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2006-04-01

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Perspective of Latino Class Participants of a
Community Technology Center in East Oakland Regarding
Barriers to Computer Use and Service Utilization

By

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B.A. (University of California, Berkeley) 1995
M.P.H. (University of California, Berkeley) 2003

A thesis submitted in partial satisfaction of the

requirement for the degree of

Masters of Science

in

Health and Medical Sciences

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA, BERKELEY

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Spring 2006

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Acknowledgements

This thesis is only possible because of the generous support and encouragement provided by OCCUR and the Eastmont Computing Center. Their valuable contributions to the community should be supported and applauded, especially for their daily commitment to provide much needed services for the underserved communities of East Oakland. I have learned tremendously from working with them, and it was a privilege and an honor to have worked with such dedicated individuals: Tony Fleming, Jorge Flores, and Jun Suk Kim

Special thanks for the encouragement and support of the thesis committee, Andrew Scharlach, Ronald Takaki, and Susan Ivey, who have all provided tremendous support and encouragement to help shape the nebulous ideas of a medical student into a coherent and comprehensible thesis.

Thank you, also, to the JMP faculty, staff, and fellow classmates who have given me much encouragement over the past 3 years.

Gracias a todos que participaron en el estudio. Estaba feliz cuando luchamos cada semana para mejorar la vida de todos de la clase. Gracias por compartirme sus cuentos y espero que ustedes estén orgullosos con el reportaje aquí. Miles gracias.

Sobre todo, gracias a mi vida por apoyarme con tu voz, tu oído, y tu amor. Yo no podía hacerlo sin ti.

The Internet

Computers and networks have changed extensively since the Advanced Research Project Agency (ARPA) was first established in 1967 by the US government to research computer networking. The goal was to improve scientific development, and the investigators at ARPA realized that the only way to effectively harness the research potential of the country was to “bring together the brain-power resident in discrete pockets at universities and research institutions spread across the United States”[1, 2]. The research and development led to the creation of the computer networks and the Transfer Control Protocol/Internet Protocol, which functions as a common language for computers to communicate at real-time speed. The benefit of computer networks was widely recognized, and the steady growth of computer networks by universities, private businesses, and international organizations eventually led to the Internet that exists today. The Internet has provided a new medium of communication that enhances the exchange of information between individuals and institutions from all over the world. Today, the wealth of information available via the Internet has attracted a global community estimated to be between 700-900 million, with a growth rate of 100 million new Internet users per year[3, 4].

In the United States, over half of the general population now use the Internet on a regular basis. According to a report by the National Telecommunications and Information Administration (NTIA), Internet

users have grown from 22.2% of the general US population in 1997 to 54% in 2001[5]. Not only has the number of users multiplied, the variety of activities available on the Internet has increased. Activities conducted via the Internet range from sending e-mails to taking education courses online; with new services and modes of communication being developed continuously and with astonishing speed. (See Appendix 1, Figure 1) The benefits of information technology (IT) were widely recognized and served as the impetus for the 1993 launch of the National Information Infrastructure initiative by the Clinton Administration[6]:

“...The Administration’s vision is of a ubiquitous network of networks that will help America to prepare its children for the workplace of the twenty-first century, allow all Americans to continue their educations and upgrade their skills throughout their lifetimes, extend lifesaving medical care to remote rural areas and promote healthy communities, and make America’s businesses the most competitive in the world[7].”

Currently, the use of computers and Internet technologies extend far beyond entertainment and basic communication. Essential services offered by government agencies are increasingly dependent on the Internet and online access[8]. Car registration, obtaining and filing tax forms, and renewing professional licenses are only some example of services that can now be performed using the Internet, and individuals with online access are at an advantage over those who cannot utilize these functions. Therefore, computer and Internet use has become an issue of equity and empowerment, and those who do not have access are at a clear social disadvantage[9-11]. The gap in individuals who access and utilize the

Internet versus individuals who cannot has led to a popularized descriptor of the phenomenon: the Digital Divide.

The Digital Divide

Although the term Digital Divide is often used to describe the technological gap that separates the “have’s and have not’s”, the actual technological divide is a complex phenomenon comprised of multiple factors that interact in complex ways. Regardless of the perspective, however, the issues and the discussions related to the Digital Divide cannot be undervalued. Computers and Internet have already pervaded and transformed virtually every segment of our society and economy. For example, in regards to job and career opportunities, the US Dept. of Labor predicted that by the year 2008, nearly half of all US workers will be employed in industries that produce or actively use computer and Internet technologies[12]. In the era of the information society and the knowledge-based economy[13, 14], many experts believe that fluency in computer technologies has become the “indispensable grammar of modern life”[15]. Computers and Internet technologies have such importance that “...access to information technology and the ability to use it [has] increasingly become part of the toolkit necessary to participate and prosper in the information-based society...”[8]. Therefore, addressing and alleviating the inequalities causing or resulting from the Digital Divide is central to economic and social well-being.

What exactly is the Digital Divide? How is it described or measured? The answers remain elusive and can differ depending on what is considered for discussion or analysis. Although most experts and policy makers agree on the broad concept of the technological gap, the Digital Divide can have different interpretations depending on the vantage point. For example, from a certain perspective, the Digital Divide can be the manifestation of underlying social, economic, and cultural inequalities that have reached mainstream awareness by the current technological revolution. From another perspective, the technological gap represents the product of consumer and market forces by members of the society that have chosen not to engage or to utilize computer and Internet technologies. Although the explanations and interpretations are many, most experts agree that the Digital Divide is an issue that disproportionately affects the same individuals and groups that have traditionally faced social, economic, and cultural inequalities: associated with lower socioeconomic status.

Although studies have attempted to elucidate the exact nature of the Digital Divide in the US, various academic and advocacy group sources often cite the landmark 2002 report entitled *A Nation Online: How Americans Are Expanding Their Use of the Internet* by the National Telecommunications and Information Administration (NTIA) of the Department of Commerce. Since 1995, NTIA has released regular reports on the status of the nation's telecommunication usage and infrastructure

by using the Current Population Survey conducted by the US Census Bureau[5, 16]. The 2002 report was collected from more than 137,000 individuals across the country and contained survey data examining computer/Internet ownership, connectivity, and usage. Comparing the data from previous reports, the 2002 report confirmed the widespread adoption of computer/Internet technologies and the increase of Internet use for US residents regardless of income, education, age, race, ethnicity, or gender. The national average by 2002 was 66% for computer usage and 54% for Internet use. Despite the seemingly high national averages, the report also pointed out demographic differences that suggest the existence of a Digital Divide. Some of these key findings include[5]:

- Income is a strong predictor of computer/Internet use, with individuals living in high-income households more likely to use information technologies than those living in low-income households. The percent of Internet use among families with an annual income greater than \$75K is 80% but only 33% for families earning less than \$25K.
- Employment is also a strong predictor for computer/Internet use. The percent of Internet use for employed individuals is 65% compared to 37% for the unemployed.
- Although an increase in computer/Internet use has occurred across the entire age distribution, there is a significant association with age. The report found that the age with the

highest use are children, with 90% of all children between 5-17 years using computers by 2002. The age group with the lowest usage rates are the elderly that are 55 years or older.

- Education is another strong predictor of computer/Internet use. 62% of individuals with some college use the Internet, and similarly for 81% of individuals with a Bachelor's degree. However, Internet use is 40% for individuals with a high school diploma and only 13% for individuals with less than high school education.
- Computer/Internet use differs across broad racial categories, with significantly higher rates for Whites and Asian Americans versus African Americans and Hispanic individuals. 60% of Whites and Asian Americans use the Internet, but data show that Internet use is only 40% for African-Americans and 32% for Hispanic individuals. (Although there are minor differences between the terms Hispanic or Latino, these terms are used interchangeably here to refer to the same ethnic group.)
- ❖ Rural/urban residence and gender difference, factors that have been historically associated with different rates of computer/Internet use, were not significantly associated within the 2002 report.

Despite the seemingly comprehensive data and the widespread acceptance of their validity, The *Nation Online* report has been faulted for

the incomplete portrayal of the Digital Divide. One major critique is the “optimistic” presentation of various trends of computer/Internet use that is sufficiently vague and allows for false interpretation of data[17, 18]. For example, the report described the difference of usage rates between the racial/ethnic groups with the following statement:

“...Internet use has increased across all race and groups and growth in Internet use rates was faster for Blacks and Hispanics than for Whites and Asian Americans and Pacific Islanders. From December 1998 to September 2001, Internet use among Blacks grew at an annual rate of 31 percent. Internet use among Hispanics grew at an annual rate of 26 percent. Internet use continued to grow among Asian Americans and Pacific Islanders (21 percent) and Whites (19 percent), although not so rapidly as for Blacks and Hispanics[5].”

The report did not address the finding that between 1997 and 2001, the Internet usage gap actually increased between Latinos and the national average. A comparison of the Internet use rates for Latinos to the national average in 1997 showed a difference of 11%. In 2002, the national average had risen to 54%, but the Internet use for Latinos was only 32%. Therefore, the Internet use gap had actually increased from 11% to 22%, but the report focused on the percentage increase of Latinos within 1997 to 2001 without providing the context of the national average. The optimistic language of the report negates the urgency of addressing the Digital Divide and the need to allocate additional resources[17]. Because NTIA is the principal adviser to the President, *A Nation Online* may have contributed to the drastic reduction in funding for programs established to alleviate Digital Divide within various federal agencies, including the

Department of Agriculture, Commerce, Education, Health and Human Services, Housing and Urban Development, Justice, and Labor[16, 17, 19]. For example, funding for the Community Technologies Center Program within the Department of Education was significantly reduced from \$65 million to \$32 million by 2002 and further reduced to \$5 million by 2005[20].

Another major critique of *A Nation Online* is the simplistic representation of computer and Internet use as the principal measure to describe the technological gap. In fact, the focus of many policy makers, corporations, and even experts, is to provide access in the form of additional computers or Internet connections[21]. Using the number of physical computers as the primary outcome measure, many have even begun to question the existence of a Digital Divide, especially with the availability of free and cheap computer equipment today[22, 23].

According to van Dijk and Hacker[21]:

“...Many people think that the problem of information inequality...is solved at the moment that everyone has the ability to obtain a personal computer and a connection to the Internet. Differential usage of computers and network connections is also neglected as an important phenomenon. Because differential usage is presumed to be the free choice of citizens and consumers in a differentiating postmodern society, it has not been viewed as important to social and educational policies.”

Therefore, to sufficiently address the technological gap, improving access for the “have not’s” cannot be limited to supplying computers terminals or Internet connections. In fact, many experts have begun

advocating for a conscious redirection of focus to include knowledge, skills, and content as important factors necessary for the alleviation of the Digital Divide[13, 14, 17, 18, 21, 24]. Experience has demonstrated that a narrow focus of equipment provision without offering the complementary educational resources would result in minima improvement of the Digital Divide[24]. To illustrate the different complexities, van Dijk and Hacker differentiated 4 types of access that need to be addressed in order to appropriately address the Digital Divide issue[21]:

- Mental access - lack of basic digital experience due to computer anxiety, lack of interest, lack of exposure, and/or unattractiveness of the new technology.
- Material access – lack of physical equipment. This type of access traditionally receives the most attention when discussing the Digital Divide.
- Skills access – lack of usable skills resulting from insufficient education or social support.
- Usage access – inability to sustain or develop learned skills due to the lack of opportunity or lack of practical application.

Exposure to information technology, ability to obtain the necessary equipment, availability of informal and formal support to provide the necessary skills, and opportunity to apply the appropriate knowledge in order to harvest the benefits of computer/Internet technology are all issues important to the adoption of technologies and the alleviation of the

Digital Divide. The traditional focus on material access has yet to provide concrete beneficial results, and the income-driven motivation of corporations in advocating for material access should prompt additional critical examination of past and existing Digital Divide policies. A balanced approach would include access to the necessary equipment, but also the knowledge and social support to address all barriers to technological access. Many experts agree that only by doing so would the gap that separates the “have’s” from the “have not’s” be effectively narrowed.

In addition to the concern of experts and policy makers, the perspective of the individuals who have purposefully chosen not to engage in the information society should also be acknowledged. Although the issue is often simplified into 2 distinct groups of “have’s and have not’s”, the Digital Divide is actually a continuum with different levels of computer/Internet knowledge, usage, and participation. For many experts, the goal of social and economic inclusion in the knowledge-based society is paramount, and technological literacy should be provided within all aspects of the social structure; but should not be imposed if individuals have genuine concerns or have purposefully chosen not to engage. Social and economic support should account for the diverse interests, motivations, and necessities such that computer/Internet technologies remain a beneficial resource. Given the comprehensive approach needed to address access barriers and the diverse interests of all

parties involved, the current challenge requires significant social and economic investment to ensure the inclusion for all individuals and groups within the information society. Many experts believe that computer/Internet technology by itself cannot redress the continuing social and economic inequalities of our society, but the urgency to alleviate the technological gap should be in the forefront of social experts and policy makers, especially with the increasing reliance on rapidly advancing computer/Internet technologies. Sanyal and Schön summarize this perspective with the following statement, “One thing is clear, to profit from the potential opened up by IT-whatever they may be-we must participate in it. This is especially true for the poor, who are already excluded from the economic, social, and cultural mainstream”[25].

Internet and Health

Although not the main focus of the thesis, the importance of the computer/Internet technologies to health warrants discussion. The relationship continues to evolve even today, but the impact of the Internet on health has been substantial. Ranging from medical education to health systems delivery, the Internet and computer networks have pervaded every aspect of healthcare and have impacted providers, patients, and the overall healthcare system. According to Coiera, “healthcare is an information dependent enterprise, and the Internet and the Web represent one of the most powerful instruments for the creation and dissemination of information yet created”[26]. The full potential of the

Internet is currently unknown, but the benefits of accessible online information, quality assurance systems, and the improvement in public health support have gained recognition by policy makers in the United States and in the international community. Recently, in May 2005, the World Health Organization (WHO) adopted the *eHealth* initiative, which urges all member states to “make available the benefits of new technologies, especially information and communications” in order to improve public health, “healthcare delivery, capacity building, and governance.” In addition, the *eHealth* initiative includes the use of “electronic technology and media” in the support of public learning. The goal of the *eHealth* initiative is to improve public health and health systems, but also to “contribute to the enjoyment of fundamental human rights by improving equity, solidarity, quality of life, and quality of care”[27].

In 2001, the Institute of Medicine (IOM) released a landmark report entitled *Crossing the Quality Chasm*, which describes the proposal for an improved healthcare system in the US. Within the report, IOM stresses the importance of Internet and computer technologies as a critical component to improve the quality of health. Several important benefits of information technology were specifically addressed in the report: automation of patient-specific clinical information using online systems to improve access and continuity of care, meeting patient expectations and needs through e-mail support with health professionals, utilizing

computer networks to streamline prescription orders to reduce errors, and automating healthcare reminders to help patients and providers to identify needed services[28]. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) attributes the IOM report as responsible for accelerating the acceptance and adoption of information technology, including the appointment of a national coordinator of information technology initiatives within the Department of Health and Human Services[29]. Despite the evidence of significant benefits, barriers to implementation prevent rapid dissemination and use of the technology. Significant upfront resource investments, behavioral modifications, and practice changes are only some of the barriers to technological implementation[28]. Therefore, strong social and financial commitments are necessary for the implementation of computer and Internet technologies to improve the healthcare system.

For the general population, computer and Internet technology has transformed how individuals perceive, access, and utilize health information and services. The Internet now provides medical information, access to providers and services, and innovative peer-initiated support systems all at the control of the Internet user. Ranging from researching the background of the physician to obtaining information of side effects of medications, the Internet has many potential benefits for the average health consumer. The overall impact of the Internet, however, has evolved continuously and has elicited both positive and negative responses. For

some individuals, the Internet is an effective medium for obtaining information and to gain control of their own health. For others, however, the Internet can be overwhelming due to the volume of information available, which may be both accurate and inaccurate[30]. Research regarding the benefit and use of the Internet is ongoing, but the current literature has identified two main uses of the Internet for health by the general population: seeking health information and participating in online support[31-34].

