those into the outpatient programming that we provide and so that everything is covered in terms of there's no issues for us in terms of liability.

CEO: I think what we would do is look for some donations. We do have a current contract that is pending that starts this fall. There is some funding in there in the category of information dissemination so as we look at that budget more carefully there may be some funds in there that we could utilize. If not through that and through seeking some donors, in 2009 trying to put a line item in the budget for that. Adding technology as a budget item category.

CEO: Well I think it's been quite evident that the main challenge has just been our outdated technology and that provides some barriers for the women and can create frustration and additional confusion when you're already trying to accomplish a new skill. So that has just really shown the importance of having updated systems. It's just the struggle is with an agency that doesn't have a lot of money to be able to provide that and find a cost effective way to do that. I guess seeing the importance of it now through this project makes it more of a critical item that we need to address in terms of our fundraising and adding it to our budget, where it hasn't been one of the top priorities in the past.

2. Impact of the Intervention on the Agency

The director was pleasantly surprised that the computer training was so well

received by the participants. She has observed changes in the participants and their

abilities as it relates to accessing resources and information via the Internet. Additionally,

she believed that the training was in line with the agency's goal of empowerment.

CEO: I would say that it's a shared use, but certainly that the project has shown us as an agency that it's a really valuable resource for the clients and that they really enjoy it and they find it very useful. I think that's something real important that we're going to want to continue to develop and keep in place now that the project is going to be done with some more open access times, as well as maybe some other future training.

CEO: Well I thought it would be a good thing, but I didn't think that it would have such a huge impact on them. I think it has definitely just increased their confidence and increased their knowledge. I think they feel empowered and that's what Living Water is all about. Empowerment, giving people knowledge and life skills so that they can maintain their recovery and develop themselves personally. So I think it's been huge, I mean much more than I anticipated. The things that they were able to accomplish I think they just felt so good about it and maybe those are the little things that some of us take

for granted. But just the ability to log on and have an email address and email Obama. Those are huge, big steps in their lives.

CEO: Well I think that they have felt more informed by the information that they've found on certain websites that they now are instituting into their daily life and checking out certain sites to get information about news and current events, things that they're interested in. They've been able to connect with people and communicate in a different way and on a different level. I think it's helping them to develop, even like we've talked about, the fine motor skills and things that they haven't had to do before, so those are some examples.

CEO: one of our peer staff and she was so excited to finally get her email to me. That has definitely been helpful, especially with having two different locations and the fact that I'm not always at the house. I'm more often at the other location whereas the peer staff is more often at the outreach center. That's definitely been a plus for us to be able to communicate things and we haven't been able to do that before. I'd say that I don't know tons, like 70% of my communications with people, maybe even higher, other people that I connect with as the executive director is through email so to be able to do that now with my staff, my volunteer peer staff, is going to increase the efficiency and effectiveness for our organization.

CEO: I think it also increases our ability to respond to our population's needs because it's definitely something that they're wanting and they're real hungry to get that I don't think they're finding in other places. There may be points in the community where they can access a computer, like the library or some other organizations, but they really need the support to be able to do that so I think it'll help us as an organization respond more effectively to the identified needs of our clients.

In the future, the director would like to see increased access to technology for her

clients and staff, in addition to a regular schedule for computer training. She commented

that it may be possible to incorporate technology use questions into the intake

information gathered about her new clients. This information would be used to

understand the client's use of technology.

CEO: I think if we had the staffing levels and more of a structure within our organization in terms of providing the staffing that we could offer more open access times to support the training. I think that's been happening informally now that they have come in during some of our walk in times, but there really isn't the structure or the support there to make it a technology open access time. I've heard from the women that's something they really want so I guess that would be another thing. CEO: Well I would like to see this project continue in a way that there is periodic trainings that are offered, maybe at different points in time, even maybe quarterly throughout the year. And that we staff open access times and kind of get them set up on a schedule through our outreach center so that they can come in and use the computers, but also receive technical support because I think that comes up frequently. So it would be hard to do open access without having somebody there that can guide them along. And have the training that's offered be an entry level one, but then there may also be another training that is a continuation for people that have gone through the basic portion like the group that are completing now so that they can go to a next step or a next level.

CEO: And maybe we can incorporate some of the assessment that was done in the beginning before the project started so that if we are encountering women that are moderate users or power users maybe their first training wouldn't necessarily be the entry level one, but they could go to a higher level one based upon their skill and experience.

CEO: Well I mentioned before that [agency] is strongly about empowerment, that's one of our core values and I think that's basically what our mission is about for our clients. This project has really totally operationalized that for them in a different way than we have done in the past so that they are being given skills and their self esteem is increasing, their confidence. They are being prepared with life skills that they have not had before to accomplish goals and things that they need to do because of their involvement with other systems, but also just personal goals for their recovery and their self development. So it's very interwoven into our mission and that's been kind of a surprise to me because I really didn't see it that way until at the beginning of the project.

### Archival Data

The use of archival data such as expense and revenue reports provided a method for analyzing the costs allocated for this intervention. These reports, along with information provided by the agency director during her interview, formed the basis of the cost analysis.

Based on information gathered through an interview with the director, although the intent was to provide agency staffing for the twelve computer training hours and during weekly open computer use times, several factors discussed in Chapter Six altered this plan. Therefore, the director provided staffing support for this project. This support was indirect in nature and consisted of opening and closing the facility, overseeing

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Agency expenses for the eight weeks consisted primarily of food and beverages, and utilities. The cost for the food and beverages was \$100.00. The cost for the portion of the utilities allocated to this project was 18 hours or .06% of the total hours the facility operated during the eight-week period. Therefore, the portion of the utility cost assigned to the project was \$44.00. For this phase of the study there was no transportation cost. Participants either walked to the training sessions or found their own transportation. There was no cost for the trainers because their time was donated. However, since future trainings would likely have a fee associated with the trainers' time, therefore a cost was included in this analysis. The trainer cost is based on an estimated rate of \$15.00 per hour. This fee is slightly higher than the rate paid for student IT support at a local University. The researcher recorded 12 hours of training time and the RA recorded 16.5 hours for a total of 28.5 hours at a rate of \$15.00 per hour. The total cost for the project was \$3021.50. Table 17 shows the cost allocated to this program for the eight-week period.

Staffing	Trainers	Space	Tech Support	Utilities	Food	Equipment	
\$29.00 x10 hours	\$15.00 <u>x 12 hrs</u> \$15.00 <u>x 16.5</u>	Donated \$0 Estimate: \$100 per month x2 =\$200	Volunteer \$0 Estimate: \$20.00 <u>x 8 hrs</u> \$160	.06% of \$395 x 2 months	\$100	Donated \$0 Estimate: 3 desktop computers \$600.00 ea.	
\$290	\$427.50	\$200.00	\$160.00	\$44.00	\$100. 00	\$1,800.00	Total \$3021.50

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#### Chapter Summary

Presented in the chapter were the findings from the eight-week computer training and open access time for the participants. In total the participants spent twelve hours in hands on computer training and four hours during open computer use time with technical support present. Four participants attended all eight sessions. Based on training observations and a post-training interview, the participants were very satisfied with the experience. In general, the participants expressed an increased frequency of computer use outside of the training as well as increased confidence in their ability to use a computer. The participants expressed feelings of joy. excitement, pride and an overall sense of empowerment as a result of the computer training experience. This was evident by the perfect attendance at the trainings and confirmed in the statements by the executive director.

From the agency perspective, the director was surprised at the positive effect the training had on the participants. The director described the training as fitting within the agency's mission of empowering its clients. Further, based on this project the director was considering ways to elevate the agency's technology needs on their overall priority

list. Overall, agency costs was \$3021.50 for the eight-week intervention. Chapter 8 provides an in-depth discussion of the study findings.

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## CHAPTER EIGHT

### **Discussion and Implications**

This chapter provides a discussion of the findings from Chapter Seven, followed by a discussion of the overall study findings and implications. The discussion of the Phase II findings are organized around the model used to evaluate the agency's intervention, Cost Procedure Process Outcome Analysis [CPPOA] (Yates, 1996). The implications section provides a discussion of the importance of the findings in relationship to the NASW and ASWB Standards for Technology and Social Work Practice (2005), digital inclusion from the perspective of the study participants and the agency, the strengths and limitations of this type of intervention model, and the overall limitations of this study.

## Discussion of Phase II Findings

As discussed in Chapter Six, the participants in this study were provided an opportunity to take part in an eight-week basic computer training and arranged open access times in which they could use agency computers. The following section presents a discussion of the findings from Chapter Seven arranged around the CPPOA model.

## Cost

According to Yates (1996), examining the cost of resources as a part of program evaluation can provide the agency leadership with valuable information from which they can decide the direction of the program. Analysis of the costs of the intervention provided in this study shows two primary themes. First, noticeable in the data was the agency's reliance on donations and other outside support that provided considerable cost savings for the program. For example, the agency space where the intervention took place was

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## Procedures

In terms of the procedures used for this intervention, the agency did provide each participant with a copy of a generic acceptable use policy. This policy was not tailored to the needs of the agency. In fact, the agency director reported,

To be totally honest I think it was just copied off the Internet from some other organizations or something that was Googled and found by one of our volunteer staff so it was not real specifically adapted to [the agency]."