According to a report released by the Pew Internet & American Life Project in 2005, eight out of ten (80%) adult Internet users have searched for health information online. Roughly, this translates to 95 million Americans who have used the Internet to look for health information[31]. Although this finding is higher than the report released by the US Department of Commerce in 2002, which found that 40% of Internet users sought health information online, both of these findings suggest that searching for health information is an important activity on the Internet[5]. The Pew report is perhaps more accurate in its representation because the survey clarified the various types of health information, including diet and fitness, that are not included in some surveys about health information seeking. Current findings suggest that female sex, younger age, and length of time acquainting with Internet use are factors that promote health information seeking[33, 35]. Most of the individuals in these studies do not search for health information on a daily basis, but

Eysenbach estimates that 4.5% of all daily searches on the Internet may be health related, which is approximately 12.5 million searches per day[34]. Therefore, the Internet is an important resource of health information to online users and has transformed the way individuals learn about health.

What are the benefits for seeking online health information? Knowledge of health information has helped patients to gain empowerment over health issues, improve compliance to treatment, and promote personal efficacy and competence[32, 34, 36]. Improved knowledge of health information has led to better health outcomes, which is evident in the statement from *Health People 2010*: “the greatest opportunities for reducing health disparities are in empowering individuals to make informed health care decisions and in promoting community-wide safety, education, and access to care”[37]. Many studies have shown that the majority of individuals who obtain health information online have an improved sense of self-efficacy, empowerment, and partnership with their healthcare providers[32-34]. In fact, several studies have shown that some online users believed that the obtained online information is more complete and useful than the information provided by the physicians[32]. This finding may not be surprising given the time allotted for patient-physician interaction in many healthcare settings today. Other studies have demonstrated that most of the individuals who use the Internet believe that the obtained information is valuable, and

computer users have become increasingly become dependent on the Internet as a health resource[32-34]. Health information commonly sought by online users include: specific diseases, medical procedures, diet and nutrition, fitness, prescription and over-the-counter drugs, health insurance, alternative medicine, and background information of specific doctors or hospitals. Therefore, the Internet has become an established medium for patients to access health information and a resource for healthcare providers to promote health awareness and education.

The main critique of accessing health information on the Internet is the quality of the information that is available to the patient and the general public[5, 32, 34]. A systematic review of empirical studies that assessed the quality of health information showed that 70% of the studies concluded that the quality of information on the Internet is a problem[38]. In fact, only 9% of the remaining 30% of the studies concluded positively for the health information on the Internet. Despite these findings, the same JAMA report cited wide discrepancies amongst the empirical studies and criticized the researchers for focusing on the relatively low prevalence of inaccurate information without acknowledging the benefit for the overwhelming majority of accurate information. In one study discussed within the review article, the researchers focused on the quality of bad information after concluding that the prevalence of inaccurate information was 6.2%; which included the Encyclopedia Britannica website as one of the inaccurate sources[39]. The JAMA report also compared health

information inaccuracies to other forms of media, such as newspapers and television, and found that the Internet is no worse than other forms of communication[38]. Hence, the majority of the Internet health information is beneficial and provides the online users with a wealth of information to promote health.

Using the Internet to obtain online support is another health-related activity commonly utilized by computer/Internet users. As of December 2002, 54% of the Internet users in the US participate in some form of health-related online support, equating to 63 million Americans[33]. Internet-based support groups are available in a variety of formats, ranging from virtual communities to e-mail communication with healthcare providers. Each mechanism of online support has its advantages and disadvantages, and on-going studies are still uncovering the usefulness and benefits of the Internet as a medium for support[32, 34]. The improved communication capability of the Internet has even motivated the use of online therapies in addition to standard clinical support. For example, emerging reports on the use of Internet as a medium for cognitive-behavioral therapy has produced encouraging results[40, 41]. The ability of the Internet to connect patients to support services has led to innovative modalities of support and treatment.

One popular form of online support is the formation of virtual communities, which have improved the continuity of care by providing a new support structure that has not existed previously. Studies of patients

with a variety of diseases, including HIV/AIDS, cancer, and chronic pain, have provided encouraging results: online support groups are providing positive support not only through emotional encouragement and peer-level empowerment, but also through practical information sharing about the care and maintenance of disease. Additional benefits of the virtual communities include: absence of geographic barriers, anonymity for potentially sensitive or stigmatizing issues, capacity of patients with rare diseases to encounter others with similar afflictions, empowerment of patients when they can provide help and assistance to others, and the availability of support at all hours of the day. In a report describing cancer support groups, the electronic support groups have even encouraged more men to seek support, despite the predominance of women in traditional face-to-face support groups. Although recent literature has continued to provide both anecdotal and conclusive evidence on the benefits of online support communities, some negative responses have been reported with the use of electronic support groups: impersonal interactions due to the lack of physical contact, transfer of negative attitudes or emotions, and the overwhelming volume of messages for group participants. Privacy also appears to be a concern for some Internet users that utilize electronic support groups. Despite these faults, the results clearly point towards an overall beneficial effect of online support groups, and researchers have remained positive about the potential of the Internet to transform and to improve existing support structures[32-34, 42].

With the plethora of health information and the innovative support options available on the Internet, the patient can be better informed about health issues and feel empowered by gaining the support of others through the Internet. Although the ongoing research efforts are uncovering the nature of the Internet and health, the preliminary reports have revealed encouraging and optimistic results for the patient and the general public. The overwhelming positive impact of the Internet, however, has not translated to an improvement in physician-patient interactions, with many physicians feeling overwhelmed by activities such as patient education or e-mail support. Despite these findings, the overall benefit of the Internet to the patient cannot be ignored. Providers should acknowledge that the patient has access to health information and support services that would improve the quality of care, and that the Internet is a useful tool that can benefit both the provider and the patient. The promise of a more informed patient with access to better support services should motivate physicians and policymakers to develop and to promote the Internet as an instrument to improve the quality of health for the public.

Latinos and Computer/Internet Use

Given the benefits of computer/Internet technologies in health, as well as their being requisite to prosper in the current knowledge-based society, one group has continued to be disproportionately affected by the technological gap in the United States: individuals of Latino heritage. The

2004 data released by the Census Bureau showed that Latinos are the fastest growing ethnic group. Between 2003 and 2004, Latinos accounted for half of the national population growth, with more than 41 million individuals currently residing in the US[43]. In California, it is estimated that at the present rate of increase, the Latino population will surpass Whites by 2020[44]. With the rapid growth of Latinos in the US, understanding and addressing the issue of Digital Divide is particularly important for the social and economic well-being of Latinos.

The Latino population is a heterogeneous group composed of individuals of diverse social, economic, and cultural backgrounds; thus the broad racial category of Latinos does not appropriately capture the diverse socioeconomic backgrounds of the individual Latinos. Although not comprehensive, the best starting point is the 2002 US Census profile of the Hispanic/Latino population, which attempts to describe the demographic and socioeconomic attributes associated with the broad racial category. The key findings are[45]:

- 67% of individuals in the Latino category are of Mexican descent, with 14.3% of Central and South American descent. The remaining 18% consists of Puerto Rican, Cuban, and other Latino ethnicities.
- Two in five Latinos are foreign born. 72% of Latinos who immigrated prior to 1970 had obtained citizenship by 2002. 30%

of Latinos that entered US between 1980-1989 were citizens, and only 7.3% who entered between 1990 and 2002 were citizens.

➤ Latinos tend to live in family households that are larger than those of non-Hispanic Whites.

➤ Education levels of Latinos are generally lower than non-Hispanic Whites in all categories, despite the variability amongst the different Latino ethnic groups. Comparison between Latinos to non-Hispanic Whites shows:

- Latino adults are less likely to have graduated from high school than non-Hispanic Whites (57% versus 89%).

- 27% of Latinos have less than a 9th grade education compared to 4% of non-Hispanic Whites.

- The proportion of Latino population with a Bachelor's degree was much lower than non-Hispanic Whites (11% versus 29%).

- Individuals of Mexican descent have the lowest education attainment than other Latino groups.

➤ Economic indicators also show that Latinos are disadvantaged compared to non-Hispanic Whites. A comparison showed:

- Latinos are much more likely than non-Hispanic whites to be unemployed (8% versus 5%).

- Latinos and non-Hispanic Whites have different occupational distributions, with Latinos twice as likely to

be employed as operators and laborers than non-Hispanic Whites.

- Latino workers earn less than non-Hispanic Whites. 26.3% of Latinos, as compared to 54% of non-Hispanic Whites, earn \$35,000 or more per year.
- 21.4% of Latinos are living in poverty, compared to 7.8% of non-Hispanic Whites.

These demographic data should lead to the awareness that Latinos often face social, economic, and cultural exclusion due to their overrepresentation in lower socioeconomic categories. The data from NTIA's report *A Nation Online* confirm the existence of a technological divide for Latinos, with their national computer/Internet use much lower than the national average[5]. Because higher income and education are strong predictors of computer/Internet ownership and use, the Digital Divide disproportionately affects Latinos based solely on these demographic factors. The following statistics derived from *A Nation Online* highlights the relationship between income, education, and employment opportunities to computer/Internet use for Latinos[17, 19]:

- Income: Cost is the primary reason for not having Internet access at home for 40% of Latinos, compared to only 20% of non-Hispanic Whites. Using regression analysis, Fairie showed that lower income contributes to 21% of the Internet usage gap between Latinos and Whites. (See Appendix 1, Figure 2)

- Education: Under-representation in higher education categories contributes to the gap between Latinos and Whites. In fact, regression analysis shows that education alone contributes 36.4% to the Internet use difference between Latinos and Whites. Hence, it appears that education is a larger factor than income for Latinos. (See Appendix 1, Figure 3)
- Employment opportunities – Latinos are underrepresented in occupations likely to use computer/Internet technologies. For example, in managerial and professional specialties where Internet use is prevalent, the national average is 30% compared to 14% for Latinos.

However, even after accounting for both income and education, Latinos as a racial category continues to have a lower rate of computer/Internet use[19, 46]. In addition to the demographic factors already mentioned, English language difficulty also strongly contributes to the underutilization of information technologies. For example, fewer than 1 in 20 (5%) of Mexicans in Spanish-speaking households uses the Internet at home. Even after controlling for differences in education, family income, and other characteristics, only 9.5% Mexicans in Spanish-speaking households use the Internet at home. These rates are 50 percentage points lower than the rates found in Whites[19].

Although these demographic characteristics may describe the associations of various factors to computer/Internet use, experts still lack

a good understanding of the underlying reasons for the existence of the gap, especially from the perspective of Latinos. Learning about the perspective of Latinos is difficult in the current political climate due to the lack of funding to actively pursue Digital Divide research. Despite the scarce resources, non-profit organizations and private foundations including the Tomás Rivera Policy Institute and the Latino Issues Forum have continued to investigate the opinion of Latinos regarding computer/Internet technology and the reasons for the Digital Divide. In a focus group study conducted by the Tomás Rivera Policy Institute, some key findings include[47, 48]:

- Main barriers to computer/Internet use include: lack of appropriate computer hardware and software, cost of Internet service, and lack of technical skills
- Many Latinos experience fear and misconceptions of the Internet, such as inappropriate content and fear of deteriorating family interactions.
- Many Latinos are intimidated because of the lack of English-language skills or the lack of technical knowledge.
- Internet content specifically for Latinos, in both English and Spanish is important.

These findings are consistent with what experts know about the Digital Divide and the challenges that need to be addressed. Similar to other groups who are disadvantaged by the Digital Divide, Latinos need

exposure to the Internet, training and skills support, and the opportunity to apply computer/Internet technologies within their lives, in addition to the hardware/software availability scrutinized by many policy makers. To complicate matters, Latinos are faced with the additional cultural barriers of language and relevant content, which increases the difficulty of technological inclusion. Due to the current lack of political support to address the Digital Divide, community organizations such as churches, public libraries, and computer technology centers have undertaken the initiative to fill the digital gap[49-51]. However, little progress can be made towards alleviating the Digital Divide without strong social support and additional research to understand the barriers that prevent Latinos from full participation in the information society.

Computer Technology Centers and Barriers to Use for Latinos

As an effort to bridge the technology gap experienced by Latinos and other communities affected by the Digital Divide, one of the most valuable community resources is the community technology center (CTC). The mission of CTC's is to provide technology access, support, and outreach to various underserved communities, especially urban and low-income populations[8]. CTC's are both public and private institutions that are found in a wide variety of settings, including libraries, multi-service agencies, religious organizations, nonprofit agencies, and stand-alone computer centers[52]. In addition to technology access and support, CTC's often provide important social services to the community, such as

access to community resources, information referral, and locations for community gatherings[50]. The success of CTC programs has generated widespread support, culminating in the creation of the Community Technology Center Program within the Department of Education. In addition, CTC's have recognized the benefit and contributions of other technology centers. The sharing and cross-pollination of ideas and resources has led to the formation of CTCnet, a non-profit organization that is currently networking over one thousand community technology centers all over the world.

Although individual CTC's may focus on specific agendas or programs, the overall benefits of CTC's in narrowing the Digital Divide result from their ability to address all aspects of access barriers, including impediments to mental, material, skills, and usage access. In addition to the material access of computer terminals and Internet, CTC's often provide support in the form of classes and workshops to alleviate access barriers. Mental access is addressed through the promotion of technology to improve client awareness; allowing patrons to gain exposure and become comfortable with computer/Internet technology. Material access is provided not only in the form of computers and Internet connections, but also other relevant equipment such as printers and scanners so that individuals can accomplish practical tasks at CTC's, such as printing documents or scanning images. Skills access is addressed through workshops and classes to provide the necessary computing skills, which

also includes vocational skills such as writing letters or applying for jobs to improve overall work skills. Finally, usage access is addressed through opportunities to help other clients at the CTC's and to obtain paid employment through partnerships with local organizations and businesses.

Empirical studies have demonstrated that CTC clients have benefitted significantly from the services offered by the centers. For example, in a report submitted to the National Science Foundation, Mark et al provided overwhelmingly positive responses from 131 CTC client surveys and interviews located in different parts of the country. The respondents of the study reported improved vocational skills, more interest in general education, better self-esteem, improved self-sufficiency, and increased civic participation as only some of the benefits attributed to the technology centers. In addition to the explicit benefits reported by the individual clients, many respondents also mentioned that the CTC's provided safe and supportive settings to spend time within their community. As a community center, CTC's have also benefitted both youths and adults by serving as an alternative to harmful influences such as drugs[7]. Other studies have reported positive results experienced by CTC clients, confirming the vital role of CTC's within the community[8, 53].

Despite the significant amount of evidence supporting the benefits provided by CTC's, many of the centers have noticed an underutilization of

services[53]. One possibility for the lack of use may be inherent psychosocial barrier associated with the use of CTC's. Using a qualitative study, Stanley has discovered common psychosocial barriers reported by some CTC clients, including the high social costs to gain the necessary knowledge and skills, dismissal of relevance, and discomfort experienced when one's comfort zone is challenged[47, 53]. Although some of the reasons are attributed to the lack of exposure and poor social support, the findings suggest that both user and provider issues need to be considered to appropriately address service underutilization. Therefore, more research is necessary to elucidate the barriers, both actual and perceived, to effectively reduce the Digital Divide. Without an understanding of the complex factors that influence service delivery for these communities, underserved communities such as Latinos will continue to be excluded from digital participation.

In addition to the issues specific to the Digital Divide, social work literature often reports an underutilization of other social services by Latinos[54-58]. A clear understanding of the gap between service need and service use has been confounded by the complexities of socioeconomic, cultural, and structural factors that are relevant for the Latino communities[56]. Research in the use of mental health and geriatric services have provided the majority of the current understanding of Latinos and service use. According to Moreno, three factors have contributed to the underutilization of mental health services by Latinos:

1.) Lack of affordable and available mental health resources, 2.) Communication barriers, and 3.) A strong reliance on family physicians and family members for mental health care[54]. Communication barriers not only deter Latinos from using mental health services, but linguistic and cultural difficulties encountered during mental health services have led to high dropout rates for Latino patients. Hence, language and cultural barriers may have contributed to the finding that over half of Latino mental health clients terminate therapy after one session, and that Latinos are disproportionately placed in programs that emphasize pharmacological rather than psychological interventions[54, 58]. These results have also been verified by research in geriatric services, that service availability, informal support, and effective communication are important factors that affect Latinos and service use. In addition, research has reported other factors such as the mistrust of formal services, lack of Latino staff in social services, weariness to discrimination, and the lack of knowledge of services as important factors[55-58]. For some Latinos, fear of divulging personal information and immigration status can also deter them from social service use[57]. Therefore, effective service outreach and delivery to the Latino communities would require a better understanding and an awareness to address the complex, multifaceted issues related to service use.