The use of a policy that was not tailored to the participants' knowledge, skill and literacy level may in part explain the participants' confusion over the meaning of the acceptable use policy. Additionally, the lack of written policies about computer use procedures, such as what to do in the event of a crash, was evident as well as the absence of a procedure for monitoring the participants' use of the computers. The agency director acknowledged that if they were to do this again, she would have the agency better prepared.

## Process

The intervention process as described in Chapter Six involved the use of openaccess computer times and a structured eight-week computer training. One of the themes found as result of this intervention was the need to have intensive support available for the participants as they worked to increase their computer skills. For women in this group, intensive support meant a low student-to-trainer ratio and the need for the trainer to be physically accessible at all times. Ideally this support should be available each time the participants used the computer, including open-access times. Agency staffing support during open access times would have expanded the opportunities for the participants to practice their skills.

As discussed earlier, open access times had to be scheduled in advance to insure access to the facility and the availability of support. Typically, open access times involved the executive director or a peer support staff opening the facility. During the six hours of open access time available to the participants, the research assistant (RA) provided the onsite support. Having assistance available during these times provided support for the participants continued practice using technology. In fact, for one participant who was accessing computers off-site, the lack of technical support led to her not being able to check e-mail for over a week, despite daily attempts to do so. When support was available at the next open access time, the problem was found to be a simple fix.

Fi he <u>par</u> ,ar 18 şel tei R) i 27 in .C. J ¢. 1210 44 1 2.0 ٦ţ: . ity ال ال 1.55 1 Ĩ. Fortunately, this participant remained positive about her use of technology and continued her participation in the intervention.

The computer training process itself was found to be very helpful according to the participants. The elements of the training that appeared most beneficial for the participants were the low trainer/participant ratio, individualized training goals, and the use of hands-on training techniques. During the post training interviews the participants spoke highly of the immediate support they received when needed. Similarly, for three of the four regular participants the use of hands-on training techniques allowed them to replicate at home and at other access locations the skills they learned in the training. It was noted above that two of the participants had home computers but were unable to use them easily. One participant required support from a son, and the other participant was not able to go beyond her homepage. After the training, both participants were able to use their home computers as well as computers at other access points. This ability to replicate their computer skills in multiple locations was an important milestone for the participants.

For the participants, the individualized training allowed them a sense of control over the training environment, and it supported their active involvement in the training process. Asking the women what they wanted to learn each week seemed to have accomplished two goals: first, it empowered the participants to take ownership over the process, and second, it facilitated learning activities designed to meet each participant's unique needs. This process may explain why the participants felt a strong sense of accomplishment at the conclusion of the training. In fact, one participant was adamant about receiving a certificate of completion.

It should be noted that there was little input from the participants during the first two sessions. As the participants became more comfortable with the training process, they became more active in guiding the direction of the training. For example, the initial training plan was to work with the participants on establishing e-mail accounts during the fourth or fifth week of the training. However, because of the excitement generated by one participant during session two over establishing her e-mail account, the other participants wanted to work on getting their own accounts during session three. Similarly, during session six, one participant wanted to register to vote online for the upcoming presidential election. Eventually two participants were able to register online and one participant completed all but the final step of the online registration process.

#### Outcomes

The final step of the CPPOA is to examine the outcomes of the program or intervention (Thyer, 2001; Yates, 1996). This study examined intervention outcomes in four areas: increased computer access, increased computer skills, perceived empowerment, and the intervention's impact on the agency. Each of these areas will be discussed in detail.

# **Computer Access**

Based on the findings from Phase I, regular physical access to technology as well as low participant skill level were barriers to technology use. In response to these concerns the intervention was designed to increase physical access to technology and increase the participants' skill level. With regard to the former, the intervention did show an increase in the physical access to technology for the participants. During post intervention interviews all of the participants described an increase in their access and use of technology. Additionally, the participants' interview statements were corroborated by the baseline and four-week survey data. Table 14 – 16 and Figure 19 show the comparison of baseline and follow-up survey results.

### Computer Skill Development

Along with the increase in computer access found in this study, the participants also reported increases in their perception of their computer skill level. This perceived gain in computer skills was reported throughout the actual computer training and the post-training interview, and this perceived gain was confirmed by the analysis of baseline and week four survey. Together, this information paints a clear picture of the participants' perceived increase in computer skills. For example, Figure 19 shows the change in the participants' perception of their abilities from the baseline survey and after four weeks of training.

Additionally, the perceived increase in computer skill level was followed by increased access to computers outside of the training times, such as open use times. As was discussed earlier, the lack of agency staffing forced the open use times to be scheduled in advance. The first request for an open use time did not come until after the fourth session which coincides with the participants' first report of increased computer skills via the four week survey. More than a coincidence, this suggests that the perceived growth in computer skills (computer self-efficacy) was a likely influencing factor in the desire for additional computer use.

From a group perspective, the participants were instrumental in supporting each other toward the goal of increasing their computer skills. While the training participants were familiar with each other prior to the training, the level of cohesion among the

members appeared to grow each session. The group celebrated as members completed tasks each session and provided support for each other when tasks became difficult. Although there was little formal training support exchanged between the members, the peer modeling and encouragement seems to have added positively to the learning environment.

#### Empowerment

As the participants became more confident about their computer skills, they were able to move beyond basic navigation and search skills to more interactive activities. These activities, such as contacting former friends through classmates.com; e-mailing each other; or contacting elected officials, seemed to lead to feelings of personal empowerment. This was clearly evident when the first participant was able to establish her personal e-mail account. For this participant as well as the others, having a personal e-mail account represented a connection to a world beyond the boundaries of their immediate surroundings. This accomplishment was celebrated and was the envy of the group. The other participants demanded to get their personal e-mail accounts the following week.

Additionally, the importance of having an e-mail account was demonstrated through the participants' persistence in trying to login to their accounts. As discussed in Chapter Seven, logging in to an e-mail account was an exhaustive activity for all the participants. Despite the frustration felt by the participants and trainers, the women worked at logging on each week, which is an indicator of the symbolic importance of having a personal e-mail account. The importance of having an e-mail account for the

participants did not go unnoticed by the director who reported that the women felt

empowered as a result of the training. She further stated,

The things that they were able to accomplish I think they just felt so good about it and maybe those are the little things that some of us take for granted. But just the ability to log on and have an email address and email Obama. Those are huge, big steps in their life.

Indeed, having a personal e-mail account and the skill to send and receive e-mails independently was the centerpiece of the training experience for the participants. While the researches knew having a personal e-mail account was important, the emphasis placed on the acquisition of an e-mail account by the participants was unanticipated.

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## Agency Impact

The agency in this study was impacted in three primary ways. First, the agency learned that its mission of "empowering" the women coming to them for assistance could in part be achieved through the development and utilization of applicable technology skills. Second, the agency learned an alternative way to communicate with and engage its target population in positive recovery-oriented activities. Third, the agency learned that although its funding is limited, it is important to devote attention to the development of a technology plan that includes the creation and support of an adequate technology infrastructure for staff and clients.

According to the agency director, the mission of the agency is to "empower" the women served. She further characterized this empowerment as extending beyond recovery from chemical addiction and including every area of the participants' lives. To this end, the director thought this study would provide a good opportunity for the women to have exposure to a new area, technology. What she did not anticipate was the level of enthusiasm and excitement experienced by the women and the sense of accomplishment expressed by the participants. The director commented that this experience was consistent with the agency mission of empowerment and acknowledged her surprise at how well the use of technology fit into the agency's overall goals.

As with any human service agency, the importance of communication between staff and clients cannot be overstated (Hackler & Saxton, 2007). Interestingly, this study led to increased communication between the director and the participants, one of whom functions as a volunteer peer-staff. This communication took place via e-mail beginning approximately in the fourth week of the training and extended through the entire training period. As a result, the director reported increased communication with her volunteer staff without the need to travel between the two agency sites. In fact, the ease at which the director has been able to communicate with the women has led her to consider adding questions to the agency initial assessment form with the goal of developing a technology profile for each new client. From this profile she hoped the staff would understand the best way to communicate with their clients as well as their technology training needs. Such a change in perspective was not anticipated when the project was approved.

Finally, this study has highlighted the agency's need for an investment in their technology infrastructure. The agency's reliance on donated hardware and software proved to be problematic during this study. The unreliability of the computers from session to session made it difficult to plan for activities and often caused participants to have limited time using the computers. Further, the outdated software (Windows 98 and Windows 2000) and slower processor speeds on the computers, limited the ability of participants to experience some of the Web's interactive capabilities. In addition,

features such as flash video were difficult to download and view based on the available hardware and software.

Equally important was the fact that when there was a computer breakdown there was no provision for technical support to correct the problem. While some assistance was available from a church volunteer, the process for contacting this individual was unclear and response time was uncertain. As the agency grows and comes to utilize additional technology, delays in receiving technical assistance could greatly hamper agency functioning and ultimately services to the women. The director herself noted that addressing the technology infrastructure should be a significant priority for the agency in the future.

### Theoretical Implications

While the impact of technology on our society is indisputable, the impact of technology on vulnerable populations is an area that requires additional exploration. For the social work profession, understanding barriers to technology use for vulnerable populations can lead to the design of empowerment strategies to lessen the impact of the digital divide. This study provides an initial exploration into the identification of digital barriers and the thoughts and feelings of members of one vulnerable population toward the use of technology. Additionally, this study provides a preliminary evaluation of one intervention strategy designed to overcome the lack of access to computer hardware and the lack of computer skills reported by the participants.

#### *Implications for vulnerable populations*

At the micro level, as discussed by Miller-Cribbs (2001), Schoech (2002), Warschauer (2003) and others, vulnerable populations such as the one in this study

consisting of low-income, urban, ethnic minority women with behavioral disorders often lack access to technology and the skill to utilize technology. However, this case study adds to the literature two important points relative to the participants from Phase I and Phase II.

1.) This vulnerable population was aware of their lack of access and lack of skill and expressed feelings of anger and frustration at times during this study. While these feelings were expressed in private, publicly this group has remained passive and practically invisible within our vast digital culture despite having little choice about the nature and scope of their technology use. As employers and welfare-to-work programs require the completion of electronic employment applications, or as referral sources direct them to websites to access community resources, this group passively attempts to participate without having the necessary access or skills to use the technology. Alternatively, when attempting to use technology, this group relies on their children and other family members to assist in overcoming access and skill barriers.

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The vulnerability of this population with regard to their technology use may in part explain the low participation rate in phase II. When we were talking about technology there was interest from a majority of the agency's clients. When we progressed to actually using technology the rate of participation dropped significantly. It is quite possible that even in this "safe" environment attempting to use technology was too great of a risk.

2.) Given the opportunity to access technology and increase their technological skills, this group of four women showed a strong interest utilizing technology. For these participants this interest led to a demonstrated willingness to engage in our digital culture.

provided that the terms of this involvement met their unique learning needs. As mentioned previously, the need for intensive support, low trainer- to- student ratio, and individualized curriculum were critical for this group. This finding is similar to the findings of Sandberg, et al. (2005) who trained a Swedish population of individuals with severe functional impairments to use the computer for empowerment and to facilitate independence.

#### Implications for Intervention Design

At the mezzo and micro level, central to the agency's ability to engage the participants in this intervention was the trusting relationship between the staff and the participants. The participants commented throughout the study how they credit the agency for turning their lives around and how much they trust the agency leadership. Without this trusting relationship between the agency and the participants it is doubtful that many of the women would have participanted. In fact, even with a strong agency relationship, two of the Phase II participants did not attend any of the training sessions and one left the agency's program. For those who did participate the training location provided a place that represented comfort and trust (Sandberg, et. al, 2005). Once inside the facility, the potluck style atmosphere where food was available as needed on the dining room table provided for the basic needs of the participants and was viewed as an acknowledgement of their hard work. This was particularly evident through the comments of the group when the researcher provided the meal for the sessions. The participants expressed gratitude that their needs had been considered.

As mentioned in Chapter Seven, the low participant-to-trainer ratio was another important element of the training. This low ratio allowed the trainers to assist with

literacy issues, recognize visual impairments, and offer individual encouragement to the participants. All of these features were mentioned by the participants in Phase I as things that would make computer training valuable for them. Similarly, the demeanor of the trainers was an important consideration. In a sense this can be equated to a cultural competency about the training needs of the participants. For instance the Phase I participants were clear that they did not want to be trained by someone who would yell at them or make them feel inadequate. Even for the trainers in this study, it was challenging to remain calm and patient as the participants struggled with tasks that most of us complete with out much thought or effort. However, remaining patient was a priority for the trainers and was discussed during each debriefing session.

One aspect of the intervention that was lacking and interfered with the learning process was the availability of up-to-date hardware/software. Simple issues from slow processors that require significant waits to load a webpage to frequent computer crashes were a regular part of the intervention. For this vulnerable group, disruption in the learning process was problematic. In fact, the group may have been able to progress further had technical problems not limited the computer time for participants.

While open-access times in theory should be enough to assist Moderate users and possibly Non users, this study found that both of these groups required assistance as they worked to improve their computer skills. Consistent with the findings of Sandberg et al. (2005) there is always a need for onsite support to facilitate the learning process and to encourage the participants' use of technology.

Further, the process of finding ways to address digital barriers will inevitably lead to an internal examination of agency policies, procedures, and resources. As found in this

study, the lack of attention to the technology infrastructure and the lack of technology resources quickly became apparent. This internal examination goes beyond having the latest hardware and software. For instance, even if the agency had been able to provide up-to-date hardware and software, increasing the volume of computer users would likely have led to greater need for repairs and computer maintenance which was often unavailable. Additionally, the development of policies for non-employees without limiting access to electronic resources for clients is a challenging proposition. For example, several of the Phase I participants commented that computer use time limited to one hour as a barrier for accessing the computers at the local public library given their perceived low skill level and the amount of time it took to use the public transportation system. While the library's goal is to make sure everyone has access to the computers, for this population the policy effect was to exclude them from this community resource. Of equal importance to having adequate time to use the computer is the need for intensive user support, which is often unavailable in public libraries.

Other considerations at the agency level are the development and implementation of staff training about the use of technology, and discussion about their responsibilities with regard to digital interactions with the population they serve. This is especially true for the use of e-mail but should include text messaging and social networking sites as well (Finn & Krysik, 2007). Outlining who responds to electronic communication from clients, when they should respond, and how often to respond would assist staff in developing appropriate boundaries within the context of their responsibilities. As Finn and Krysik (2007) discuss, staff should have the ability to distinguish between solicited and unsolicited e-mail and respond within the parameters of the agency policy and the NASW Code of Ethics (1999) to electronic correspondence.

At the macro level communities and governments should be aware of the potential of technology to empower some groups while at the same time disenfranchising others. The assumption that if a community offers computer access through public libraries or schools then access issues are greatly reduced for vulnerable populations was not the experience of participants in this case study. From a policy perspective, finding ways to invest in the technological infrastructure of trusted sites that vulnerable populations regularly use, such as treatment providers, may be an effective approach.

From a funding perspective the recognition of providing access and training to vulnerable populations as a reimbursable treatment support service would provide incentive for providers to offer such services. Additionally, as provider and client electronic interactions increase there is a need for licensing regulations to evolve in order to keep pace. Current regulations that require practitioners to be licensed in each state in order to deliver services ethically to a resident of that state, do not take into consideration client self-determination. This state-by-state limit does not exist in medicine, for example. The requirement for physicians to be licensed in each state does not prohibit you and me from going to Cleveland Clinic or Mayo Clinic to receive services. For vulnerable populations who may lack the resources to travel physically the Internet offers them one option to receive the care of their choice.

While the responsibility for the digital divide does not rest with the social work profession alone, it is clearly the role of social workers to advocate with other systems and legislatures to lessen this barrier to full participation in society. Whether access

occurs through human service agencies or through public kiosks sites is less important than the fact that vulnerable populations need access to this resource to prevent falling further behind.

### Implications for Research

Poor ethnic minority women in various stages of recovery from chemical addiction represent a unique subset of our population. The findings from this case study may not be representative of all women receiving substance use services or even all ethnic minority women receiving substance use services. However, the findings from this study do represent one agency's struggle to understand how their clients' lives are affected by the lack of access to technology and how the agency may intervene to lessen the digital divide. Much like the vulnerable population in this study, there are other populations such as older adults, residents of rural areas, children, and others who without the access and skills to facilitate a digital connection to education, employment, and other community resources will likely become even more vulnerable (Bakardjieva, 2003; Blaschke, et al., 2009; Hick, 2006; Miller-Cribbs, 2001).

As a researcher, the opportunity to have a small glimpse into the world of these women and to share their story was a tremendous honor. While there are many occasions where large sample sizes that are generalizable into a broader context are valuable, there are also times where small sample sizes that have limited generalizability can provide a rich array of findings from which other research may grow. For this researcher this study has deepened the belief that the digital divide represents a social justice issue which the profession of social work has a responsibility to address through the tools at our disposal. The need for a compilation of evidenced based practices for social work professionals and agencies to assist in bridging the digital divide while fulfilling our professional mission is apparent in the literature and throughout this study.

Future research in this area should include an examination of the current digital interactions between social workers and their clients, the use of human service agencies as access points for their clients' technology needs, and the availability of web-based content suited to the needs of vulnerable populations. Along with these areas of study comes the need to develop policies and procedures to guide the profession.