In addition, Latinos also experience the same barriers to service use that affect other underserved communities. Since the passage of the

Personal Responsibility and Work Opportunity Reconciliation Act in 1996, federal support services have been decentralized and distributed to more local agencies[59]. The subsequent emphasis on nonprofit and local service agencies has resulted in an increasing number of smaller agencies, each with its own service focus and practice. Hence, underserved communities often report a lack of adequate knowledge of services as a challenge to service seeking. In addition, other factors reported by underserved communities of service agencies include a mistrust of the providers, the lack of community safety, stigma associated with service use, poor staff attitude and discrimination, inconvenient hours and location, and higher administrative costs associated with obtaining needed services[57, 59]. Therefore, an individual seeking social services has to evaluate the social costs and benefits of service use, and the higher social costs compared to the social benefits may contribute to the underutilization of community services. Because these factors are not well understood, additional research is necessary to understand and to reduce the barriers to service use.

To adequately provide the means to overcome the Digital Divide, individual, community, and systemic factors all need to be examined critically to improve community service use by the underserved communities, especially Latinos, who are significantly affected by the Digital Divide. In addition to the obstacles to provide the necessary resources for sufficient access, CTC's need to recognize the socioeconomic

and cultural barriers that limit Latinos from digital participation. Because the individual and environmental factors interact in complex ways, effective intervention would require additional social, political, and economic resources for evaluation and research. Without a better understanding of the barriers to social service use, Latinos would remain disproportionately affected by the Digital Divide.

Ecosystem Perspective

Given the complex array of factors that influence computer/internet use by the Latino communities, service providers such as CTC's need a comprehensive approach to understand the obstacles to social service utilization. Because social work is concerned about both the person and the environment, social workers often examine multiple variables that encompass a variety of disciplines; including health, occupation, and education[60]. Historically, each discipline within social work such as psychotherapy, family therapy, or casework, has focused on its own domain-specific theories and operated principally from its own field-specific modalities. To allow a more comprehensive perspective and an "eclectic" selection of interventions to address complex, multidimensional issues, the ecosystem framework was proposed by theorists as an initial approach to social work problems[61, 62]. The ecosystem perspective is an appropriate framework to examine underutilization of CTC's by Latino clients because of the complex individual and environmental factors that are relevant to improving service use.

The ecosystem framework was proposed as concordant with the mission of social work outlined by the O'Hare Conference on Conceptual Frameworks, which is "to promote or restore a mutually beneficial interaction between individuals and society in order to improve the quality of life for everyone[63]." The theory is derived from the ecological perspective and the General Systems Theory(GST), which are both widely adopted concepts in social work. By combining the two concepts, social workers can view the person and the environment in their "interconnected and multilayered reality" in order to consider all dimensions of an issue[62]. The ecological perspective and the General Systems Theory provide the necessary theoretical foundations for the ecosystem perspective.

In social sciences, the concept of ecology has been used to explain the holistic relationship of individuals with the social environment. In social work, the unit of attention is the person-in-situation. According to Greif and Lynch, the environment is seen as nested levels of social organizations that are interconnected through structures and relationships. A person enters each new situation with the goal of improving the accommodation to the environment, and is "always affecting and being affected by all the forces within it[64]." Using the concept of ecology, Urie Bronfenbrenner also derived the ecological model of human development by describing the nested, hierarchical structures that constitute the environment in which human development occurs:

microsystem, mesosystem, exosystem, and macrosystem[65]. These ecological concepts have been utilized in many aspects of social work to describe complex problems and to explain the social interactions[66]. When utilizing the ecological concept within social work, the role of the social worker is to “maintain individualized services for people and to effect a better mutual adaptation between a man and society, a better between need and service, and a better ecological balance between personality and environment[67].” In order to create this balance, knowledge of systems behavior and interaction is required for the proficient use of the ecological framework. Consequently, the ecosystem theorists turned to GST for an explanation of the relationships and interactions that occur in nature.

The General Systems Theory (GST) is a composite of known concepts and theories from different scientific disciplines that describe the relationship and interaction of various systems. According to Janchill, “Systems Theory is not itself a body of knowledge; it is a way of thinking and of analysis that accommodates knowledge from many sciences[68].” The theory is based on systems described by von Bertalanffy, which are self-identified units that can participate in interactions; that can either be isolated (closed) systems or transactional (open) systems[69]. These systems have known behaviors such as equilibrium, entropy, and the ability to exchange energy. To describe how interactions occur, systems theorists have developed principals that describe the inherent nature and

the behavior of these systems. These principals help social scientists by ascribing meaning to interactions that are observed in real-world settings.

The GST has contributed to social work by broadening the perspective of social interactions beyond linear models of causality and being “more consonant with the complex reality of human experience[70].” By examining social work issues as dynamic systems and by understanding the possible relationships between systems and the environment, GST has provided social work and other social sciences with a framework to assess complex interactions. Indeed, GST has been utilized in a diverse array of disciplines such as economics, engineering, sociology, psychology, and speech pathology[64, 71]. Advances in biological and social sciences have continued to improve the GST, such the recent focus on the nature of diversity, primacy of relationships, and self-organizing networks[62, 72]. Despite the conceptual utility of systems and their interactions, the integration and use of GST within social work has been controversial. Hartman outlines three major obstacles for the widespread use of GST: GST is conceptualization at a highly abstract level and is difficult to integrate into actual practice, the diverse theories compiled and utilized in GST can lead to divergent conclusions that would complicate the interpretation and intervention of a real-world problem, and the language of systems theorists are confusing and difficult to understand[64, 73].

Derived from the ecological perspective and the GST, the ecosystem perspective has been widely accepted a key initial approach to social work problems. The goal is to provide social workers with a comprehensive view of issues and to provide a non-linear perspective in problem assessment. The ecological background instills a transactional focus to the ecosystem perspective, which functions as a reminder to reduce bias towards either the individual or the environment during the initial survey of the broader perspective. The GST contributes an array of systems principals that are useful to describe the complex interactions that can occur between various systems and the environment. Therefore, the ecosystem perspective has been widely accepted as an important generic framework in social work[61, 62, 74].

Within the ecosystem perspective, the case definition is a “co-creative act” which involves input and discussion from both the social worker and the client[62]. The goal is to identify all relevant factors that affect the problem and to create a comprehensive picture of the systems involved. For example, a child having performance difficulty at school would have a conceptual picture that would include the school as an influential system, but also relevant within the ecosystem perspective are group systems such as parents and friends, as well as an individual’s internal systems such as self-esteem, learning abilities, and fluency of speech. Not only are each of the specific domains highlighted within the initial assessment and considered for intervention, but the transactions

between different systems are also highlighted, including all systems that can positively or negatively influence the issue. Each of the individual transactions and systems can cover one or more domain-specific modalities; for example, if the source of the poor school performance is impaired speech, the intervention options may involve behavioral therapist or speech pathologist to improve the specific techniques of speech. The social worker would then work jointly with the client to select the most appropriate intervention covered by each of the domain-specific modalities.

The application of the ecosystem perspective is to consider all possible routes of intervention, even disciplines that are not ordinarily utilized within social work. Health, education, and psychology are only examples of the many disciplines that work cohesively to address a social need, and these disciplines are considered partners in the effort to improve the “fit” of the client with the environment. Because the ecosystem perspective provides a comprehensive view, and because ecosystem concepts such as equifinality and reciprocity have demonstrated that remote interventions can have a significant downstream effect, the focus of the intervention always includes both the individual and the environment. However, limited resources may restrict the choice of intervention to only feasible options, and prioritization by the social worker and the client may be necessary to use the most effective or most needed domain-specific modalities to intervene effectively.

Regardless of the choice of the intervention approach, the ecosystem perspective provides the important first step in problem assessment by providing a comprehensive view of the social need.

Despite the benefits, the ecosystem perspective has not gained universal acceptance in social work practice. Similar to the GST, the ecosystem perspective is criticized for the highly abstract level of the framework and its inability to describe the relationships that are found in actual practice. In the *Clinical Assessment for Social Workers*, Jordan and Franklin succinctly explain the limitation of such assessment models: "Insight-oriented approaches have been criticized because of a lack of theoretical integration, which makes treatment planning difficult, whereas action-oriented approaches are felt to be underdeveloped in their treatment of major social problems" [75]. The ecosystem perspective as an insight-oriented approach provides guidelines about how to approach a case but cannot describe the actual nature of the causal relationships, nor does the perspective provide a specific methodology in the assessment of the systems and transactions. As a tool for assessment, the ecosystem perspective is limited because the actual problem definition requires an understanding and use of domain-specific theories. Instead, the utility of the ecosystem perspective is to provide a broader perspective and to capture the various elements involved, allowing the social worker and client to pursue specific domain-specific modalities that would form the appropriate problem definitions. For this reason, critics such as

Wakefield advocate the use of domain-specific theories to assess the relationship and to clarify the problem definition, because the ecosystem perspective by itself cannot be tested and cannot describe a causal relationship[74, 76].

Another critique of the ecosystem perspective is the claim of the perspective to integrate the different modalities and to provide a common purpose for social work. According to Meyer, the ecosystem perspective is offered as a “stepping-stone toward agreement with social work’s current definition of professional purpose[61].” By presenting all facets of a problem and allowing the social worker and the client to decide which intervention strategy and theoretical approach would be the most appropriate, many social work theorists believe the ecosystem perspective can unify the different modalities of social work. However, aside from the eclectic selection of technique during problem assessment, the ecosystem approach does not offer a clear instruction for the process of integration of the various social work modalities. In fact, ecosystem theorists admit that incompatible theories cannot benefit from the use of the ecosystem perspective, and the perspective is merely one approach within social work. [62] In addition, many social work theorists dispute the claim that the ecosystem perspective provides a common purpose to social work, which is to provide a create a mutually beneficial interaction between the individual and the environment. According to Wakefield, the purpose of social work is not to restore a mutually beneficial interaction, especially if

the environment or the social structure is unjust, such as slavery or apartheid. The goal, according to Wakefield, is to provide minimal distributive justice and to restore a balanced interaction should be the means to accomplish that purpose. [77] Hence, theorists are divided regarding the usefulness of the ecosystem perspective to integrate the different modalities of social work under a single conceptual framework. These criticisms, however, have helped social work theorists to understand the benefits and the limitations of the perspective, and have further improved the utility of the ecosystem theory in social work.

Despite these criticisms, the ecosystem perspective has provided a beneficial and accepted approach to assess multi-faceted and complex issues in social work. Using the ecosystem perspective as a tool, the social worker and the client can appropriately assess the major systems, elements, and factors involved in an issue and to select the appropriate intervention strategy to improve the fit between the individual and the environment. The ecosystem perspective provides a psychosocial view that permits all appropriate domain-specific theories and modalities to be examined, allowing the client and the social worker to consider all relevant options and to select the appropriate solution.

Latinos, Digital Divide, and the Ecosystem Perspective

Latino communities continue to be negatively impacted by the Digital Divide and excluded from the benefits of information technology. With the increasing dependence on computers and the Internet for

employment, information seeking, and social support, the need to bridge the technology gap is more urgent than ever. Community solutions such as community technology centers have made major progress in helping underserved populations, but have remained underutilized by those who need them. Adding to the complexities are the poorly understood reasons why Latinos tend to underutilize social services, not just CTC's. In order to understand the individual and environmental factors, and to adequately propose solutions and further research, the ecosystem perspective provides a grounded framework for the initial problem assessment in social work. Only by examining the individual, community, and systemic levels using the ecosystem framework can all of the factors that perpetuate the digital exclusion of Latinos be elucidated and addressed. Research within Latino communities to understand their reasons for service underutilization and digital exclusion is one of the important knowledge gaps that need to be addressed.

Bridging the Digital Gap – Eastmont Computing Center (ECC)

Eastmont Computing Center is a community technology center founded by OCCUR (Oakland Citizens Committee for Urban Renewal) a public interest advocacy organization located in Oakland, California. With a 50-year history of service to the community, the mission of OCCUR is to “improve the overall quality of life in Oakland's neighborhoods by ensuring that residents are involved in determining the city's policies, goals, and objectives”[78]. OCCUR sensed the growing need to provide technology

services to the Oakland community and founded the Eastmont Computing Center (ECC) for the 30,000 plus residents living within a one-mile radius of the center[79]. Services offered by the ECC include free drop-in computer access, daily senior computer classes, afterschool programs at the adjacent Intel Computer Clubhouse, and weekly Spanish-speaking computer classes. Located in the Eastmont Town Center, the ECC is part of an alliance of social service agencies with the mission to revitalize a neighborhood that has a history of crime and violence. Eastmont Town Center was once a failed commercial mall, but OCCUR and other social service agencies recognized the benefits of a multi-service center and have helped to transform the neighborhood with the revival of a community center. Today, the Eastmont Town Center houses vital social service agencies such as the Alameda County Wellness Clinic, Woman Infants and Children (WIC), Alameda County Social Services, Social Security Administration, and the Oakland Police Department.

As the only computer center at the Eastmont Town Center, the mission of the ECC is to “bring a variety of new and innovative technology solutions to Oakland’s underserved communities through partnerships with community organizations, city government, private industry and others...[and to provide] a model of how community centers can serve a valuable function in the acquisition of skills and training by those that are all too frequently left out and bypassed [by the Digital Divide]”[79]. According to the 1999 demographics, the East Oakland community

targeted by the ECC is comprised of 50% African Americans, 38% Latinos, 6% Asian and Pacific Islanders, 4% Whites, and is one of the more socially and economically disadvantaged neighborhoods in Alameda county, especially in regards to income and education[80]:

- Income and employment – 48% of residents in East Oakland earn less than \$30,000 as compared to only 28% of the rest of Alameda county. Trend analysis also suggests a higher unemployment rate than the rest of the county.
- Education level – Only 6% of East Oakland residents age 25 and older have completed a Bachelor's degree or a postgraduate degree compared to 29% within the rest of Alameda County. In addition, 40% of East Oakland residents age 25 and older do not have a high school degree, compared to 18% of Alameda County as a whole.

Therefore, the community of East Oakland is overrepresented in many of the categories negatively affected by the Digital Divide, and the Eastmont Computing Center offers a valuable community resource by addressing the barriers of mental, physical, skills, and opportunity access that are required to overcome the technological gap for the underserved communities.

The rapid growth of Latinos in East Oakland within the past 10-15 years served as the impetus for ECC to begin offering free Spanish-speaking computer classes. The computer classes are held every Friday

between 9-11AM for 4 months and cover topics such as word processing, basic Internet searches, and sending e-mails; skills that are important for basic computer functioning today. However, ECC has noticed a significant decline in class attendance in each of the courses, and an initial class attendance of 25-30 participants normally would decrease to 6-8 regular class participants by the end of 4 months. The reason for the service underutilization remains unknown, and ECC would like to learn more about the reasons and potential barriers to class attendance and computer/Internet use from the perspective of the Latino class participants.

Consequently, obtaining the perspective of Latino class participants is important to understand the reasons of service and computer/Internet underutilization. There are two main research questions: 1.) What is the perspective of Latinos in East Oakland regarding the barriers that prevent computer/Internet use? And 2.) What are the barriers to service use and class attendance by Latinos in the community?

Study Design and Methodology

Because the intent of the study was to obtain and to understand the perspective of the Latino class participants, the exploratory nature of the research topic was the primary factor for the decision to utilize a qualitative research methodology. Qualitative methodology would allow the study participants to discuss and to present their perspective on the issues of the Digital Divide and service utilization. This method also

provides the opportunity for the interviewer to pursue topics as they arise and allows in-depth understanding of issues. The sparse availability of literature on these topics also presented some uncertainty that a quantitative study could adequately capture the myriad of possible responses from the participants. A study involving individual interviews was selected because class participants and non-class participants can be better compared during analysis. In addition, the possibility of potentially stigmatizing responses, i.e. personal opinion that computers are not important when social pressure is to adopt computer technology, was another factor that influenced the decision to use individual qualitative interviews for obtaining the perspective of the participants.