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Consistent with the above research needs this researcher is currently in discussion about a replication of Phase II with participants enrolled in a larger outpatient substance use and mental health provider. After this larger replication, the next study would examine how the profession could utilize emerging technology such as GIS mapping, Twitter, Second Life, Care Pages, and other ICTs to empower vulnerable populations. For example, can Twitter be used to support victims of domestic violence or be used to support neighborhood safety? The focus of this research agenda will be on better integration of technology into social direct practice.

### Implications for Social Work Practice and Education

As was found in the first phase of this study, there was a gap between the staff perception of access to technology for the participants and the reality of their access to technology. This overly optimistic assessment by staff led to the assumption that the participants used technology at greater frequencies than they actually did and the belief that the range of technology related activities was greater than it actually was for the participants. This disconnect facilitated the agency's continued focus on providing services without considering the level of disenfranchisement experienced by the
participants as a result of their lack of access to technology and the lack of skill to utilize technology. For the staff of this agency, developing an awareness of the participants' needs led to an effort to empower the participants by assisting in bridging the digital divide. The staff efforts were consistent with the NASW and ASWB (2005) standards for technology in social work practice which among other things directs social workers to make efforts to secure their own technology access as well as access to technology on behalf of their clients (Standards number two and nine).

While the results of this case study should not be generalized beyond the population of focus in the study, it does raise questions for social workers to consider with regard to the populations they are currently serving. For example, how has the population you serve been affected by technology? Do they have access to technology? Do they possess the skills to use technology? What methods have you used to address digital barriers on behalf of those you serve? Finding answers to these questions is becoming increasingly important as community resources become available online (Martin & Robinson, 2007). As Martin and Robison (2007) discuss, it is not only the fact that vulnerable populations lack access to electronic resources, it is also the fact that other segments of the population do have access, and benefit from this access, which places these populations at an increasing disadvantage.

From an educational perspective it is imperative that new generations of social workers have an understanding of the important role technology can play in the empowerment of their clients, and how to use electronic communication ethically in a helping relationship (McFall& Freddolino, 2008). This means that schools of social work will need to incorporate into courses information necessary for students to become

digitally competent social workers. For example, when teaching group therapy techniques the inclusion of electronic support groups and process groups should be discussed with attention to standards and ethical dilemmas. Alternatively, macro courses discussing advocacy techniques should include electronic advocacy as one method to achieve policy change. The infusion of technology information into the foundation of social work training requires that universities take deliberate steps to develop technology competent faculty and staff.

#### Limitations of the Study

This study, like others, has its strengths and limitations. As with any case study, the generalizability is most often limited to the group or subgroup participating in the study (Dudley, 2005; Richards, 2006). This study is no exception in that it is not generalizable to all women in recovery. However, the study does accurately reflect the experiences of one small Midwest, substance use provider and their clientele. Further, the method of qualitative inquiry, in which the researcher is one of the instruments, poses challenges for other researchers attempting to replicate the study and for reliability and trustworthiness. Given the nature of the topic and the research questions guiding the study, this researcher chose a qualitative methodology as the best approach to lend a voice to the experiences of this population. To address reliability and trustworthiness issues, reflexive memo writing and the use of a second coder was employed throughout the study (Dudley, 2005; LaRossa, 2005; Richards, 2006).

Additionally, with community-based research there are inherent difficulties (Thyer, 2001). Often the natural setting can be unpredictable, requiring adjustments to the methodology (Thyer, 2001; Silverman, 2005). In the case of this study, an agency

staffing shortage limited the amount of open access time available to the participants. It is unknown how the participants would have utilized additional open access times and the impact this increased computer time might have had on the study findings. As discussed previously, outdated computer hardware and software limited some of the activities the participants could learn and practice on the computer, and shortened the time on the computer for some participants.

#### Conclusion

In the context of providing services to vulnerable populations it is easy to remain focused on providing evidenced based practices that relieve immediate suffering or provide a foundation for additional growth. However, if these services are provided without recognition that other barriers such as the digital divide are affecting those we serve then we are missing a valuable opportunity for empowerment. As ICTs continue to evolve, access will become synonymous with power and knowledge (Martin & Robinson, 2007).

Interestingly, a recent Pew Internet American Life study surveyed Internet experts and found significant support for the prediction that by 2020, the telephone will be the primary Internet device world wide (Retrieved from www.pewinternet.com on December 20, 2008). As was found in this study, access to the Internet via the cell phone was far less available to these participants than access to a computer with an Internet connection. If this prediction comes true then the gap will continue to widen, leaving vulnerable populations further behind in income, education, political involvement, and community participation. If the one of the primary goals of social work is the empowerment of vulnerable populations then we must find effective ways to assist those we serve in

bridging the digital divide (NASW, 1999). As stated in Social Work Speaks, "Social work practice must shape and be shaped by exponential growth of information technology" (NASW, 2006, p.359).

APPENDICES

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# APPENDIX A

# Participant Survey Phase – I

### Participant Technology Survey

This survey is an exploration into your use of technology. Please take a moment to tell us about yourself and the technology you currently use. The information you provide will be confidential. Your responses to this survey will be combined with the information provided by other participants and reported in aggregate. This survey will take approximately 10-15 minutes to complete.

1. Do you own or have access to one or more of the following devices? (Please check all that apply)

	Technology Devices	I own	Use through Friends/Family	Use through Library or Public Sources	No Access
a.	Computer: Laptop or Desktop				
b.	Computer with Internet Access				
c.	Cell Phone				
d.	Cell Phone with Text Messaging				
e.	Cell Phone with Internet Access				
f.	I-Pod or MP3 Player				
g.	PDA				
h.	Digital Cable				
i.	Satellite Television				

# 2. Please tell us how often you use the following functions? (Please check all that apply)

	Technology Functions Used	Daily	Weekly	Every Other Week	Monthly	Yearly	No Use
a.	Internet/Websites						
b.	Text Messaging						
c.	E-mail						
d.	Make Cellular Calls						
e.	Watch Digital Television						
f.	Watch Satellite Television						

3.	For what	purpose do v	ou typically use	technology? (F	Please check all	(that apply)
						· ····································

To seek housing To seek employment
To seek health related information To purchase goods or services
To keep in touch with friends or relatives For information or education
To meet new people To seek support or offer support
For entertainment For gaming
Other:
Demographic Information:
4. Ethnic Background:
European American 🗌 African American 🗌 Latin American
Asian American Native American Multi-ethnic Other
5. Highest Grade Completed:
Middle School High School GED College
6. Current Living Arrangement:
Renting Own my home Live with relatives Live with friend
Homeless Live in shelter Other:
7. Are you receiving any of the following services: (Please check all that apply)
Medicaid Medicare Food Stamps Section 8 SSI-D
Not receiving any of the above services
8. Age Range:
Age: 18 – 24       25-34 yrs       35-44 yrs       45-54 yrs       55 yrs or older         Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24         Image: 18 – 24       Image: 18 – 24       Image: 18 – 24       Image: 18 – 24
9. Estimated Annual Income:
\$0 - \$10,000 \$11,000 - \$20,000 \$21,000 - \$30,000 Above \$30,000

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As a follow up to this survey, we will be conducting small focus groups on this topic. These focus groups will be held at this same location. Participants completing the focus group process will be given a \$10 Meijer gift card as a token of our appreciation. Would you be interested in participating in a small group discussion about your technology habits? Yes No If yes, please provide us with your contact information. (Please print) Name: \_\_\_\_\_\_Phone Number: \_\_\_\_\_\_

Thank you for completing this survey.

#### APPENDIX B

#### Staff Perception of Client Technology Use Survey

This survey is an exploration into your perception of client use of technology. Please take a moment to tell us about the technology you currently use and your perception of client use of technology. The information you provide will be confidential. Your responses to this survey will be combined with the information provided by other participants and reported in aggregate. This survey will take approximately 15-20 minutes to complete.