The study began with an 8 month-long observation and assistant instruction of the Spanish-speaking class held at the ECC by the investigator. The classroom interaction provided opportunities for the students to learn about the upcoming study, and for the investigator to observe and to generate additional hypotheses regarding the barriers to computer/Internet and service use for this community. Approval from the Committee for Protection of Human Subjects (CPHS) at University of California, Berkeley was obtained in July of 2005. At the end of the last class session in August of 2005, the staff at ECC assisted in the recruitment of study participants through telephone announcements, which described the study and provided information about the \$25 monetary compensation for study participation. Twenty participants were

contacted and enrolled in the study between October and December of 2005. Fourteen of the 20 recruited study participants were individuals who had not attended class on a regular basis or have terminated attendance before the end of a class term. The other 6 participants attended class on a regular basis and missed no more than 3 classes. The classification of service use was performed using the class roster, information provided by ECC staff, and the interviewees themselves.

Study participants were contacted and arrangements were made to meet individually with the investigator for 1 to 1.5 hours. Most of the interviews were held at the Eastmont Computer Center, although 5 interviews were conducted at locations more convenient for the study participants. Eighteen of the interviews were conducted in Spanish by the investigator, with the remaining 2 interviews conducted in English. Each interview began with the joint reading of the consent letters for the study and for audio recording. After agreeing to participate in the study, participants began the interview by completing a written demographics questionnaire, which included information such as city of residence, educational background, status of employment, frequency of computer/Internet use, and other relevant information. Following the written questionnaire, questions and semi-structured prompts were provided to elicit discussion of specific themes. The interviews were divided into 2 main sections: 1) Digital Divide and the barriers to computer/Internet use for Latinos; and 2) Reason for the lack of class

attendance at the ECC and the barriers to service underutilization. The demographics questionnaire and the interview guide are included in the appendices.

Because the study participants were selected from the ECC class roster, some issues regarding the barriers to computers/Internet use did not apply directly to the study participants due to self-motivation and the desire to use computers. Instead, the participants were asked to present the perspective of friends, family, and other Latinos that were familiar to them regarding the barriers to computer/Internet use. In regards to service utilization, many of the participants have personally encountered barriers to class attendance and were able to discuss the issues from a first-hand perspective. However, participants were also asked to provide information about friends, family, and neighbors regarding barriers that may prevent utilization of computing services at the ECC.

Several adjustments to the questions and prompts of the semi-structured interviews were necessary. One adjustment was regarding the discussion of other services in the community, not just about the ECC. Initial interviews asked the respondents to hypothesize about the barriers to use other services, however, the respondents were often confused and could not provide concrete answers without specific service examples, and such questions were removed from subsequent interviews. Another adjustment involved the use of visual prompts to present and to discuss the barriers to computer/Internet use and service utilization. During the

initial interviews, discussions of individual barriers were prompted verbally and sequentially by the investigator to solicit responses from the study participants. However, verbal cues appeared to be leading the respondents to discuss topics that were not as relevant and may have introduced bias within the responses. Consequently, topics were subsequently presented on notecards to allow the respondents to select from a display of choices to reduce interviewer bias and to allow a more comprehensive selection of choices.

Interviews were recorded using a digital recorder, and the interviews were translated and transcribed simultaneously by the investigator with the assistance of undergraduate native Spanish speakers during the course of the study. Emerging themes helped to refine the remaining interview process and guided discussion topics in later interviews. At the conclusion of data gathering, the interviews were replayed during iterative processes, and interview summaries were created for all 20 interviews by the investigator. The investigator then compared the post-study interview summaries to the interview transcripts to check for consistency, and the transcripts were edited for content and grammar errors. The emic topics discussed during the interviews were categorized based on themes that broadly encompass the specific discussions from the interviews. Through an iterative etic and emic process, themes from the interview transcripts and summaries were then organized into matrices in Microsoft Excel for further analysis. The broad themes are then created as nodes in NVivo

and the transcripts and summaries were then coded to connect the broader themes with the actual text of the interview. The themes are then organized by research question and presented as results.

Study Results

Twenty Latinos participated in the study. Six study participants attended the ECC Spanish-speaking computer class regularly and had no difficulty in service use. Fourteen of the participants attended the ECC irregularly and had personal difficulties attending classes.

Demographic Information

(Please refer to the Appendix 1, Figure 4 for the summary table of demographic information, which also displays the data subdivided by class participation.)

The study was composed of 12 female and 8 male participants. Sixteen of the study participants resided in Oakland, 3 of the participants lived in San Leandro, and a single participant resided in Fremont, California. Eighteen of the participants were of Mexican descent, and the 2 remaining participants were of Central American descent. Although not asked on the questionnaire, almost all of the participants were immigrants, many had undocumented status. The median age group of the participants was between 35-44 years old, and 12 of the 20 study participants reported to be in this category. Twelve of the participants were married, and the average number of children was 2.8 for the 15 study participants with children.

Of the 19 study participants that reported income, the median income was between \$15,000-\$19,000. Twelve of the 20 study participants were employed, 5 were homemakers, and 3 were unemployed. Sixteen of the 20 study participants had completed high school and 3 of the participants had a college degree. Spanish was the primary language spoken at home, with 18 of the 20 participants speaking mostly Spanish at home. Twelve of the study participants owned a computer at home, although Internet access at home was available to only 9 of the 20 participants. The median average computer and Internet use was every 2 weeks.

Twelve of the 20 participants had transportation, and the average commute time to Eastmont Computing Center was 14 minutes with a car and 21 minutes using public transportation. Eleven of the 20 participants knew about the services at ECC through friends and family, 5 participants learned about the ECC by utilizing other services at the Eastmont Town Center, and 3 participants learned about the ECC services through flyers and TV advertisements that ECC had promoted through local agencies, radio, and TV stations.

Barriers to Computer/Internet Use

Because many respondents were motivated to own or study computers, most responses regarding the barriers to computer/Internet use were descriptions of opinion and perspective of other Latinos familiar to the study participants. Nineteen of the 20 respondents agreed that

Latinos as a group do not use computers/Internet as much as other ethnic/racial groups in the US, and the one remaining respondent was not aware about the trend but also did not disagree with the statement about computer/Internet underutilization by Latinos.

Cost as a Barrier

Cost is a common theme discussed by a majority of the study participants, but the extent to which cost is a barrier to computer/Internet use differed among respondents. The majority of the respondents reported cost as a barrier for many Latinos who have minimal resources, and cost functions as an impediment to computer ownership, Internet subscription, and computer education. Many respondents described difficulty obtaining a computer or taking a computer class due to economic hardship.

"...What little money I do have I am investing it in my parents, sending money to Mexico so I don't give myself the luxury of buying a computer [or] paying for internet and paying for a cell phone, paying for a car, or whatever and...even little details, when you make a list you see all that you have to spend...I don't give myself the luxury to buy a computer because it is expensive."

"Yes, the cost has something to do with it, for many reasons cost does matter, a lot of what my husbands earns is not enough to just pay for bills and insurance, after that the check is gone..."

"...They cannot pay [for computers and computer classes]. Because sometimes they do not even have enough money to buy food."

However, some respondents believed that cost is not an issue, especially considering the benefits of computers and Internet. Many

believe computer ownership and education to be an investment, and that cost is not an impediment.

"No [cost is not a problem], because there are different prices and qualities...For us, we only use it for the basic functions, and it is not necessary for us to look for [something more expensive]. We only need it to help the children with their homework, [we need] only the basics."

"[The cost]...is high, but I realized that it is not [so] important, because many students in middle school have been given computers. They are old, but they work. To buy a new computer is very costly, but there are other ways of getting one. If one really wants one, they can get one."

"Yes it is expensive, but in the long run it could be beneficial for us, but for right now we have not been able to buy it."

Work as a Barrier

Work as a barrier was a common theme that emerged from the interviews. Although not discussed in prior literature, work appears to be a strong barrier to computer/Internet use from the perspective of the study participants. During the interviews, the discussion of work as a barrier to computer/Internet use emerged commonly in 2 different ways. From one perspective, work is a priority that averts the necessary time and energy, despite the desire of many Latinos for computer/Internet use and education.

"Because my work is...I have to use my body, and I have to use force. When I arrived at home, I was kind of tired...and [it was] late also. Even though the wish was there in my mind, I wasn't motivated [to learn about computers]...Because I am on disability now, I have the time to go to the computer center, so I did."

"We know that if we learn computers we get better jobs, obviously. But I have no one to help me so I have to work. So if

I start to study, who is going to take care of my expenses? So it's not possible [and] that's why we work. We try to study with the time we do have, and we do still have great interest to learn...but we do need help..."

The other manner in which work functions as a barrier is that prioritization and emphasis on work is of such importance that many Latinos focus only on working more, and that computers/Internet use and learning are not considered important priorities. The concept of "living only for today" was mentioned by many of the respondents when describing work as a barrier to computer use. Because many Latinos immigrate to the US with the main purpose of improving economic livelihood, work and earning money is the primary goal for many Latinos. Therefore, computer/Internet use and learning is considered a distraction and not important by many Latinos.

"...Sometimes we Latinos need to think only about work and to have something...sometimes we do not think about studying or about computation because we want nothing more than work in our own countries. We think purely to work. Sometimes there are people who have 2 jobs and do not think...we do not think more about studying, no more than to have a little more."

"...For Latinos it is not as easy because we have to worry about work and to send money. The situation is very hard. The situation from a Latino to another race is very different...for other races, they study in order to become someone important in life. But for Latinos, we work, in order to continue working and working."

"...We work very hard to make a better life, we fight hard to improve our lives, but we always leave things we do not know and we do not develop and time passes. Therefore, I do not want to reach 50 years old and not know about computers because I always continue to work. This is what happens to us Latinos, that we work...and we work until the age we want...but the problem is, we do not prepare for ourselves..."

Immigration to work in the US is viewed as a temporary arrangement for many Latinos, and computer/Internet use and education are viewed as having little relevance for future livelihood. Many respondents commented on the desire of Latinos to return to their country of origin after working in the US temporarily, and this focus distracts from the use and learning of computers. Although the respondents differed in opinion regarding the importance of computer/Internet technologies in their countries of origin, all respondents agreed that the work opportunities with information technology are not equal to those available in the US. Therefore, the idea of temporary residence prevents computer/Internet use and learning.

"...If a Latino comes from Mexico here to this country, [s/he] comes here to work. They don't have the time to do other things because they only come here for temporary time period, much more if they have [a] family. So they come here for a short time and then they go back to Mexico and so for them...and..in my opinion they can say 'Why should I study [computers] if I'm only going to be there for a short time period only?' So it's one of those things about us, we only come here for a time period only and then go back"

"...It is important but there is no way to study over there in Mexico and it could be a point of view that if one comes here to work and then goes back to Mexico there is no way to put it to use. Let's say if they are going to study computers, but where are they going to put their skill to work if there is no work opportunity that would require them to use their computational skills. Even though the future is computers...in what is Mexico [currently] and in many villages, it's not really present. Most likely in big cities there might be [some], but not the same opportunity."

A few participants discussed the lack of career opportunities in computer technologies here in the United States due to the undocumented status of many Latino immigrants. The lack of work opportunities, similar to the concept of temporary residence, reduces the emphasis to learn about computers and the Internet when the skill set would not be utilized in the future.

"...[They] are not interested [in learning computers]...'What is their benefit?' Look, they do not give you an alternative if you want to study the Internet. If you don't have documents (legal status) what are you going to do? All that you have studied for, what good is it?...All the time that you spent studying, you can't use it because you don't have job permission. Or many [people] say 'Latinos have the highest number of dropouts [in schools].' Why is it the same? All the young people think 'Why should I keep studying and kill myself [studying] if I don't have a job permit?' That is why they drop out."

Lack of Support, Knowledge, and Education as Barriers

Support and help needed to learn computers is another important theme from the interviews. Most respondents agreed that Latinos need support in order to use and to learn about computers, and support is a prerequisite for Latinos to use computers and the Internet. Support was described as different than access, and although some respondents reported a lack of both access and support, other respondents stated that support is much harder to obtain than access. For example, many respondents are aware of the availability and access of computers in public libraries and schools, however, the majority of the respondents believed that Latinos do not utilize support services to help with the use and learning of computers.

"...There is [access] but not sufficient...I think there needs to be a little bit more of something else...it is person-related help, almost, in order to be able to [help] make Latinos to use computer classes..."

"I do not think so [that there is enough access], because when someone does not have enough school, then maybe that person does not feel the need to be in a library [to use computers]. It is not because they do not think it isn't interesting, but maybe the person only finished elementary school in Mexico like 15 years ago and has been working here for 15 years, and has only learned to read and write the basics. So there is no motivation to go to a library. What would he do there?"

"...Because problem with support...I have been seeing a lot of support everywhere for Latinos, to give them information, to give support, to give free classes...but that is not the problem. The support is there, but we do not take advantage..."

"Well maybe there is [sufficient support], but not everyone knows about it. Like not everyone knew about the classes that we have here. For the same reason that they work all day, and get home just to rest. Many people do not know of the service..."

Therefore, respondents often described that the lack of knowledge of available support as a barrier to computer/Internet use. Many respondents also reported that a lack of awareness of the benefits and functions of computers as a barrier to computer/Internet use. The lack of knowledge and awareness creates misconceptions and fear of computers, and often serves as a barrier to reduce the motivation to use and to learn about computer and Internet technologies.

I think that we Latinos we do not put attention into computers. I did not own one and didn't know [how] to use one, but I started to come here...and began to pay more attention to the computer...I learned that there is information and that I do not need to ask others and...could look for it myself. But there are a lot of people that do not know this.

"There was a time that when my classmate was telling me 'I do not like to use the computer because I do not know how to. My children use the computer at home, but it is distressing for me because I do not understand it.'"

"...It is about the fear since they don't know...they say, 'Where do I go? Oh my gosh, I might mess it up...' Let us suppose they don't know how to open the program [Microsoft] Word and they don't know how to use the tools, well then, they are stuck...but yeah it (knowing how to) is very important to be able to utilize computers."

"Inform [us] of the benefits, not so much that you can have a profession or be someone. But for something that you need...that you don't have to study a career [in computers] to know how to use the Internet or the computer...But we need the information to tell us 'look at this, look at that' and then help us decide 'oh yeah, lets go'"

Contributing to the fear of computer technologies and the lack of knowledge of computers is the level of education and proficiency with languages, including both English and Spanish. Many respondents reported that education is often poor in their country of origin, and basic literacy in Spanish is difficult for many Latinos. Many respondents believed that the lack of language literacy and basic education are barriers to obtain the required knowledge for computer/Internet use and are important barriers for many Latinos. In addition, many respondents believe English abilities to be important for computer/Internet use and contribute to the fear of using computers when Latinos cannot understand what is being communicated on the computer screen. Other respondents reported that English support resources are more accessible than Spanish resources, and the lack of knowledge and language both contribute to the barrier to use and to learn computers.

"Education is the most important [barrier] because there are a lot of people that have studied but never finished their education or have their degree...or sometimes they feel that they don't know because they can't even read or can't write, so they are missing the minimum to use computers..."

"...Most of the people who come here are people who didn't even go to school, they are illiterate people...We have problems here [in the school], that they don't know how to read, even in Spanish. And I noticed that because when I sent notices home and I asked, 'Why did you not come to the meeting? Why didn't you respond?' They say...they don't like to say it, but 'Oh, I didn't because I don't know how to read.' See? That's another problem...here in this school, it is a large percentage [of parents]."

"When I tried [the computer] myself, it was a very big barrier, especially because everything was in English. So many words I don't understand...not only programs but the little symbols that appear on the screen to choose...I did try to understand but I couldn't. I just couldn't. But everyday that I did try, there was that barrier."

"I would say it is the language, because once we start learning things in the computer everything is in English. But once they get on the Internet, there are things in Spanish, but the usage of the computer is only in English. The majority of the people like us have very little education, so little education in Spanish, and using a computer in English...it is...[difficult]"

Therefore, the lack of personal support, the lack of basic knowledge of computers, and the lack of basic education and language abilities are barriers described by the study participants that prevent computer and Internet use for Latinos. These barriers contribute to the fear of computer technologies, and the belief that the ability to learn and use computers is beyond attainment for Latinos. In fact, many respondents described these barriers as interrelated factors, and the emphasis on work, cost barriers, and the lack of education, knowledge, and support were often described

together. The following excerpt illustrates the relatedness of the barriers and the effect of these barriers at the individual, community, and broader social level.

“Because the Latinos that immigrate here usually have a lower educational background than other immigrants. Other immigrants such as those from India, Europe or Asia come here already with a degree or some form of education; some are even doctors or engineers. On the contrary some of us Latinos that come here don't even know how to read. Some people from Latin America don't even know how to speak Spanish even when it is the official language of the region, sometimes they speak an [indigenous] dialect instead. They can't even communicate in Spanish so [they] won't be able to learn and are not even interested in using computers because they don't even know what it is...All of this is a problem of the economy. The kids almost can't go to school because there is no money so they start working at the young age and they start losing the interest to study. When one is an adult you are less interested in learning about computers. Also language, once you get here [to the US] it is much harder to learn [both] English and computers...All programs are in English. For example, a European immigrant will at least know some English, and can learn computers faster and get a better job than a Latino...[My friends] they don't know how to use computers and so are not interested...”

Other Barriers to Computer/Internet Use

Although not mentioned by many participants, the fear of inappropriate content was a barrier for a few of the study participants, especially mothers with young children. However, many of the participants in the study also acknowledge the importance of computers in education, and children are important motivations for parents to learn about computers. Of the 15 study participants with children, there were 8 participants who listed helping their children as the primary reason to learn about computers. Of the remaining 7 participants, six participants

stated that their children already knew more about computers than them, and the other participant said his children were too young to learn. Therefore, inappropriate content on the Internet may deter some Latinos from using computers, but many believe the solution is to learn more about computers so they can be better prepared.

"...Many kids go into the computer and get certain information that is not good for them. There are also bad people who use the computer for other reasons. So you have to be constantly checking your kids and or be near to know what websites the kids are entering...That is why it's good to know, and know how to use and learn because I want to know what types of webpages they get into..."

In addition to the barriers described, many participants also stated that they are not sure why other Latinos do not use computer and the Internet. These participants believe there may be other reasons that have not been discussed during the interview.

Barriers to Class Attendance/Service Use at the ECC

Because 14 of the 20 respondents did not attend class regularly or had discontinued class attendance, responses to the topic were both about the participant themselves and other Latinos familiar to the respondents. Prior to discussing barriers to class attendance, all respondents provided positive feedback regarding the services and the computer class offered at the ECC; and that the quality of the services at the ECC was not a deterrent to service use.

Because the ECC computer classes were free and were offered in Spanish, many respondents did not discuss language and cost as barriers

to class attendance at Eastmont. However, most of the respondents stated that these factors are important for Latinos in the community and provided both direct and indirect feedback that Latinos would have difficulty accessing and using a fee-based service or a class that is not taught in Spanish. In addition, many respondents believed that Latinos are not familiar with free community services because such opportunities are not readily available in their country of origin. Therefore, respondents reported that the lack of awareness of Spanish-speaking services and free computer classes that exist in the community prevents Latinos from seeking these services. Another topic that was not discussed in detail due to the lack of relevance for the ECC is immigration status or the need to provide proof of documentation for service use.

Information and Knowledge of Services as Barriers

The most common theme when discussing the barrier to service use at the ECC was the lack of information within the Latino community about the availability of the Spanish-speaking class and services. Most respondents also reported not knowing about other resources available in the community. The lack of knowledge and information is a barrier that prevents Latinos from seeking and utilizing community resources such as the ECC.

“Many people don’t know that the center exists...The people I talked to...they didn’t know that the center exists. I didn’t know either...[ECC needs] many more propaganda, radio, television, flyers...”

"Many people usually do not know, and it is only when we talk that people know these classes are being offered, because there is not a lot of information about this."

"I think because there has not been sufficient promotion or awareness in schools nearby in the vicinity...[to] let people know that the classes are in Spanish and not to ignore [it] because they think it is in English and [they] are afraid that they will not understand...They should spread more information and give the kids flyers in school. It would be a great advantage knowing that there are classes at this place in Spanish..."

"...And to know that the center is there because before I didn't know it was there [and] that there were many computers, not even an idea what they were and what was going on. I would pass by and look but not know [what was happening there]. The center needs more flyers [and] more information so that people are aware..."

Out of the 20 study participants, 12 learned about the class by information passed between friends and family members. Only 3 of the 20 study participants learned about the class through flyers or radio/television advertisements initiated by the ECC. Five participants discovered the ECC by utilizing another service offered at the Town Center, and these participants also provided positive feedback about the benefits of a multi-service community center.

Personal Responsibilities as Barriers

Of the personal reasons for irregular class attendance, changing work schedules and unpredictable work opportunities were cited as the most important reason for terminating class attendance. Of the 12 employed study participants, only 1 was able to attend the computer class on a regular basis. Nine of the 12 participants (75%) had irregular work

schedules, regardless whether the employment was on a formal or informal basis. Therefore, the prevalence of irregular schedules for Latinos is a barrier for regular class attendance.

“Due to my work more than anything, I could have adapted to a schedule in the afternoon, but unfortunately I did not find out if the class was available in the afternoon, so this is why I did not come... since I do not have a stable job, they can tell me to just show up...”

“One could be that we found a job, like in my case, and we had to let go of the class.”

“Why did he stop going? He would go to work at night and would get out at 5AM. He wanted to go but couldn’t...because the next day he had to go back to work well-rested. So when you gave classes he was sleeping and when he woke up you were not giving classes anymore. So it is very difficult but it’s reality...”

Many respondents, especially the female study participants, also described children as a barrier to class attendance. Many of the same female study participants stated that a morning class is the optimal time because their kids are in school. Some participants tried to bring the children to class but found the experience difficult, and that they were not able to concentrate. Therefore, many of the study participants also recommended childcare services as a solution to alleviate the barrier of caring for children during class times.

“Some due to the lack of time because they work, others because they have to take care of their children they cannot come.”

“My kids do not allow me to concentrate the same [in class]...Little kids stray your focus. When the professor speaks and the kid speaks...your focus is gone...So it is best to find a babysitter or something....[especially] for people who have kids

4 years old or younger [because] they cannot go to school yet...When the kids are present [in class] it is not the same. When the professors speak one loses [track of] what they are even talking about."

"I think that principally a service to take care of children [is important], because...I brought my sister-in-law and her daughter, and I asked her if she would like to learn computation. She told me she would be interested, but her daughter was restless and cried a lot, so that did not permit her to even go to class. Her daughter is already an obstacle because it does not allow her to do anything."

"...If they can take care of the kids that would be helpful, for the 3 or 4 hours of the class, it would be an advantage to have a babysitter. You know where they are going to be and your focus will allow you to learn, otherwise you don't learn and the other [students] don't learn either, the children not only distract the mother but everyone else, it gets out of control. You need to go calm and tranquil that you will go to class for what it's for."

Aside from work and children, personal obligations at home were also mentioned to be a significant personal barrier for the study participants. Many participants also acknowledge that it would be difficult for the ECC to address all of the different priorities that may keep Latinos from regular class attendance. Therefore, personal responsibilities are important barriers to service utilization and class attendance at the ECC.

Convenient Time and Transportation as Barriers

Convenient time was a common theme described by the study participants, however, the respondents were not in agreement regarding the ideal time for the class. For many mothers, the morning class schedule was ideal because the kids are in school, which allows the

mothers an uninterrupted period of time to learn. Many women also mentioned safety concerns with a later class time. However, many daytime working respondents suggested that class should also be offered in the afternoon to accommodate different schedules. Therefore, many respondents suggested that ECC should offer more classes during the day or offer different class schedules to account for the different priorities and the irregular work schedules that Latinos commonly face.

Similarly, convenient transportation is a commonly discussed theme, but study participants are not in agreement whether the Eastmont Town Center was at a convenient location for driving and public transportation. The commute time for public transportation was 150% greater for participants that used public transportation: 21 minutes by bus versus 14 minutes by car. Many respondents stated that the ability to drive is an advantage and improves service access and utilization. In addition, study participants feel more secure traveling in their own vehicles than in public transportation.

For the study participants that utilized public transportation, opinions regarding the ease of commute differed significantly among the commuters. For example, some bus riders described a convenient commute by taking a single bus line to arrive directly at the ECC, while other bus commuters needed to change 2 buses in order to arrive. The rising cost of bus fare and the difficulty of commute was a barrier for some of the study participants to attend class on a regular basis. Most bus

commuters did agree, however, that the Oakland bus schedules are much more erratic in the afternoon and would prefer a morning class for convenience. Therefore, convenient time and transportation were both barriers stated by the participants, but there is no clear agreement on the optimal time or location to improve class attendance.

Lack of Security and Safety as Barriers

An important theme that emerged from the interviews is the lack of safety and security as a barrier to class attendance at the ECC. Many study participants were aware of the historical context of the Town Center and the history of crime and violence in the neighborhood.

“But two years ago I remember my brother told me that around here there were a lot of robbers and gang members that would come here to the school from seven to nine [at night]. This is why I did not come, because I heard they would steal cars and break windows, so I would not come to English class here”

“...Before, I was living right across the street just from the center...it was terrible...it was unsafe. [Now] I don't know because people say that they feel more secure now than before...I know people who go the clinic or to WIC and all of that...and they say that it is more secure now...”

Although respondents were aware of the historical context of safety in the neighborhood, many study participants were also able to describe current concerns of safety since the revival of the Town Center. Many respondents stated that the issues of security and safety were more in the community and not in the Town Center itself. Most of the respondents have not had any personal encounters with crime and violence in the neighborhood, but they are aware of personal contacts that were the

victims of crime in the neighborhood. Two of the study participants were assaulted within the neighborhood surrounding the Town Center. One participant was assaulted as he was leaving an afternoon computer class at the ECC and was unable to attend the class for 2 months; and the other participant described two robberies, both within 2 blocks of the Town Center. Therefore, many participants stated that Latinos are aware that the community surrounding the ECC is not safe. Study participants also perceived safety issues differently at different times of the day. Most respondents reported that morning hours are safe and that the neighborhood becomes more dangerous as the day progresses, with the surrounding area of the ECC becoming extremely dangerous after dark.

"Most people are more nervous and less confident with [the] fact that they are in Eastmont Mall...to the commentaries I said earlier...yes it is dangerous...but that there is a need to find a better location [that is] more secure. I think that would be more advantageous...at another location where people know that it will be safer, it will attract more people to go to classes."

"[Eastmont] always has been dangerous...the kids that walk in the street... Blacks, Latinos, and some others...rob [what] little people may have in their cars...and [also] they jump other people and rob their things, their money, their wallets...For this reason, many people sometimes do not want to come because the problem is that one comes with the goal to study or to do something...but the problem is one...cannot walk [around here] because the little Blacks are doing these things. [They] are only kids...they are not very big or older people. Purely kids..."

"...But sometimes here in the afternoon, when there are many Blacks that gather here, and [then] one has fear...when there are too many Blacks gathered here, nobody wants to come here...The majority of us women, many of us do not drive and [take the] bus, we are scared of it."

The respondents often identified African Americans during discussions of neighborhood safety. However, many of the same respondents also stated that Latinos also perpetrate crime and that communities are often dangerous when the population size is large. The following is a typical discussion with a study participant.

"Well I think it's from the afternoon and on, it would be 5-6PM and on would be the most dangerous time at Eastmont Mall, it is when most vagabonds keep an eye out and if they know that someone is coming and going at a certain time, they will start testing to rob what little you have...and it is more of the surprise that they take out of you...and most difficult for women who get around by themselves..."

Interviewer: "You told me that it is more with Black youths that...cause the crime...?"

"Well there are Latinos but it seems to be more of the Black race than that of Latinos, because they do bad things but Latinos also do bad things. It is more visible seeing the vandalism of the Blacks in those areas because more Black people live around [there]...you can see it. I have nothing against them it is just that they are seen more..."

Interviewer: "Do your friends or people you know have had experience with crime with Blacks?"

"Yeah, they robbed from this lady not long ago, the purse she had, her wallet and her cell phone because she doesn't take the bus, she simply walks. She takes the kids walking to school and the truth is that she always walks around. They took everything of hers, and they were Black people"

Interviewer: "Therefore, this thought...it is common for Latinos to think that it is dangerous where there are many Blacks?"

"Yes because of [the] many experiences that support the notion of racism...It is heard that Blacks more than Latinos that all of this happens 'Who broke into your car...the Black person did,' or 'Who broke your glass window...the Black person did,' or 'Who did that...the Black person did.' It is that which loses the trustworthiness in them."

To further complicate the issues of security as a barrier to service use, many participants have directly and indirectly stated their mistrust for the Oakland Police Department to help resolve issues of safety. In addition, some participants suggested that the undocumented status of many Latinos compels them to remain silent and constrains the ability to adequately pursue legal action against perpetrators.

“[The ECC staff] had asked me why I hadn’t come [and I told him about the assault] and then we went to make a report and the police did not believe us. Well, then, I didn’t feel like coming [to the center anymore].”

“I had my store, [and] a guy walks in to rob everything, he was drugged up...and I called the police...They asked me if he had a knife, a gun, a weapon...I didn’t see any signs of one, but I was still afraid. ‘Well since he doesn’t have a firearm it isn’t that important, call us for anything else that is important. Otherwise forget about it’...”

Therefore, many participants stated that Latinos hesitate to use services in Eastmont due to safety concerns. Female study participants, especially women who cannot drive, described discomfort or fear of using public transportation for commuting to the ECC at certain hours due to the safety issues. Many of the respondents also pointed out that most of the issues with safety were directed towards the younger African Americans who gather in the surrounding neighborhood, usually in the afternoons and evenings. The discomfort with neighborhood safety, in particular with the younger African American population, is a barrier for Latinos to use the services at the ECC.

Racism as a Barrier

Another common topic described by study participants as a barrier to service use is racial discrimination within the community. Often described in conjunction with safety and security issues, many participants stated that Latinos are uncomfortable interacting with other ethnic groups, particularly the African American community. Some respondents also described feeling racism with Whites and Asian Americans in Oakland.

"The majority of Latinos here we look normal like as if we were in Mexico, but people here look at us as if this is their space, and we should move away from it. That is how I feel it. There are times that if we are in the street and the police look at us like criminals, they will always look at us as if we are drug dealers, and we hang out with the dark-skinned people, and that we will make trouble."

"I have seen that, and I have experienced myself, that as I walk down the street, a Black person might swear at another person. I do not know what it consists of, because we are all the same, but we are only distinguished differently because of the color of our skin...It is not only with me, I know that many [Latinos] due to fear do not go out. The language is another problem since I do not understand what they tell me and they do not understand what I am telling them. What if I am telling them something and they think that I am offending them..."

"There it is [at Eastmont], but everywhere not only in the Eastmont area...everywhere...Someday, take the bus and you will see the difference how the bus driver treat the Latinos or Asian people and how they treat their own people, you will notice that...Sometimes I was so upset, listening what the bus driver tells to them and I was so upset that I wanted to say something, but I thought 'Oh no, I better be quiet.'"

Many study participants describe incidents of racism, which causes many Latinos to not feel a sense of belonging in the community. The

response of the respondents ranged from acceptance to apathy, and the result is that some study participants prefer not to interact with African Americans or other ethnic groups in the community. One respondent also described feeling discrimination from other Latinos, especially those with legal documentation. Some respondents stated that the racial tension is due to communication barriers and that language is a barrier for racial acceptance. Therefore, racial tension and discrimination is a barrier to service use, especially when the ECC is located in a racially and ethnically diverse neighborhood.

Embarrassment, Shyness, and Shame of Using Services

Some Latino participants described feelings of embarrassment and shame for attending class at the ECC, and these feelings function as barriers to class attendance. When described by the study participants, feelings of embarrassment or shame are due to the admission of not knowing computer/Internet technologies and the inability to feel confident learning with others.

“They are embarrassed in coming here and [are afraid] someone asking them if they know how to use the computer...and [then] having to answer ‘no’.”

“It could be this, the embarrassment of taking the course. Similarly when I started from the bottom I was embarrassed because I did not know anything. Every time you go someplace new to learn something new, you are usually embarrassed and scared. Maybe you think that you will not be able to achieve it, or you will not be able to do it correctly, or you will not be able to turn on the computer and they will laugh at you, things like that...shame diminishes, the more you use the computer and you start discovering that you can do it.”