- I. Personal Technology Use
  - 1. Do you personally own one or more of the following devices? (Please check all that apply)

	Technology Devices	I own	Use through Friends/Family	Use through Library or Public Sources	No Access
a.	Computer: Laptop or Desktop				
b.	Computer with Internet Access				
c.	Cell Phone				
d.	Cell Phone with Text Messaging				
e.	Cell Phone with Internet Access				
f.	I-Pod or MP3 Player				
g.	PDA				
h.	Digital Cable				
i.	Satellite Television				

2. Please tell us how often you use the following functions? (Please check all that apply)

	Technology Functions Used	Daily	Weekly	Every Other Week	Monthly	Yearly	No Use
a.	Internet/Websites						
b.	Text Messaging						
c.	E-mail						
a.	Make Cellular Calls						
b.	Watch Digital Television						
C.	Watch Satellite Television						

3. For what purpose do you typically use the Technology? (Please check all that apply)

To seek housing	To seek employment
To seek health related information	To purchase goods or services
To keep in touch with friends or relatives	For information or education
To meet new people	To seek support or offer support
For entertainment	For gaming
Other:	

4. How would you rate your level of experience with technology using a scale from one to five?

1	2	3	4	5
No		Some		Significant
Experience		Experience		Experience

# II. Staff Perception of Client Technology Use

- 5. What percentage of your clients own a computer, PDA, or cell phone with Internet capability? (Circle one)
  0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
- 6. What percentage of your clients have access to a computer, PDA, or cell phone
  - with Internet capability through friends or family? (Circle one)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- 7. What percentage of your clients have used the Internet at a public site such as a library, community agency or religious organization? (Circle one)
  0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
- 8. What percentage of your clients use the Internet weekly? (Circle one)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9. For what purpose do your clients use the Internet? (Please check all that apply)

To seek housing	To seek employment
To seek health related information	To purchase goods or services

To keep in touc	h with frier	nds or relatives	Fo seek in	formation or education
To meet new pe	ople		Гo seek su	pport or offer support
For Entertainme	ent		Other:	
9. Have you ever refe	erred a clier	nt to a website?	Yes	🗌 No
If yes, please desci	ibe the nat	ure of this website	or list the	site's URL.
		· · · · · · · · · · · · · · · · · · ·		
10. Using a scale from your clients' lives?	one to five (Please ci	e how would you ra rcle one)	te the imp	pact of technology on
1	2	3	4	5
No		Some		Significant
Impact		Impact		Impact
11. Using a scale from	one to five	e how important is	it for your	clients to use
technology?		-	•	
1	2	3	4	5
Not		Somewhat		Extremely
Important		Important		Important
12. Is there anything e	lse you wo	uld like to tell us at	out client	s' use of technology?
	tere tool of the			

E.

As a follow up to this survey, we will be conducting small focus groups on this topic. These focus groups will be held at this same location. Would you be interested in participating in a small group discussion about your clients' technology habits?

Yes No

If yes, please provide us with your contact information. (Please print)

Name: \_\_\_\_\_\_Phone Number: \_\_\_\_\_

Please place the completed survey in the envelope provided and leave it on the table.

Thank you for completing this survey!

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# APPENDIX C

#### Non-user Focus Group Questions

Introductory Remarks: Thank you for taking the time to come together for this focus group discussion about the role technology plays in your life. The discussion will probably take about 60 minutes to complete. The purpose of this focus group is to understand your use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices. One potential benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology. You will not be identified by name or recognizable in any way in the report I prepare. You participation or lack of participation will in no way effect the services you receive through Living Water, Inc. You may end your participation at any time.

The focus group process will involve me asking you a question about technology, your use of technology and/or you views about this technology. We will spend enough time on each question to ensure that everyone has a chance to share their thoughts.

Are there any questions before we begin?

- 1. On your initial survey you indicated that you did not own a computer or other device with Internet Access. Are there reasons you do not own one of these devices? If so, what are those reasons?
  - a. Have you ever owned one of these devices?
  - b. Would you like to someday own one of these devices?
  - c. What steps would you take to obtain one of these devices?
  - d. How would owning one of these devices impact your life?
  - e. How do you feel about not owning one of these devices?
- 2. If you wanted to use the Internet what steps would you take to gain access?
  - a. What kind of assistance would you need to gain access, if any?
- 3. If you have not accessed the Internet what are the primary reasons you have not used the Internet?
  - a. What role has lack of money played in this decision?
  - b. What role has lack of interest played in this decision?
  - c. What role have others played in your decision?
  - d. What role has lack of time played in your decision?
  - e. What role has lack of computer skills played in this decision?
- 4. Are there activities that you would participate in through the Internet if you personally owned a computer or other type of connection device?
  - a. Social networking
  - b. Shopping
  - c. Gaming
  - d. Education/training

- e. Seek employment
- f. News information
- g. Health/wellness information
- 5. If you had to rate the impact of technology on your life, using a scale from 0 10 with zero representing no impact at all, the number five representing a moderate impact, and the number ten representing a significant impact; how would you rate the impact of technology on your life?
- 6. Are there other things related to technology you would like to discuss?

If you are interested in learning more about technology or the Internet we have provided you with a contact person at the public library and a list of programs that offer free assistance with technology. Additionally, if you would like onsite training on computers and technology, we will provide a free training for you.

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Thank you for your participation in this project!

# APPENDIX D

# Moderate-user Focus Group Questions

Introductory Remarks: Thank you for taking the time to come together for this focus group discussion about the role technology plays in your life. The discussion will probably take about 60 minutes to complete. The purpose of this focus group is to understand your use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices. One potential benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology. You will not be identified by name or recognizable in any way in the report I prepare. You participation or lack of participation will in no way effect the services you receive through Living Water, Inc. You may end your participation at any time.

The focus group process will involve me asking you a question about technology, your use of technology and/or you views about this technology. We will spend enough time on each question to ensure that everyone has a chance to share their thoughts. Are there any questions before we begin?

- 1. On your initial survey you indicated that you did not own a computer or other device with Internet Access, but that you had access from other locations. Are there reasons you do not own one of these devices? If so, what are those reasons?
  - a. Have you ever owned one of these devices?
  - b. Would you like to someday own one of these devices?
  - c. What steps would you take to obtain one of these devices?
  - d. How would owning one of these devices impact your life?
  - e. How do you feel about not owning one of these devices?
- 2. What happened the last time you attempted to access the Internet? Did you find what you were looking for?
  - a. How has this experience shaped your attitude toward technology?
  - b. Are there ways this experience could have been better?
  - c. What type of site did you access?
- 3. What are the primary reasons you do not use the Internet more frequently?
  - a. What role has lack of money played in this decision?
  - b. What role has lack of interest played in this decision?
  - c. What role have others played in your decision?
  - d. What role has lack of time played in your decision?
  - e. What role has lack of computer skills played in this decision?
- 4. If you had to rate the impact of technology on your life, using a scale from 0 10 with zero representing no impact at all, the number five representing a moderate impact, and the number ten representing a significant impact; how would you rate the impact of technology on your life? Why?
- 5. What type Internet activities or websites have social workers or other helping professionals referred you to? Where these sites or activities helpful?
- 6. Are there other things related to technology you would like to discuss?

If you are interested in learning more about technology or the Internet we have provided you with a contact person at the public library and a list of programs that offer free assistance with technology. Additionally, if you would like onsite training on computers and technology, we will provide a free training for you.

Thank you for your participation in this project!

## APPENDIX E

### Power-user Focus Group Questions

Introductory Remarks: Thank you for taking the time to come together for this focus group discussion about the role technology plays in your life. The discussion will probably take about 60 minutes to complete. The purpose of this focus group is to understand your use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices. One potential benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology. You will not be identified by name or recognizable in any way in the report I prepare. You participation or lack of participation will in no way effect the services you receive through Living Water, Inc. You may end your participation at any time.

The focus group process will involve me asking you a question about technology, your use of technology and/or you views about this technology. We will spend enough time on each question to ensure that everyone has a chance to share their thoughts.

Are there any questions before we begin?

- 1. What happened the last time you attempted to access the Internet? Did you find what you were looking for?
  - a. How has this experience shaped your attitude toward technology?
  - b. Are there ways this experience could have been better?
  - c. What type of site did you access?
- 2. What are the primary reasons you do not use the Internet more frequently?
  - a. What role has lack of money played in this decision?
  - b. What role has lack of interest played in this decision?
  - c. What role have others played in your decision?
  - d. What role has lack of time played in your decision?
  - e. What role has lack of computer skills played in this decision?
- 3. What types of websites are most useful to you?
  - a. Social networking
  - b. Shopping
  - c. Gaming
  - d. Education/training
  - e. Seek employment
  - f. News information
  - g. Health/wellness information
- 4. If you had to rate the impact of technology on your life, using a scale from 0 10 with zero representing no impact at all, the number five representing a moderate impact, and the number ten representing a significant impact; how would you rate the impact of technology on your life? Why?
- 5. What type Internet activities or websites have social workers or other helping professionals referred you to? Where these sites or activities helpful?

6. Are there other things related to technology you would like to discuss?

If you are interested in learning more about technology or the Internet we have provided you with a contact person at the public library and a list of programs that offer free assistance with technology. Additionally, if you would like onsite training on computers and technology, we will provide a free training for you.

Thank you for your participation in this project!

# APPENDIX F

# Staff Focus Group Questions

Introductory Remarks: Thank you for taking the time to meet with me today. The discussion today will take approximately 60 minutes to complete. The purpose of this focus group is to discuss your perspective of client use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices and how your client's perspective of the role of technology in their lives.

Your participation in this project is completely voluntary and you may end your participation at anytime.

- 1. Are there ways in which this study has impacted your agency?
  - a. Have you or other staff discussed the use of technology?
  - b. Have your clients discussed the use of technology with you?
  - c. What are the pros or cons related to these kinds of discussions?
- 2. What is your reaction to the summary of client use of technology?
  - a. Is what you expected?
  - b. How accurate do these finding seem to you?
- 3. What impact do you think these findings will have on your agency?
  - a. Are there things you will do differently based on these findings?
  - b. Are there suggestions you will make to the agency Director or Board of Directors based on these findings?
- 4. If Living Water, Inc. decided to offer addiction services or support services through the Internet what would be your reaction?
  - a. In your opinion would there be any benefits to clients from participating in treatment through the Internet?