Therefore, many participants reported that Latinos in the community encounter many obstacles in class attendance at the ECC. Latinos lack the knowledge of the available community services and are prevented from accessing and using free and Spanish-speaking services, such as the computer class offered at the ECC. Respondents also described personal priorities such as work and children as also barriers to class attendance. Many Latinos do not attend class at the ECC due to personal responsibilities, concerns of neighborhood safety, racial discrimination, and personal shame and embarrassment for using a community service. These factors, along with issues of cost, language, and convenient time and location all function as barriers that deter Latinos in the community from using services to improve computer/Internet competency.

Discussion of Results

Barriers to Computer/Internet Use

The findings from this exploratory qualitative study of computer/Internet use support previously described barriers that affect Latinos. For example, barriers of cost, lack of education, difficulty with language, lack of information and support, and the fear of technology and inappropriate content have been reported in prior studies. Income as a barrier could not be examined directly in this study due to inconsistent demographic reporting, but the finding that cost is a significant barrier indirectly supports the claim that lower income correlates with exclusion

from technology. Therefore, many of the barriers reported by the participants support the current understanding of investigators and agencies working to alleviate the Digital Divide for Latinos.

One significant barrier for Latinos that has not received much attention in past research is work and the emphasis on work. As the primary motivation for immigration to the US, many Latinos believe work is paramount and that learning about computer/Internet use is considered extraneous, despite knowing that skills with computer/Internet technologies can improve life opportunities. Therefore, work and conditions of work for Latinos should be examined and researched by agencies working to address Digital Divide barriers for Latinos. Possible interventions to help Latinos with technological inclusion should include additional services that help to reduce the burden of work and to target interventions that improve work opportunities. By understanding the barriers that prevent computer/Internet use and the different motivations that affect computer/Internet use, interventions can provide additional opportunities for Latinos to utilize computer/Internet technologies and to bridge the Digital Divide.

In addition, the interrelatedness of the barriers to computer and Internet use has not been well-reported in past studies. The literature often reports barriers to computer/Internet use as discrete problems without contextualizing the interconnected nature of the barriers. For

example, many participants acknowledge that language barriers that prevent computer/Internet use are exacerbated by poor educational opportunities. Poor education, consequently, can be exacerbated by economic factors that have compelled many Latinos to start working at an earlier age. The need and emphasis to work is further reinforced by the limited career opportunities in the job market because of insufficient educational background and language skills. Therefore, many of the study participants are often able to provide additional perspectives about the complex interactions of the barriers, which appear to synergistically prevent Latinos from computer/Internet use. One significant corollary is that the lack of understanding of the relationship of these barriers hinders effective planning of interventions to address the Digital Divide for Latinos. The connectedness of these barriers implies that proposals to solely address a single barrier without considering other factors that affect computer/Internet use would fail to significantly improve technological inclusion for Latinos. Therefore, more research is necessary to understand the relationship of the barriers to offer effective solutions to reduce the Digital Divide. Possible solutions include infrastructure investment to improve overall educational and language skills or developing economic policies that provide incentives for Latinos to utilize computer/Internet technologies. According to the concept of equifinality from the ecosystem perspective, such policies may have greater impact for the alleviation of the Digital Divide than targeting computer usage alone.

The barriers to computer/Internet use encompass diverse academic disciplines, including public policy, education, and social welfare. In addition, many of these barriers affect Latinos at the individual, community, and societal levels; further complicating the prospect of using simple solutions to reduce the Digital Divide. For example, barriers such as fear of technology, language barriers, and the need to work all prevent an individual from participating in computer/Internet use. Within the community, the sparse learning opportunities for Latinos, the lack of appropriate advertising to promote the benefits of computer/Internet use, and the poor availability of stable work opportunities further contribute to the technological disparity. Finally, at the societal level, reduction in funding for the Digital Divide and policies that perpetuate the underprivileged status of Latinos in work and social opportunities help to maintain the status quo of the technological gap. Considering the multiple levels of intervention needed to provide technological participation, efforts to address barriers for individuals without considering policies to improve structural barriers at the community and societal level may lead to scant improvement in technological inclusion. Therefore, efforts to alleviate the Digital Divide for Latinos should include input from multiple disciplines and to examine issues at the individual, community, and societal levels to ensure that all obstacles to computer/Internet use are considered. In addition, additional effort to include the perspectives of Latinos in the planning and implementation of

programs is necessary to provide effective solutions that would truly benefit the Latino communities.

Barriers to Class Attendance/Service Use at the ECC

Latinos in East Oakland face multiple barriers to utilizing the computer class offered at the ECC. Although all respondents provided positive feedback regarding the services offered at the ECC, most respondents agree that the ECC computer class is underutilized by Latinos in East Oakland. Similar to the cost and language barriers of computer/Internet use, free and Spanish-speaking services are significant factors that promote community service use for Latinos. However, organizations that offer free and Spanish-speaking services for Latinos to overcome technological barriers are scarce in the community. Even if such services are available, many Latinos are not aware of community resources and do not know how to obtain the appropriate services. The difficulties to utilize services reinforce the barriers to computer/Internet use. Without knowing the benefits of computer technologies and without knowing how to acquire these skills, many Latinos cannot make an informed choice about the cost and benefits of service use to improve computer/Internet use. Therefore, additional information to inform Latinos about the benefits of computer/Internet use and to advertise the available services in the community can help Latinos to acquire self-sufficiency and a sense of community participation.

For Latinos that know about the computer services offered at the ECC, individual, community, and societal barriers also prevent regular class attendance. Personal responsibilities, concern of neighborhood safety, feelings of discrimination, and embarrassment to utilize community services are common barriers among Latinos that prevent service use. Of the personal responsibilities that deter service use, children and work are most commonly discussed. Children serve as a motivation for Latinos to learn about computers/Internet use, but paradoxically hinder class participation for many Latinos, especially mothers of young children. The barrier, however, can be ameliorated if community and societal policies advocate for parental education along with computer/Internet education for children, such as offering computer classes for parents at the schools while the children are in class. Not only would such policies benefit the parents directly, parental involvement would help to garner additional support for computer education for children in schools; perhaps helping parents to invest in community resources that would benefit other adults and children. In addition, community service agencies such as the ECC should provide additional aid to attract parents to class, perhaps offering referrals to childcare services or joint classes for both adult and school-age children.

In addition, work and the focus on work is another personal priority that prevents class attendance. As mentioned earlier, work is a barrier that prevents Latinos from gaining interest in learning and using

computers. Because Latinos are often employed in jobs with unpredictable schedules, regular attendance of a community computer class is difficult, if not impossible. Therefore, community services such as CTC's should design services and programs that address work as a significant barrier to service utilization. For example, computer classes should include make-up sessions or offer variable schedules to encourage ongoing participation of individuals with irregular work schedules.

Concern of neighborhood safety is also a significant barrier keeping Latinos from utilizing social services in a diverse, underserved community such as East Oakland. The experiences of Latinos with crime within the community continue to reinforce the stigma of the lack of safety in the neighborhoods around the ECC. Although many of the ECC class participants have accepted the safety risks associated with class attendance, other Latinos in the community have remained distrustful of utilizing services located in Oakland neighborhoods that are considered unsafe. In addition, the hesitation to utilize services offered at the ECC is further complicated by a distrust of the Oakland police, as well as a sense of powerlessness to pursue legal actions against perpetrators. Many respondents mentioned that Latinos often would not report crime or seek help due to fear of personal repercussions, especially if the risk of divulging immigration status is involved. For many respondents, the presence of the Oakland police at the Eastmont Town Center does not alleviate issues of safety. The stigma of crime in the neighborhood around

the ECC and the lack of confidence that safety concerns would be justly addressed are significant barriers for Latinos to utilize services at the ECC. Neighborhood safety for Latinos, however, can be improved by offering services earlier in the day, and by informing the participants about the importance of arriving and leaving the ECC in groups. In addition, class attendees with cars appear to be more confident about utilizing services at Eastmont. Therefore, discussion of class time and transportation with participants to reduce discomfort with safety concerns can help to maintain consistent class attendance and to invite additional participation by the Latinos in the community.

For many study participants, concerns of neighborhood safety are often connected to feelings of racism and discomfort with other ethnic groups in the community, in particular African Americans. East Oakland is comprised of 50% African Americans and 38% Latinos, and the two groups are more likely to interact with each other based on demographics alone. In addition, East Oakland is a community undergoing rapid transition, for example, the Latino population in East Oakland grew from 18% of the total population in 1990 to 38% by 2000, while the African American population decreased from 66% to 50% during the same time period[80]. Therefore, the rapid shift in demographics may contribute to the racial tension that exists between African Americans and Latinos in East Oakland. As a result of personal experiences, some of the study participants do not feel welcomed by others ethnic groups within the

community, and attribute the sense of alienation to their immigrant status and their inability to communicate effectively in English. For example, many respondents believe that a source of resentment by African Americans is the belief that Latinos have immigrated illegally and have displaced African Americans from employment opportunities. These perceptions, which are common within the Latino community, have already fostered feelings of indifference and withdrawal from community participation by Latinos within East Oakland and other ethnically underserved neighborhoods. In an insightful article, Earl Hutchinson outlined the recent mayoral election of Los Angeles and the social, economic, and political factors that have contributed to the racial tension between African Americans and Latinos in the underserved neighborhoods of L.A. County: "The hard truth is that Blacks and Latinos are undergoing a painful period of adjustment in L.A. and America. They will find the struggle for unity to be long and difficult...[81]"

Research efforts are urgently needed to understand the relationship between minority groups, especially in communities with rapidly changing demographics. Because much of the current literature is focused on discrimination of minority groups relative to the dominant culture, race relations among minorities are not well-understood nor discussed in literature. A national poll conducted by National Conference, a nonprofit organization interested in ethnic studies, found that minorities are often the harshest critics of other minorities[82]. Bringing the topic of racial

tension between African Americans and Latinos to the forefront of discussion has been met with harsh criticism from both the African American and Latino communities because uncovering racial conflict is viewed as destructive to racial progress and harmony[83]. However, this study illustrates that further dialogue between Latinos and African Americans is needed because many Latinos do not understand the basis for the sense of discrimination that they experience and have constructed stereotypes that exacerbate their lack of community participation. In fact, the mission of the ECC and the Eastmont Town Center to create a community center may ultimately backfire because a service center widely recognized and utilized by African Americans would deter Latinos from service utilization and participation due to the racial tension that exists in the community. The same may be true for community centers offering services for Latinos, for example, predominantly Spanish-speaking services may alienate African Americans from utilizing the same community center. In an underserved community with limited resources such as East Oakland, dividing and segregating services for one population while alienating another is counterproductive for community building. Segregated services also instigate nonprofit support organizations to compete against one another for the scarce available resources within the community. Therefore, community organizations such as OCCUR and the ECC need to recognize and facilitate discussion among all people groups within the community, perhaps even providing

opportunities for interaction and community growth. For example, one possibility through the ECC computer class is to recruit African American youths taking Spanish classes in local high schools to volunteer and to assist in the teaching of the ECC computer class for Latinos. The African American students would improve their Spanish skills while the Latino adults would benefit from computer/Internet education. Opportunities such as this would provide additional dialogue between members of the different ethnic groups and serve as a small step to community building and understanding.

Finally, many Latinos are embarrassed to utilize the ECC services because of fear of disclosure in class regarding their lack of knowledge with computers and their fear of learning. As testified by many study participants, such attitudes are common among Latinos when learning new skills, especially if one has only a limited educational and learning experience. The same fears that deter Latinos from utilizing technology would deter an individual from attending class for fear of failing to learn. As testified by the study participants, fear and feelings of inadequacy dissipate rapidly as class participants continue to learn and realize that they can perform the necessary skills and are able to independently complete many functions on the computer and the Internet. Information to allay fears of inadequacy, fear of learning, and fear of technology must be disseminated so Latinos in the community can understand the benefits of technology and be motivated to learn about computers and the Internet.

Without such knowledge, Latinos will remain uninformed and hesitant to utilize a community service that can improve their computer literacy, and continue to be left behind by the Digital Divide.

Study Strengths and Limitations

The strength of the study stems from the ability of the qualitative interviews to encapsulate the different perspectives of the study participants regarding computer/Internet use and ECC class participation. The open-ended questions allowed ample discussion of topics, which permitted the investigator to pursue emerging themes that have not been previously documented in literature. The conversational nature of the interviews also allowed the study participants to present ideas freely and to discuss topics in a non-judgmental or confrontational environment. Because the investigator was able to observe and learn about the issues and the participants prior to the interviews, the investigator was able to verify consistency of themes by comparing the interview content with the classroom experience. Also, the established relationship between the investigator and the class participants contributed to honest and frank responses based on the trust developed during classroom interactions.

The limitations of this study were significant and numerous. Because the investigator was not Latino nor a native Spanish speaker, language, socioeconomic, and cultural differences may have biased the results. For example, although the interviews were translated with the

assistance of native Spanish speakers, discussions with the participants during the interviews were based on the investigator's understanding of the topics. Communication barriers may have directed the interview towards undesired topics or caused topics to be missed during the discussions. The investigator was able to correct for this limitation in subsequent interviews by gaining familiarity with common themes. In addition, the use of notecard prompts in subsequent interviews to present topics of discussion also served to eliminate communication barriers because both the investigator and the study participants can visually agree on the topics being discussed.

The translation and transcription processes were also sources of limitation for the study. Although the undergraduate research assistants were able to provide good translations of the interviews, non-verbal cues and emotional responses could not be adequately captured within the translations. To address this limitation, repeated playbacks of the interviews were performed to listen for interview content as well as to recall non-verbal cues in order to create interview summaries. The interview summaries were then compared to the transcript to verify agreement of content. This process was performed by the investigator, which created another source of bias because the investigator was the sole individual that performed the summary, theme development, and subsequent coding of the transcripts. The investigator has a long history of teaching computer classes and has a personal bias in promoting the

use of community services to improve computer literacy. These limitations could not be addressed during this study, but with additional resources, other coders could be recruited to verify the results.

The classroom assistance by the investigator provided opportunities for the study participants to learn about the study and to develop trusting relationships. However, the interaction also introduced bias because of the participants' desire to help the investigator and to promote the ECC program. The result of this bias is the presence of overly positive responses to the questions within the interviews versus responses that actually reflect the perspective of the study participants. In addition, the study sample was selected from individuals who have expressed a desire to learn computers/Internet and may not reflect the perspective of other Latinos in the community. Therefore, additional research is necessary to obtain the perspective of the general public, perhaps using quantitative methods to obtain responses from a larger community sample.

This study is limited by the qualitative nature of the study. The results of the study may not be generalizable to other Latinos in East Oakland or other locations, other ethnic groups, or the general population. More research efforts, both qualitative and quantitative, are necessary to confirm the findings of this qualitative exploratory study. The next step to gain the perspective of Latinos in East Oakland regarding the Digital Divide and community service use is to sample from the general population to obtain the perspectives of individuals who have no desire to

learn computers or prior exposure to technology. Additional research in the access and usage of other services by Latinos in East Oakland can also help to validate consistency of themes. Quantitative studies can then further validate or disprove these findings.

Conclusion

In the current knowledge-based society, computer/Internet technologies have pervaded every corner of our workplace, our schools, and our lives. Today, mouse clicks and keystrokes are the means to obtain and to disseminate knowledge and ideas. The advancement in technology has connected and promoted the sharing of “brain-power resident in discrete pockets” located all over the world. Gaps of knowledge, understanding, and distance can be eliminated at the instant when individuals utilize the computer and the Internet to obtain information and resources that are now readily available.

Ironically, the same instruments that have advanced our scientific and social knowledge have also become a source of disparity for individuals who cannot utilize these technologies. Computer skills lead to improved opportunities in employment, healthcare support, and communication, but the Digital Divide continues to prevent many individuals from social, economic, and political prosperity. To address these concerns, computer technology centers such as the Eastmont Computing Center have continued to offer valuable computing services to alleviate the Digital Divide and to provide mental, physical, skills, and

opportunity access for underserved communities such as Latinos. However, many of these community services remain underutilized and the barriers that prevent computer/Internet and service use continue to deter Latinos from crossing the Digital Divide.