Thank you for your participation in this project!

### APPENDIX G

### Research Participation Information and Consent Form – Phase I

Title: A case study of how, why, and for what purpose women in recovery use technology Researcher: Paul P. Freddolino, MDiv, Ph.D Institution: School of Social Work, Michigan State University Contact Information: 214 Baker Hall, East Lansing, MI 48824 Telephone: 517/432-3723 or e-mail: freddoli@msu.edu

### PURPOSE OF RESEARCH:

You are being asked to participate in a research study examing the role technology plays in your life. The purpose of this study is to understand your use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices. One of the major benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology.

You have been selected as a possible participant in this study because you are an active client of this agency. Your participation in this study will take about fifteen minutes today. If you choose continue your participation beyond today, you may be invited to participate in a one hour focus group meeting to discuss your use or non-use of technology.

You must be 18 years old or older to participate in this study.

#### WHAT YOU WILL DO:

If you agree to participate in this study, you will be asked to complete a brief survey about your use or non-use of technology. Completing this survey will take 10 - 15 minutes. If you choose to participate in the focus group portion of this study, you will be asked to provide your name and a telephone number so that we may contact you. Of the individuals agreeing to continued participation in this study, we will invite up to 30 people to participate in small group meetings. Each small group meeting will last approximately 60 minutes.

Findings from this study will be shared with the host agency and all participants. You will not be identified by name or recognizable in any way in the report we prepare. Your participation or lack of participation will in no way effect the services you receive through this agency.

# **POTENTIAL BENEFITS:**

You will not directly benefit from your participation in this study. However, one of the potential benefits will be to suggest better ways for agencies to engage their clients in the use of technology.

### **POTENTIAL RISKS:**

There are no foreseeable risks associated with participation in this study. However, if participants are interested in learning more about the use of technology, referrals to the Grand Rapids Public Library will be provided.

# PRIVACY AND CONFIDENTIALITY:

The data for this project are being collected anonymously. Neither the researchers nor anyone else will be able to link data to you. The contact information you provided will not be linked or coded as a part of the survey information you provide. No other identifying information will be collected during this study. Your confidentiality will be protected to the maximum extent allowable by law.

All data collected through this study will be stored in a locked file cabinet only accessible to the researcher. The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.

To ensure accuracy of the data collected during focus group meetings, these meeting will be audio taped. All audiotapes will be erased at the conclusion of this project. Transcriptions from audiotapes will not include any identifying information. Transcriptions of the audiotape will be stored in a locked file cabinet only accessible to the researcher.

• I agree to allow audio taping of the focus group meeting.

Yes No Initials

# YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW

Your participation in this research project is completely voluntary. If you agree to participate, you may change your mind at any time and withdraw from the study without penalty. You may choose not to answer specific questions or to stop participating at any time. Choosing not to participate or withdrawing from this study will not make any difference in the quality of any services you may receive.

#### COSTS AND COMPENSATION FOR BEING IN THE STUDY:

There is no cost associated with your participation in this study. Focus group participants will be offered a \$10 gift certificate in appreciation for their participation in this study.

# CONTACT INFORMATION FOR QUESTIONS AND CONCERNS

If you have any questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact the researcher: Paul P. Freddolino, MDiv, Ph.D; School of Social Work, Michigan State University; 214 Baker Hall, East Lansing, MI 48824

Telephone: 517/432-3723 or e-mail: freddoli@msu.edu

If you have any questions about your role and rights as a research participant, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Director of MSU's Human Research Protection Programs, Dr. Peter Vasilenko, at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 202 Olds Hall, MSU, East Lansing, MI 48824.

Your signature below means that you voluntarily agree to participate in this research study.

Signature

Date

STREET I

#### APPENDIX H

#### Sample Flyer



For women whose lives have been affected by addiction, trauma, mental issues, homelessness and involvement with the child welfare system Agency Name

Address

City, State, Zip Code

**Phone number** 

February 2008 6:00-8:00 p.m.

February 19, 2008 ......Taking an honest Spiritual Inventory Guest Speaker

February 26, 2008 ......\*Invitation to participate in technology research project James Edwards, LMSW Doctoral Candidate Michigan State University

You are being asked to participate in a research study examing the role technology plays in your life. The purpose of this study is to understand your use or non-use of technologies such as computers, cell phones that connect to the Internet, PDAs, and Text messaging devices. One of the major benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology.

You have been selected as a possible participant in this study because you are an active client of Living Water, Inc. Your participation in this study will take about fifteen minutes. If you choose continue your participation beyond the initial meeting, you may be invited to participate in a one hour focus group meeting to further explore your use or non-use of technology.

You must be 18 years old or older to participate in this study. Childcare and a light supper are provided at The Women at the Well group. Transportation assistance is available for pregnant women and women with children. See other side of sheet for Soul Café meeting schedule.

# APPENDIX I

# Research Participation Information and Consent Form – Phase II

Title: A case study of how, why, and for what purpose women in recovery use technology Researcher: Paul P. Freddolino, MDiv, Ph.D Institution: School of Social Work, Michigan State University Contact Information: 214 Baker Hall, East Lansing, MI 48824 Telephone: 517/432-3723 or e-mail: freddoli@msu.edu

# PURPOSE OF RESEARCH:

You are being asked to participate in the second part of a research study examing how you use or do not use technology and the ways your agency may assist your use of technology. The purpose of this phase of the study is to understand your use of the agency computers available in the supportive housing facility. One of the major benefits of this research will be to suggest better ways for agencies to engage their clients in the use of technology.

You have been selected as a possible participant in this study because you are an active client of this agency. Your participation in this study will take about fifteen minutes today. If you choose continue your participation beyond today, you may be invited to complete another survey 30 days from now and to participate in a one hour interview to discuss your use or non-use of technology.

You must be 18 years old or older to participate in this study.

# WHAT YOU WILL DO:

If you agree to participate in this study, you will be asked to complete a brief surveys about your use or non-use of technology. Completing this survey will take 10 - 15 minutes. If you choose to participate in the interview portion of this study, you will be asked to provide your name and a telephone number so that we may contact you to schedule an interview time. Of the individuals agreeing to continued participation in this study, we will invite up to 16 people to participate in an interview. Each interview will last approximately 60 minutes.

Additionally, to accurately report how you use the computer we will monitor your agency computer use through the use of the existing use history tracking. Weekly we will download the computer use history for content analysis. No identifying information about you will be collected. We will not be able to tie specific the use of specific websites to any participant.

• I agree to allow non-identifying monitoring of my use of the supportive housing computers.

Yes No Initials

Findings from this study will be shared with the host agency and all participants. You will not be identified by name or recognizable in any way in the report we prepare. Your participation or lack of participation will in no way affect the services you receive through this agency.

# **POTENTIAL BENEFITS:**

You will not directly benefit from your participation in this study. However, one of the potential benefits will be to suggest better ways for agencies to engage their clients in the use of technology.

#### **POTENTIAL RISKS:**

There are no foreseeable risks associated with participation in this study. However, computer use that involves the abuse or neglect of minors must be reported to Children's Protective Services. Because of the data collection methods used to examine the content used by participants, violations of Michigan Child Protection laws cannot be linked to any individual participant.

### **PRIVACY AND CONFIDENTIALITY:**

The data for this project are being collected anonymously. Neither the researchers nor anyone else will be able to link data to you. The contact information you provided will not be linked or coded as a part of the survey information you provide. No other identifying information will be collected during this study. Your confidentiality will be protected to the maximum extent allowable by law.

All data collected through this study will be stored in a locked file cabinet only accessible to the researcher. The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.

To ensure accuracy of the data collected during interviews, these meetings will be audio taped. All audiotapes will be erased at the conclusion of this project. Transcriptions from audiotapes will not include any identifying information. Transcriptions of the audiotape will be stored in a locked file cabinet only accessible to the researcher.

• I agree to allow audio-taping of my interview.

Yes No Initials\_\_\_\_\_

#### YOUR RIGHTS TO PARTICIPATE, SAY NO, OR WITHDRAW

Your participation in this research project is completely voluntary. If you agree to participate, you may change your mind at any time and withdraw from the study without penalty. You may choose not to answer specific questions or to stop participating at any time. Choosing not to participate or withdrawing from this study will not make any difference in the quality of any services you may receive.

COSTS AND COMPENSATION FOR BEING IN THE STUDY:

There is no cost associated with your participation in this study. Participants completing two surveys will receive a \$10 gift certificate in appreciation for participation in this study.

Participants completing two surveys and an interview will receive a \$15 gift card as a token of appreciation.