The barriers that prevent Latinos from utilizing computer/Internet technologies are complex and multifactorial and affect Latinos at the individual, community, and societal level. Many of the same barriers also function to prevent Latinos from utilizing community services to bridge the technological gap. The current social, economic, and political support to address the Digital Divide for Latinos has declined, and additional commitment to alleviate technological exclusion for Latinos is necessary. Without adequate support, Latinos would continue to be denied the benefits from using computer/Internet technologies.

This thesis has examined the perspective of Latinos regarding the barriers to computer/Internet use and class participation of the ECC in East Oakland. Although many barriers remain to prevent Latinos from the benefits of computer/Internet technologies, some of the study participants have overcome the same barriers and offer hope by example that these obstacles can be alleviated. Many of the study participants also want to convey to others that computers and Internet are beneficial and hope that other Latinos can also reap the benefits of technological inclusion:

"Sometimes my children seem to be having problems in finding something, and I have been able to help them. My husband has

never been interested in the computer, but once we started to find information about towns in Mexico, he heard about the church in his town and became interested...Once he got interested and saw what we were finding, he started to do it himself like an expert...He also has searched for things on his own, and without asking much. I do not know how he ended up handling the computer, maybe we think he was not paying much attention to us, but he really was."

"Thank you for the program you made which has given us confidence, more for her to be able to 'Yes, I know about computers'...and I feel that other classes can be equally useful too, if there [are] more similar programs such as these."

"...The little that we learned is helping us out. It is helping me out, it is helping him at work, with the kids at home...everything. Now I know that if I want to know something, need to look for something, I do not have to go the library to be checking and looking...I can just go to the Internet and look up whatever...It is good, for me at least, I like it a lot, it is helping me."

"...If I had not come to take the courses, I would be desperately waiting for someone to help me...Personally, the little that I have learned has helped me immensely; like it has opened me a little so I don't feel so repressed, shy, or useless. When I first came I did not know anything about computers, but something that you taught me is to find good prices to buy things for our house and that has helped us very much...I feel like a different person in the United States, a person similar to everyone because for me racism and discrimination no longer exists because computers should not be an impediment. My goal is to learn computer skills and English so we can all be equal."

From the perspective of the study participants, skills in computer and Internet technologies can provide empowerment and improve the quality of life for Latino communities. Although the investigator began the project with the strong personal opinion that the Digital Divide is a source of inequality, disparity, and discrimination, the perspectives of the study participants have only served to reinforced the need to bridge the

technological gap. The importance of the Digital Divide cannot be underestimated in the era of the knowledge-based society, and additional social, economic, and political support is necessary so that everyone, including Latinos, can benefit from the technology that has transformed our society to what it is today.

Bibliography

1. Federal Communications Commission. *The Internet: A Short History of Getting Connected*. June 2, 2004 [Accessed: March 8, 2006. Available from: [http://www.fcc.gov/omd/history/internet/.](http://www.fcc.gov/omd/history/internet/)]
2. Cerf, V. *How the Internet Came to Be*. The Online User's Encyclopedia 1993 [Accessed March 8, 2006. Available from: <http://www.internetvalley.com/archives/mirrors/cerf-how-inet.txt>.
3. Johnson, L., *G-8 Nations Highlight Need for Universal Internet Access*. United States Embassy in Tokyo, Japan. 2000.
4. Ashfaq, I., *On the Global Digital Divide*, in *Finance & Development*, a quarterly magazine of the International Monetary Fund. September 2001.
5. National Telecommunications and Information Administration, *A Nation Online: How Americans are Expanding Their Use of the Internet*. US Department of Commerce. 2002.
6. Lentz, B., et al., *Structuring Access: The Role of Public Access Centers in the "Digital Divide"*, in *International Communication Association*. International Communication Association. 2002. Acapulco, Mexico.
7. Kantor, M., *Lessons Learned from the Telecommunications and Information Infrastructure Assistance Program*. National Telecommunications and Information Administration, Department of Commerce. 1996. Washington, D.C. p. 1-53.
8. Servon, L.J. and M.K. Nelson, *Community technology centers: Narrowing the digital divide in low-income, urban communities*. Journal of Urban Affairs. 2001. 23(3-4): p. 279-290.
9. Mehra, B., C. Merkel, and A.P. Bishop, *The Internet for empowerment of minority and marginalized users*. New Media & Society. 2004. 6(6): p. 781-802.
10. Doctor, R.D., *Information Technologies and Social Equity - Confronting the Revolution*. Journal of the American Society for Information Science. 1991. 42(3): p. 216-228.
11. Hendrix, E., *Permanent injustice: Rawls' theory of justice and the digital divide*. Educational Technology & Society. 2005. 8(1): p. 63-68.
12. Chakraborty, J. and M.M. Bosman, *Measuring the digital divide in the United States: Race, income, and personal computer ownership*. Professional Geographer. 2005. 57(3): p. 395-410.
13. Strover, S., *Remapping the digital divide*. Information Society. 2003. 19(4): p. 275-277.
14. US Department of Labor. *Labor Market's in the 21st Century: Skills and Mobility Proceedings of a Joint United States and European Union Conference*. Proceedings of Labor Market's in the 21st Century. 2002. Brussels.
15. Wills, M., *Bridging the Digital Divide*. Adults Learning. December 1999. P. 10-11.

16. National Telecommunications and Information Administration, *Falling Through the Net: A Survey of the "Have Nots" in Rural and Urban America*, US Department of Commerce. 1995.
17. Latino Issues Forum. *Latinos, Computers and the Internet*. 2004. San Francisco. p. 1-10.
18. Cooper, M., *Expanding the Digital Divide & Falling Behind on Broadband*. Consumer Federation of America. 2004. p. 1-35.
19. Fairlie, R.W., *Is There a Digital Divide? Ethnic and Racial Differences in Access to Technology and Possible Explanations*. Latino Policy Institute and California Policy Research Center, Univ. of California. 2003. Santa Cruz.
20. US Department of Education. *ED.gov Funding Status -- Community Technology Centers*. 2006. [Accessed: March 8, 2006. Available from: <http://www.ed.gov/programs/comtechcenters/funding.html>]
21. van Dijk, J. and K. Hacker, *The digital divide as a complex and dynamic phenomenon*. Information Society. 2003. 19(4): p. 315-326.
22. Thierer, A.D., *How Free Computers are Filling the Digital Divide*. The Heritage Foundation. August, 28 2002.
23. Cohen, E., *United We Surf; The Clinton administration and the business community are eager to solve a problem -- the "digital divide" --that doesn't exist*, in *Weekly Standard*. 2000. p. 26.
24. Warschauer, M., *Dissecting the "digital divide": A case study in Egypt*. Information Society. 2003. 19(4): p. 297-304.
25. Sanyal, B. and D.A. Schön, *Information technology and urban poverty: The role of public policy*, in *Information technology and low-income communities: Prospects for the positive use of advanced information technology*, D.A. Schön, B. Sanyal, and W. Mitchell, Editors. MIT Press. 1999. Cambridge, Massachusetts. p. 371-393.
26. Coiera, E., *Guide to medical informatics, the internet, and telemedicine*. Chapman & Hall. 1997. London, New York: p. 377.
27. World Health Organization. *eHealth*. in *Fifty-Eighth World Health Assembly*. 2005. Geneva.
28. Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century*. March 1, 2001.
29. Joint Commission on Accreditation of Healthcare Organizations, *Health Care at the Crossroads: Strategies for Improving the Medical Liability System and Preventing Patient Injury*. 2005.
30. Hoffman, J., *Awash in Information, Patients Face a Lonely, Uncertain Road*, in *New York Times*. August 14, 2005. New York.
31. Fox, S., *Health Information Online*. Pew Internet & American Life Project: Washington, D.C. 2005.
32. Ferguson, T. and G. Frydman, *The first generation of e-patients - These new medical colleagues could provide sustainable healthcare solutions*. British Medical Journal, 2004. 328(7449): p. 1148-1149.

33. Fox, S. and D. Fallows, *Internet Health Resources*. Pew Internet & American Life Project: Washington, D.C. 2003.
34. Eysenbach, G., *The impact of the Internet on cancer outcomes*. CA - a Cancer Journal for Clinicians. 2003. 53(6): p. 356-371.
35. Wagner, T.H., et al., *Free Internet access, the digital divide, and health information*. Medical Care. 2005. 43(4): p. 415-420.
36. Masi, C., et al., *Internet access and empowerment: A community-based health initiative*. Journal of General Internal Medicine. 2003. 18: p. 181-182.
37. US Department of Health and Human Services. *Healthy People 2010, 2nd edition*. 2001.
38. Eysenbach, G., et al., *Empirical studies assessing the quality of health information for consumers on the World Wide Web - A systematic review*. Jama-Journal of the American Medical Association. 2002. 287(20): p. 2691-2700.
39. Biermann, J.S., et al., *Evaluation of cancer information on the Internet*. Cancer. 1999. 86(3): p. 381-90.
40. Schneider, A.J., et al., *Internet-guided self-help with or without exposure therapy for phobic and panic disorders - A randomised controlled trial*. Psychotherapy and Psychosomatics. 2005. 74(3): p. 154-164.
41. Robinson, P. and M. Serfaty, *Computers, e-mail and therapy in eating disorders*. European Eating Disorders Review, 2003. 11(3): p. 210-221.
42. Lieberman, M.A., et al., *Electronic support groups for breast carcinoma: a clinical trial of effectiveness*. Cancer. 2003. 97(4): p. 920-5.
43. Bernstein, R., *Hispanic Population Passes 40 Million, Census Beureau Reports*, in *US Census Bureau News*. 2005. Washington, D.C.
44. McLeod, R.G., *'Minority Majority' Well on Way in State, Striking changes in new census data*, in *San Francisco Chronicle*. September 4, 1998: San Francisco.
45. Ramirez, R.R. and G.P. De la Cruz, *The Hispanic Population in the United States: March 2002*, in *Population Characteristics*. US Census Bureau. 2003. Washington, D.C. p. 1-8.
46. *Latinos and Information Technology: The Promise and the Challenge*. Tomás Reivera Policy Institute. 2002. Claremont, CA. p. 1-28.
47. Ospina, S., et al., *Latino Internet Content Study: Findings from focus group sessions*. Tomás Rivera Policy Institute. 2002. Claremont, CA.
48. Hacker, K. and R. Steiner, *The Digital Divide for Hispanic Americans*. Howard Journal of Communications. 2002. 13: p. 257-283.

49. Isaac, E.P., *The future of adult education in the urban African American church*. Education and Urban Society. 2005. 37(3): p. 276-291.
50. Clark, K., *Serving Underserved Communities with Instructional Technologies: Giving Them What They Need, Not What You Want*. Urban Education. 2005. 40(4): p. 430-445.
51. Gillasp, M.L., *Factors affecting the provision of consumer health information in public libraries: The last five years*. Library Trends. 2005. 53(3): p. 480-495.
52. Mark, J., J. Corebise, and E. Wahl, *Community Technology Centers: Impact on Individual Participations and Their Communities*. Education Development Center, Inc. 1997. Newton, MA.
53. Stanley, L.D., *Beyond access: Psychosocial barriers to computer literacy*. Information Society. 2003. 19(5): p. 407-416.
54. Moreno, C.L. and G. Marietta, *Social Work Practice with Latino Americans*, in *Cultural Competence, Practice Stages, and Client Systems: A case study approach*, D. Lum, Editor. Thomson Brooks/Cole. 2005. Belmont, CA. p. 88-111.
55. Scharlach, A., et al., *Cultural Attitudes and Caregiver Service Use: Lessons from Focus Groups with Racially and Ethnically Diverse Family Caregivers*. University of California, Berkeley. 2004.
56. Gelman, C.R., *The Elder Latino Population in Holyoke, MA: A Qualitative Study of Unmet Needs and Community Strengths*. Journal of Gerontological Social Work. 2003. 39(4): p. 89-114.
57. Williams, J.H., et al., *Service Utilization in High-Crime Communities: Consumer Views on Supports and Barriers*. Families in Society. 2001. 82(4): p. 409-417.
58. Lecca, P.J., J.A. Gutierrez, and G. Tijerina, *A model to improve the utilization of health and social services in Latino communities*. J Health Soc Policy. 1996. 8(2): p. 55-70.
59. Kissane, R.J., *What's a need got to do with it? Barriers to use of nonprofit social services*. Journal of Sociology & Social Welfare. 2003. 30(2): p. 127-148.
60. Mattaini, M.A., C.T. Lowery, and C.H. Meyer, *Introduction*, in *Foundations of Social Work Practice - A Graduate Text*, M.A. Mattaini, C.T. Lowery, and C.H. Meyer, Editors. National Association of Social Workers. 2002. Washington, DC. p. ix-xxiv.
61. Meyer, C.H., *The Search for Coherence*, in *Clinical Social Work in the Eco-system Perspective*, C.H. Meyer, Editor. Columbia University Press. 1983. New York p. 5-34.
62. Mattaini, M.A. and C.H. Meyer, *The Eco-systems Perspective: Implications for Practice*, in *Foundations of Social Work Practice - A Graduate Text*, M.A. Mattaini, C.T. Lowery, and C.H. Meyer, Editors. National Association of Social Workers. 2002. Washington, DC. p. ix-xxiv.

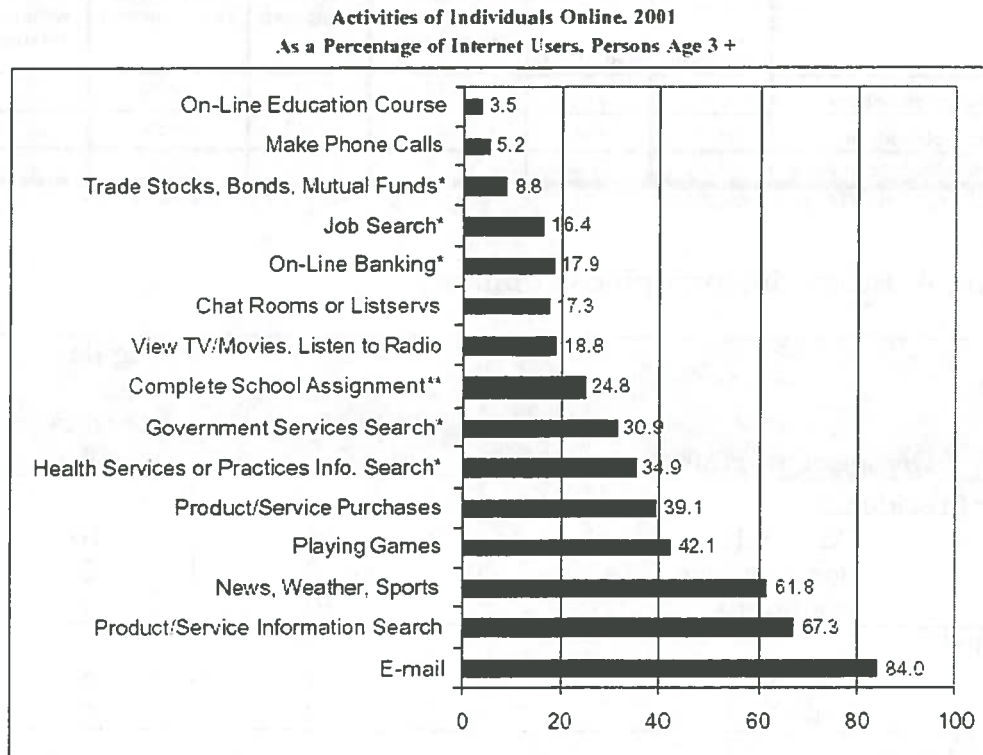
63. Conference of National Association of Social Workers. *Conceptual frameworks II: second special issue on conceptual frameworks*. in *Social Work*. 1981.
64. Greif, G.L. and A.A. Lynch, *The Eco-Systems Perspective*, in *Clinical Social Work in the Eco-system Perspective*, C.H. Meyer, Editor. Columbia University Press. 1983. New York and Guildford, Surrey. p. 5-34.
65. Bronfenbrenner, U., *Toward an Experimental Ecology of Human-Development*. American Psychologist. 1977. 32(7): p. 513-531.
66. Arditti, J.A., *Families and incarceration: An ecological approach*. Families in Society-the Journal of Contemporary. Social Services. 2005. 86(2): p. 251-260.
67. Meyer, C.H., *Purposes and Boundaries - Casework 50 Years Later*. Social Casework. 1973. 54(5): p. 268-275.
68. Janchill, M.P., *Systems Concepts in Casework Theory and Practice*. Social Casework. 1969. 50(2): p. 74-82.
69. von Bertalanffy, L., *General Systems Theory*, in *System, change, and conflict; a reader on contemporary sociological theory and the debate over functionalism*, N.J. Demerath and R.A. Peterson, Editors. Free Press. 1967. New York.
70. Minuchin, S., B.L. Rosman, and L. Baker, *Psychosomatic families: anorexia nervosa in context*. Harvard University Press. 1978. Cambridge, Mass. p. 351.
71. Lefton-Greif, M. and G.L. Greif, *The Application of the Eco-Systems Perspective to Speech Pathology*, in *American Speech and Hearing Association Northeast Regional Conference*. 1981.
72. Capra, F., *The web of life: a new scientific understanding of living systems*. Anchor Books. 1996. New York. 347.
73. Hartman, A., *To Think About Unthinkable*. Social Casework. 1970. 51(8): p. 467-474.
74. Wakefield, J.C., *Does social work need the eco-systems perspective. 1. Is the perspective clinically useful?* Social Service Review. 1996. 70(2). p. 1-26
75. Jordan, C. and C. Franklin, *Clinical Assessment for Social Workers*. Lyceum Books. 1995. Chicago. p. 379.
76. Wakefield, J.C., *Does social work need the eco-systems perspective? 2. Does the perspective save social work from incoherence?* Social Service Review. 1996. 70(2): p. 183-213.
77. Wakefield, J.C., *Does social work need the ecological perspective? Reply*. Social Service Review. 1996. 70(3): p. 476-481.
78. Oakland Citizens Committee for Urban Renewal. *OCCUR website*. [Accessed 1/22/2006]; Available from: <http://www.eastmont.net/occur.htm>.