# CONTACT INFORMATION FOR QUESTIONS AND CONCERNS

If you have any questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact the researcher: Paul P. Freddolino, MDiv, Ph.D; School of Social Work, Michigan State University; 214 Baker Hall, East Lansing, MI 48824

Telephone: 517/432-3723 or e-mail: <u>freddoli@msu.edu</u>

If you have any questions about your role and rights as a research participant, or would like to register a complaint about this study, you may contact, anonymously if you wish, the Director of MSU's Human Research Protection Programs, Dr. Peter Vasilenko, at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 202 Olds Hall, MSU, East Lansing, MI 48824.

Your signature below means that you voluntarily agree to participate in this research study.

Signature

Date

# APPENDIX J

# Staff Perception of Client Technology Use Survey – Phase II

This survey is an exploration into your perception of client use of technology. Please take a moment to tell us about your direct and indirect experience with the client designated computers located in the supportive housing facility. The information you provide will be confidential. Your responses to this survey will be combined with the information provided by other participants and reported in aggregate. This survey will take approximately 10-15 minutes to complete.

13. How would you rate your level of experience with technology using a scale from

	1-5? (	(Please	circle o	ne)							
	E	1 No xperien	ce	2	J	3 Some Experi	ence	4		5 Signific Experie	cant ence
14	How	often in	the pas	st sever	n days ha	ave yo	u assiste	ed a clie	ent with	a comp	outer issue
	at the	suppor	tive hou	using fa	acility?	(Ple	ase circ	le one)			
0	1	2	3	4	5	6	7	8	9	10 o	r more
15	Appro	oximate	ly how	many	of your s	suppor	tive hou	ising re	sidents	use the	computer
	on a c	laily ba	sis?	(Plea	ase circle	e one)					
Nu	mber	of client	ts: 0	1	2	3	4	5	6	7	8
16	How	many ti	mes the	e past s	even day	s hav	e you ca	lled sor	neone f	or assis	tance with
	a con	nputer p	roblem	at the	supportiv	ve hou	ising fac	ility? (I	Please c	ircle on	e)
0	1	2	3	4	5	6	7	8	9	10 o	r more
17	. What	impact	has the	comp	uter roon	n in th	e suppo	rtive ho	ousing fa	acility h	ad on
	your	job? (Pl	ease cir	cle on	e)						
		1 No Impact		2		3 Some Impac	rt	4	S	5 Significa Impact	unt
18	. How apply	has you )	r agenc	y supp	orted cli	ents ir	n the use	of con	puters?	(Check	c all that
	Comp	uter Tra	ining		Pe	er Ass	sistance	1	Staff	Assista	ince
	Referr	al to co	mputer	trainin	g 🗌 Ot	her: _			] No s	upport	provided

19. Does your agency have a	client computer use policy?	Yes No
20. Does your agency have a	staff computer use policy?	Yes No
21. In the past seven days hat specific website?	ve you referred a supportive Yes 🔲 No e nature of this website or lis	housing resident to a t the site's web address.
22. How many hours per wee residents who are using t	ek are you <b>indirectly</b> involve he computer?	ed with supportive housing
23. How many hours per wee supportive housing reside	ek are you <b>directly</b> involved	with the computer use of
24. Have you received specia technology use?	al training that allows you to	assist clients with their
25. On a scale from 1-5, how access for residents in the	w would you rate the importate supportive housing facility	nce of having computer ?
1 2	3 4	5
Not	Important	Very
Important		Important
26. Is there anything else you technology?	u would like to tell us about b	now clients' use of

As a follow up to this survey, we will be conducting interviews on this topic. These interviews will be held at your agency during a time that is convenient for you. Would you be interested in participating in an interview about your clients' technology habits?

TYes  $\square$ No

If yes, please provide us with your contact information. (Please print)

Name: \_\_\_\_\_Phone Number: \_\_\_\_\_

ALL ADDRESS OF

Please place the completed survey in the envelope provided and leave it on the table. Thank you for completing this survey!

# APPENDIX K

### Interview Protocol - Executive Director

Thank you for agreeing to participate in this research project. Over the next 60 minutes I would like to explore your agency's deployment of the computers available for client use in the supportive housing facility. I will ask you questions about agency resources, procedures, process and outcomes, relevant to this project based on the current literature and the findings from the first phase of this project. There are no correct answers and at the end you will be given an opportunity to discuss any area we did not cover.

- 1. How did it come about that you were able to access computers for your clients? Probe: Costs associated with computers (including software)?
- 2. What was the process used for deciding to deploy computers in the recovery house? Probe: Were client's involved in the decision?
- 3. How is technical support for the hardware provided?
- 4. Is this person formally educated in providing this support?
- 5. How is this support funded?
- 6. Does your agency have an overall technology plan?
- 7. What do you anticipate as future technology needs for your agency? Probe: How will you meet these technology needs?
- 8. What is your vision of technology use by the women you serve?
- 9. How will you know if you are successful in reaching this goal?
- 10. Training was identified as a need for your consumers, what are your thoughts about ways to meet this need?
- 11. Can you describe the process you used to create acceptable use policies and security policies for your staff and clients?
- 12. In your opinion, what affect has increased access to technology had on your clients?
- 13. Do you have any examples of the benefits of this increased client access?
- 14. How have staff been affected by the deployment of computers in the supportive housing facility? Probe: time, duties, etc.

Probe: Have staff roles or responsibilities changed as a result of agency sponsored computer access?

- 15. How does client access to technology fit with the agency mission/values?
- 16. What have been the benefits of increased client access to technology?
- 17. What have been the challenges to increase client access to technology?
- 18. Looking back at the implementation of this program are there things you would do differently?

# APPENDIX L

# Participant Computer Use Initial Survey

This survey is an exploration into your use of technology. Please take a moment to tell us about yourself and the technology you currently use. The information you provide will be confidential. Your responses to this survey will be combined with the information provided by other participants and reported in aggregate. This survey will take approximately 10-15 minutes to complete.

1. Do you own or have access to one or more of the following devices? (Please check all that apply)

]	Technology Devices	I own	Use through Friends/Family	Use through Library or Public Sources	No Access
a.	Computer: Laptop or Desktop				
b.	Computer with Internet Access				
c.	Cell Phone				
d.	Cell Phone with Text Messaging				
e.	Cell Phone with Internet Access				
f.	I-Pod or MP3 Player				

2. Please tell us how often you use the following functions? (Please check all that apply)

Technology Functions Used		Daily	Weekl y	Every Other Week	Monthly	Yearly	No Use
a.	Internet/Website s						
b.	Text Messaging						
c.	E-mail						
d.	Make Cellular Calls						
e.	Make Internet Phone Calls						
f.	Download Music or Movies						

To seek housing To seek employment To seek health information To purchase goods or services To keep in touch with friends or relatives For information or education To meet new people To seek support or offer support For entertainment For gaming Other:

3. For what purpose do you typically use technology? (Please check all that apply)

4. On scale from 1 to 5, please tell us your interest in accessing the Internet (Circle One) 1 2 3 4 5 Very Interested

Interested

Some Interest

# **Computer Skills:**

No Interest

Unsure

5.	On a scale fro	m 1-5, how woul	ld you rate your c	omputer knowled	ge? (Circle One)
	1	2	3	4	5
	None	Unsure	Some	Good	Very good
6.	I could use the	e Internet if there	was no one arou	nd to help me. (Ci	ircle One)
	1	2	3	4	5
Not	at all	Unsure	Somewhat	Probably	Definitely
7.	I could use the	e Internet if I wat	ched someone els	se use it first. (Cir	cle One)
	1	2	3	4	5
Not	at all	Unsure	Somewhat	Probably	Definitely
8.	I could use the (Circle One)	e Internet if I had	someone to call	for help if I got st	uck.
	1	2	3	4	5
Not	at all	Unsure	Somewhat	Probably	Definitely
9.	I could use the	e Internet if I had	a lot of time to the	ry out its features.	(Circle One)
	1	2	3	4	5
Not	at all	Unsure	Somewhat	Probably	Definitely

10. Learning to use the Internet would be easy for me. (Circle One)								
1	2	3	4	5				
Not at all	Unsure	Somewhat	Probably	Definitely				
11. Have you	read the agene	cy's "acceptable c	omputer use" pol	icy?				
Yes	🗌 No							
12. Did staff t	each you how	to use the support	tive housing com	puters?				
Yes	🗌 No							
13. Did anoth	er client teach	you how to use th	e supportive hou	sing computers?				
Yes	🗌 No							
14. Has your	agency provid	ed you with comp	uter training?					
Yes	🗌 No							
15. Has your	agency provid	ed you with suppo	ort for you compu	iter use?				
Yes	🗌 No							
16. Do you liv	ve in the agend	cy supportive hous	ing facility?	Yes 🗌 No				
17. If, yes how	17. If, yes how long have you lived at this facility?							
	Than	k you for completi	ng this survey					

# APPENDIX M

# Participant Computer Use 30 day Survey

This survey is an exploration into your use of technology. Please take a moment to tell us about yourself and the technology you currently use. The information you provide will be confidential. Your responses to this survey will be combined with the information provided by other participants and reported in aggregate. This survey will take approximately 10-15 minutes to complete.