79. Oakland Citizens Committee for Urban Renewal. *Eastmont Computing Center - About Us*. 2006 [Accessed 1/22/2006]; Available from: http://www.eastmont.net/about_ecc.htm.
80. Witt, S., *East Oakland: Community Information Book 2001*. Alameda County Public Health Department. 2001. Oakland.
81. Hutchinson, E.O., *The Black and Latino Clash*, in *AlterNet*. 2005: San Francisco.
82. Fletcher, M., *Myth of the Melting Pot: America's Racial and Ethnic Divide, In L.A, a Sense of Future Conflicts*, in *Washington Post*. 1998. Washington, DC.
83. Public Broadcasting System. *The Presumed Alliance*. NewsHour with Jim Lehrer Transcript: May 24, 2004 [Accessed March 8, 2006; Available from: http://www.pbs.org/newshour/bb/race_relations/jan-june04/vaca_5-24.html.

Appendix

Appendix 1: Figures from Paper

- Figure 1: *(Extracted from the NTIA report: A Nation Online: How Americans Are Expanding Their Use of the Internet. Figure 3-2)*



*These online activities surveyed individuals age 15 and over only. **This activity was asked of all respondents. If the response was restricted to individuals enrolled in school, the percentage of Internet users completing school assignments would increase to 77.5 percent.

Source: NTIA and ESA, U.S. Department of Commerce, using U.S. Census Bureau Current Population Survey Supplements

- Figure 2: *(Home computer and Internet access by household income. Extracted from Latino Issue Forum – Latinos, Computers, and the Internet – May 2004)*

Latino Home Computer and Internet Access by Household Income

Family Households w/ Income	Computer	Internet	% of Latino Households within Income Group
\$75,000 +	88%	79%	13%
\$25,000 -	28%	19%	37%

Source: U.S. Department of Commerce, A Nation Online (2002) and US Census American Fact Finder URL: www.census.gov

- Figure 3: (Home computer and Internet access by educational attainment. Extracted from Latino Issue Forum – Latinos, Computers, and the Internet – May 2004)

Home Computer and Internet Access by Educational Attainment

	% of National Average	% of Latinos	% of National Average w/ home computers	% of Latinos w/home computers	% of National Average w/ home Internet	% of Latinos w/home Internet
Less Than High School	5.9%	43%	30.1%	23%	12.8%	7%
High School or More	84.1%	57%	55.8%	41.2%	39.8%	22%
Bachelors Degree or More	25.6%	10.6%	89.9%	70%	80.8%	56%

Source: U.S. Department of Commerce, A Nation Online (2002) and U.S. Census Bureau, Current Population Survey (March 2000)


- Figure 4: Study demographics summary

Demographic Information		Regular Class Attendance (n = 6)	Irregular Class Attendance (n = 14)
City of residence			
	Oakland	6	10
	San Leandro	0	3
	Fremont	0	1
Gender			
	Female	4	8
	Male	2	6
Ethnicity			
	Mexican	6	11
	Mexican American	0	1
	Central American	0	2
Age			
	Ages < 20	0	1
	Ages 20-34	1	4
	Ages 35-44	4	8
	Ages 45-54	0	2
Education			
education	Completed primary	1	2
	Partial high school	0	1
	Completed high school	3	4
	Partial college	1	5
	Completed college	1	2

Demographic Information	Regular Class Attendance (n = 6)	Irregular Class Attendance (n = 14)
Income (per year)		
< \$5000	2	2
\$5000-\$9999	0	2
\$10,000-\$14,999	0	3
\$15,000-\$19,999	2	4
\$20,000-\$24,999	0	0
\$25,000-\$34,999	1	3
Unknown	1	0
Employment		
Formal w/ regular hours	1	2
Formal w/ irregular hours	0	2
Informal w/ regular hours	0	0
Informal w/ irregular hours	0	7
Unemployed	3	0
Homemaker	2	3
Marital status		
Single	1	4
Married	5	7
Divorced/separated	0	3
Have children		
Yes	5	10
No	1	4
Average number of children	2.4	3
Language spoken at home		
Only Spanish	2	8
Mostly Spanish, some Eng.	2	6
Bilingual (Not fluent)	2	0
Have access to computer at home		
Yes	4	8
No	2	6
Have access to Internet at home		
Yes	4	5
No	2	9
Have access to computer outside of home		
Yes	4	6
No	2	8
Have access to Internet outside of home		
Yes	4	6
No	2	8

Demographic Information	Regular Class Attendance (n = 6)	Irregular Class Attendance (n = 14)
Computer Use		
Daily	2	1
Every week	2	4
Every 2 weeks	1	5
No regular use	1	4
Internet Use		
Daily	2	1
Every week	2	3
Every 2 weeks	1	5
No regular use	1	5
Drives and uses car		
Yes	4	8
No	2	6
Average commute time (minutes)		
With car	12.5	19.4
Without car	25	20
Knowledge about Eastmont		
Word of mouth (informal)	4	11
Other Eastmont services	1	4
Flyers/TV advertisements	1	2

Appendix 2: Demographics Questionnaire

	Eastmont Computer Center Estudio sobre la perspectiva de los Latinos sobre computación y uso de los servicios sociales
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Por favor, conteste usted las preguntas en este documento antes de comenzar la entrevista. Recuerde usted que este cuestionario es anónimo. Nadie podría identificarle y su respuesta abajo con su persona.

1. ¿Dónde vive usted?
 - ☐ Alameda
 - ☐ Oakland
 - ☐ San Leandro
 - ☐ Otra ciudad _____
2. ¿Cuál es su género?
 - ☐ Femenino
 - ☐ Masculino
 - ☐ Otro género _____
3. ¿Cuál es su étnia? (Escoja sola una respuesta abajo)
 - ☐ Mexicano/mexicana
 - ☐ Español/española
 - ☐ Centro americano/americana
Étnia específico _____
 - ☐ Sur americano/americana
Étnia específico _____
4. ¿Cuántos años tiene usted?

<input type="checkbox"/> Menor que 20 años	<input type="checkbox"/> 55-64
<input type="checkbox"/> 20-34	<input type="checkbox"/> 65-74
<input type="checkbox"/> 35-44	<input type="checkbox"/> Mayor que 75 años
<input type="checkbox"/> 45-54	
5. ¿Cuál es su nivel de educación? (Por favor ponga 'Parcial' si no está completada)

<input type="checkbox"/> Primaria	<input type="checkbox"/> Postgrado
<input type="checkbox"/> Secundaria	<input type="checkbox"/> Escuela profesional
<input type="checkbox"/> Colegio/universidad	

6. ¿Qué fue su sueldo por el último año? (Antes de los impuestos)

- | | |
|--|--|
| <input type="checkbox"/> Menos que \$5,000 | <input type="checkbox"/> \$25,000-\$34,999 |
| <input type="checkbox"/> \$5000-\$9999 | <input type="checkbox"/> \$35,000-\$49,999 |
| <input type="checkbox"/> \$10,000-\$14,999 | <input type="checkbox"/> \$50,000-\$99,999 |
| <input type="checkbox"/> \$15,000-\$19,999 | <input type="checkbox"/> Mas que \$100,000 |
| <input type="checkbox"/> \$20,000-\$24,999 | |

7. ¿Cuál tipo de trabajo que tenga usted ahora? (Solo escoja una respuesta)

- ☐ Empleo formal con horario regular, horas por semana_____
- ☐ Empleo formal con horario irregular, horas por semana_____
- ☐ Empleo informal con horario regular, horas por semana_____
- ☐ Empleo informal con horario irregular, horas por semana_____
- ☐ Sin empleo pero está buscando
- ☐ Sin empleo y NO está buscando
- ☐ No podría trabajar porque incapacitado/a
- ☐ Se jubilado/a
- ☐ Se trabaja en la casa propia (ejemplo: para cuidar los niños)
- ☐ Estudiante y no trabaja
- ☐ Otra categoría_____

8. ¿Está usted?

- ☐ Soltero/a
- ☐ Casado/a
- ☐ Divorciado/a, separado/a
- ☐ Viudo/a

9. ¿Tiene usted hijo/s?

- ☐ Sí, cuantos y edades_____
- ☐ No

10. ¿Habla usted español o inglés en la casa?
- ☐ Solo español
 - ☐ Español principalmente, un poco inglés
 - ☐ Bilingüe en español y inglés
11. ¿Tiene usted una computadora en la casa?
- ☐ Sí
 - ☐ No
12. ¿Tiene usted acceso de computadora afuera de la casa?
- ☐ Sí
 - ☐ No
13. ¿Tiene usted acceso de la Internet en la casa?
- ☐ Sí
 - ☐ No
14. ¿Tiene usted acceso de la Internet afuera de la casa?
- ☐ Sí
 - ☐ No
15. ¿Usa usted una computadora regularmente? (En la casa o afuera)
- ☐ Sí, por lo menos diariamente
 - ☐ Sí, por lo menos cada semana
 - ☐ Sí, por lo menos cada 2 semanas
 - ☐ No regularmente
16. ¿Usa usted la Internet regularmente? (En la casa o afuera)
- ☐ Sí, por lo menos diariamente
 - ☐ Sí, por lo menos cada semana
 - ☐ Sí, por lo menos cada 2 semanas
 - ☐ No regularmente
17. ¿Usa usted un carro regularmente para llegar a Eastmont?
- ☐ Sí
 - ☐ No



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18. ¿Cuántos minutos necesita usted para llegar al centro de computación?

_____ minutos

19. ¿Cómo conoció usted la clase de computación de Eastmont?

20. Por favor, indique abajo ¿Cómo el centro de computación podría mejorar su servicios para servir mas latinos de Oakland?

Ahora comenzamos la entrevista. Si pensaría usted algunas sugerencias para el investigador durante la entrevista, por favor póngalas aquí. Esa parte es solo un comentario para ayudar el investigado y no estará utilizado como datos para el estudio.

Appendix 3: Question Prompts for Semi-structured Interview

Computers and Internet

1. ¿Por qué quiere usted estudiar computación?

Why do you want to study how to use computers?

2. ¿Piensa que las computadoras y la Internet son las cosas valiosas e importantes en su vida diaria? ¿Por qué? O ¿Por que no?

Do you think computers and the Internet are valuable and important things in your daily life? Why or why not?

3. ¿Cuál es su opinión sobre los usos de las computadoras y la Internet para los latinos?

- Tecnología importante o juego
- Para toda la gente o solo para grupos especiales
- Importante para trabajo, educación, comunicación, o qué

What is your opinion about the uses of computers and the Internet for Latinos?

- Important technology or game
- For everyone or just for special groups
- Important for work, education, communication, or what?

4. ¿Es su vida mejor con los usos de la computadora o Internet? Por favor mencione un ejemplo actual

- Usa usted la Internet para obtener información que necesita
- Usted les ayuda a otros con su conocimiento de la computación
- Depende usted la Internet es un recurso de informaciones importantes (como para salud)

Is your life better with the use of computers or the Internet? Please give me an actual example.

- Do you use the computer to obtain information that you need
- Do you help others with your knowledge of computers
- Do you depend on the Internet as an important source of information (like for health)

5. Sin la Internet ¿cómo obtiene la información o comuniqué con otras personas que necesitaría usted?

Without the Internet, how do you obtain information or communicate with other people that you would need?

6. ¿Sabe usted que el nivel del uso de la computadora y la Internet de latinos es bajo de nivel del uso de otros grupos en EEUU? En su opinión, por qué es eso? ¿Cuál son los inconvenientes que el nivel es tan bajo con las personas que usted conozca?

- Inconveniente de acceso (no tiene computadora en casa)
- Inconveniente de educación
- Inconveniente de costo
- Inconveniente de idioma
- Inconveniente de contenido para latinos o en español
- Inconveniente porque no apoyo o educación para latinos
- Inconveniente de miedo de la seguridad de la información personal

Do you know that the level of use of computers and the Internet for Latinos is below those of other groups in the US? In your opinion, why is that so? What are the obstacles that the level is so low with people you know? (Display notecards)

- *Difficulty with access?*
- *Difficulty with education?*
- *Difficulty with cost?*
- *Difficulty with language?*
- *Difficulty with content for Latinos or in Spanish?*
- *Difficulty because there is no support or education for Latinos?*
- *Difficulty of the fear of safety of personal information?*

7. ¿Cómo se sentiría si tuviera habilidades avanzadas con la computación?

- Se sentiría inteligente o tener capaz?
- Se sentiría poderoso/a por obtener mucha información?
- ¿Cómo podría usarla?

How would you feel if you were to have advanced abilities with computers?

- *Would you feel intelligent or full of confidence?*
- *Would you feel powerful for having a lot of information?*
- *How would you use it?*

Social Services

1. ¿Tiene inconvenientes para participar en la clase regularmente? ¿Cuál son las razones?

- El centro o ofrece cursos suficientes para aprender la computación
- Clase no vale la pena
- Dificultad del lugar o transporte
- Seguridad de lugar
- Otras prioridades más importantes
 - Niños
 - Trabajo
 - Otras clases

Do you have any difficulty participating in class regularly? What are the reasons why?

- *The center does not offer enough courses to learn computers*
- *The class is not worth the effort*
- *Difficulty with location or transportation*
- *Security of the location*
- *Other priorities more important*
 - *Kids*
 - *Work*
 - *Other classes*

2. ¿Las razones que usted me respondió son las razones que el centro podría cambiar o mejorar?

Are the reasons you responded to me are reasons that the center can change or improve?

3. ¿Sabe usted que muchas personas (como tus amigos) que comenzaron la clase nunca completan la clase? En su opinión, ¿por qué eso?

Do you think many people (like your friends) that began the class never complete the class?

4. ¿Cómo aprende usted sobre los servicios que necesita? ¿Confía usted en algún recurso para obtener esta información?

How would you learn about services that you need? Do you trust in a resource in order to obtain that information?

5. ¿Por qué muchas personas (como tu familia y tus amigos) no quiere usar servicios como el centro aquí? En su opinión, ¿por qué es so?

- Costo
- Idioma
- Sitio en esta vecindad
- Transporte al Eastmont
- Miedo de inmigración
- Vergüenza
- Orgullo
- Tiempo inconveniente
- Prioridades más importantes
- Acceso inconveniente
- No pertenencia para los latinos

Why do many people, like your family and friends do not want to use services like the center here. In your opinion, why is that so?

(Display notecards)

- *Cost*
- *Language*
- *Location in this neighborhood*
- *Transportation to Eastmont*
- *Fear of immigration*
- *Shame*
- *Pride*
- *Inconvenient time*
- *Priorities more important*
- *Difficulty with access*
- *Not relevant for Latinos*