1. Do you own or have access to one or more of the following devices? (Please check all that apply)

Technology Devices		I own	Use through Friends/Family	Use through Library or Public Sources	No Access
a.	Computer: Laptop or Desktop				
b.	Computer with Internet Access				
c.	Cell Phone				
d.	Cell Phone with Text Messaging				
e.	Cell Phone with Internet Access				
f.	I-Pod or MP3 Player				

2. Please tell us how often you use the following functions? (Please check all that apply)

Technology Functions Used		Daily	Weekly	Every Other Week	Monthly	Yearly	No Use
a.	Internet/Website s						
b.	Text Messaging						
c.	E-mail						
d.	Make Cellular Calls						
e.	Make Internet Phone Calls						
f.	Download Music or Movies						

		r typicany use teen					
	ousing			ployment			
To seek he	ealth related inf	ormation	To purchase	e goods or services			
To keep in	touch with frie	ends or relatives	For informa	tion or education			
To meet n	ew people		<ul><li>To seek support or offer support</li><li>For gaming</li></ul>				
For entert	ainment						
Other:							
4. On scale One)	from 1 to 5, ple	ase tell us your int	erest in accessing	g the Internet (Circle			
1	2	3	4	5			
No Interest	Unsure	Some Interest	Interested	Very Interested			
Computer Skills	8:						
5. On a scal	e from 1-5, how	v would you rate y	our computer kno	owledge? (Circle One)			
1	2	3	4	5			
None	Unsure	Some	Good	Very good			
6. I could us	se the Internet i	f there was no one	around to help m	e. (Circle One)			
1	2	3	4	5			
Not at all	Unsure	Somewhat	Probably	Definitely			
7. I could us	se the Internet i	f I watched someo	ne else use it first	. (Circle One)			
1	2	3	4	5			
Not at all	Unsure	Somewha	at Probably	Definitely			
8. I could us (Circle O	se the Internet i ne)	f I had someone to	call for help if I	got stuck.			
1	2	3	4	5			
Not at all	Unsure	Somewha	at Probably	Definitely			
9. I could us	se the Internet i	f I had a lot of time	e to try out its fea	tures. (Circle One)			
1	2	3	1	5			
Not at all	Unsure	Somewhat	Probably	Definitely			
---	-------------	---------------	---------------	-----------------	--	--	--
10. Learning to use the Internet would be easy for me. (Circle One)							
1 Not at all	2 Unsure	3 Somewhat	4 Probably	5 Definitely			
11. Have you read the agency's "acceptable computer use" policy?							
Yes	🗌 No						
12. Did staff teach you how to use the supportive housing computers?							
13. Did another client teach you how to use the supportive housing computers?							
Yes	🗌 No						
14. Has your agency provided you with computer training?							
15. Has your agency provided you with support for you computer use?							
Yes	🗌 No						
16. How many times in the last 30 days have you wanted to use a computer but were unable to use one?							
17. Do you live in the agency supportive housing facility? 🗌 Yes 🗌 No							
18. If, yes how long have you lived at this facility?							

TANK TA

As a follow up to this survey, we will be conducting an interview on this topic.

Participants completing two survey	s and an	interview will l	be given a \$15 Meijer gift card			
as a token of our appreciation. Wo	uld you b	be interested in	participating in surveys and an			
interview about your technology ha	bits?	Yes	No			
If yes, please provide us with your name and contact number. (Please print)						

Name: \_\_\_\_\_ Contact Number: \_\_\_\_\_

Thank you for completing this survey.

### APPENDIX N

### Interview Protocol – Client Participants

Thank you for agreeing to participate in this research project. Over the next 40 minutes I would like to explore your use of the computers made available to agency clients in the supportive housing facility. I will ask you questions about computer use relevant to this project based on the current literature and the findings from the first phase of this project. There are no correct answers and at the end you will be given an opportunity to discuss any area we did not cover.

- 1. How would you describe the process for accessing the supportive housing computers?
- 2. Can you describe the staff assistance you received while using the supportive housing computers?
- 3. Can you describe instances when you received assistance with your computer use from another client? Probe: How often did this occur?
- 4. On a scale from 1-5, with 5 being the best, how would you rate your computer use knowledge? Probe: Is this rating higher or lower than it was two months ago?
- 5. Over the past 30 days how often has the supportive housing computers crashed or been under repair? Probe: How was this problem resolved?
- 6. How many times in the past 30 days did you wait to access one of the agency computers? Probe: How long did you wait?
- 7. Please describe what personal resources you contribute to the use of computer at the supportive living facility. Probe: Are you required to supply your own computer software or supplies such as paper, discs, etc.?
- Are you familiar with the agency's "acceptable computer use" policy?
   Probe: How did you become familiar with this policy?
- 9. Can you describe any computer training you have received in the past 60 days?
- 10. How often do you currently use a computer to access the internet?
- 11. What type of activities do you engage in when you use the agency computer?

- 12. Please describe any other locations from which you have accessed a computer and the Internet in the past 60 days?
- 13. In terms of your computer use, is there anything else you would like to share?

### APPENDIX O

### Interview Protocol - Staff

Thank you for agreeing to participate in this research project. Over the next 50 minutes I would like to explore your agency's deployment of the computers available for client use in the supportive housing facility. I will ask you questions about agency resources, procedures, process and outcomes, relevant to this project based on the current literature and the findings from the first phase of this project. There are no correct answers and at the end you will be given an opportunity to discuss any area we did not cover.

- 1. How did it come about that you were able to access computers for your clients? Probe: Costs associated with computers (including software)?
- 2. What was the process used for deciding to deploy computers in the recovery house? Probe: Were client's involved in the decision?
- 3. How is technical support for the hardware provided?
- 4. Is this person formally educated in providing this support?
- 5. How is this support funded?
- 6. Can you describe how the women in your program have used the agency computers?
- 7. How have this deployment of computers in the supportive housing facility affected your job?
- 8. Can you describe the type and frequency of your interactions with clients around their computer use?
- 9. Training was identified as a need for your consumers, what are the methods your agency has used to address this issue?
- 10. Can you describe the process you used to create acceptable use policies and security policies for your staff and clients?
- 11. In your opinion, what affect has increased access to technology had on your clients?
- 12. Do you have any examples of the benefits of this increased client access?
- 13. How does client access to technology fit with the agency mission/values?
- 14. What have been the benefits of increased client access to computers?
- 15. What have been the challenges to increase client access to computers?

16. Looking back at the implementation of this program are there things you would do differently?

# APPENDIX P

## Phase II – Staff Focus Group Questions

Introductory Remarks: Thank you for taking the time to meet with me today. The discussion today will take approximately 60 minutes to complete. The purpose of this focus group is to discuss your perspective of client use or non-use of the agency computers in your supportive housing facility. Additionally, I would like to hear you thoughts about the preliminary findings from the second phase of this study.

Your participation in this focus group is completely voluntary and you may end your participation at anytime.

- 1. What were your expectations with regard to client use of the computers available in the supportive housing facility?
- Probes
  - a. How did you feel about this plan two months ago?
  - b. Have you changed your opinion?
- 2. What is your reaction to the summary of how your client's used the computers in the supportive housing facility?
- Probes
  - a. Is this what you expected?
  - b. How accurate do these finding seem to you?
- 3. What impact do you think these findings will have on your agency?

### • Probes

- a. Are there things you will do differently based on these findings?
- b. Are there suggestions you will make to the agency Director or Board of Directors based on these findings?
- 4. If this agency decided to expand this service what would be your reaction?
- 5. What other ways could the agency engage or support clients' use of technology?
- Probes
  - a. Training
  - b. Access
- 6. What other thoughts or suggestion do you have about this study or the use of the computers in the supportive housing facility?

Thank you for your participation in this project!

# APPENDIX Q

## Phase II – Board of Directors Focus Group Questions

Introductory Remarks: Thank you for taking the time to meet with me today. The discussion today will take approximately 60 minutes to complete. The purpose of this focus group is to discuss your perspective of client use or non-use of the agency computers in your supportive housing facility. Additionally, I would like to hear you thoughts about the preliminary findings from the second phase of this study.

Your participation in this focus group is completely voluntary and you may end your participation at anytime.

- 1. What were your expectations with regard to client use of the computers available in the supportive housing facility?
- Probes
  - a. How did you feel about this plan two months ago?
  - b. Have you changed your opinion?
- 2. What is your reaction to the summary of how your client's used the computers in the supportive housing facility?
- Probes
  - a. Is this what you expected?
  - b. How accurate do these finding seem to you?
- 3. What impact do you think these findings will have on your agency?
- Probes
  - a. Are there things you will do differently based on these findings?
  - b. Are there suggestions you will make to the agency Director based on these findings?
- 4. What outcomes would you need to see in order to expand this service?
- 5. What other ways could the agency engage or support clients' use of technology?
- Probes
  - a. Training
  - b. Access
- 6. What other thoughts or suggestion do you have about this study or the use of the computers in the supportive housing facility?

Thank you for your participation in this project!

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