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2001 San Diego Digital Divide Study

Beyond Access

In July 1999, the National Telecommunications and Information Administration (NTIA) released the benchmark study, “Falling through the Net: Defining the Digital Divide”. In this work, NTIA defines the divide as “the concept that society should not be separated into information haves and information have-nots” (xiii)¹. Further, it concludes that computer literacy is essential to compete in the new economy. To this end, the NTIA recommends raising the level of digital inclusion by “increasing the number of Americans using technological tools of the digital age...” (xv)². In other words, bridging the digital divide necessarily includes making computers more accessible to all sectors of society.

Meanwhile, a variety of public and private agencies in San Diego have been working hard to overcome this divide by increasing public access to computers at the local level. However, those attempting to realize this vision have discovered that, beyond access, several social and psychological obstacles interfere with individual motivation to engage with and thus potentially benefit from this new technology. In short, the divide’s topography is defined by psychosocial factors as well as access.

¹ National Telecommunications and Information Administration, U.S. Department of Commerce. “Falling through the Net: Defining the Digital Divide”, July 1999.

² Ibid.

In order to identify and understand the less obvious obstacles contributing to this divide, the UCSD Civic Collaborative conducted an eight-month in-depth qualitative study with new computer users and non-computer users. In this research we ethnographically explore the psychosocial obstacles undermining the motivation of socio-economically disadvantaged persons to achieve basic computer literacy. Our research suggests that three kinds of obstacles present potential users with compelling reasons to remain computer illiterate: these are what we will call relevance, comfort zone, and self-concept. While approximately 2/5 of our respondents explained that cost interfered with computer ownership, the vast majority emphasized that one or more of these other obstacles significantly discouraged their initial interest in achieving computer literacy. Further, they also suggested that cost was a much less formidable obstacle than others.

Methodology

Using traditional ethnographic methods (participant-observation and personal interview) we interviewed 80 “new computer users” and 20 “non-computer users”³ using a semi-structured, open-ended interview format. Respondents were asked to identify and discuss in detail the obstacles interfering with their interest in or motivation for acquiring basic computer literacy. New computer users also retrospectively discussed how they overcame these obstacles, while non-computer users prospectively surmised how they might. Demographics and information regarding past and present computer experience were collected for both populations. All participation was voluntary.

³ See Appendix A.

“New computer users” are roughly defined as persons with limited computer experience but who can independently perform some basic functions, such as sending and receiving e-mail or using the Internet. “Non-computer users” typically have no or minimal computer experience. If they have ever used a computer, they cannot yet complete basic tasks on their own.

Field sites were chosen for unit equivalence to sites that the NTIA⁴ and RTA⁵ identify as the places where people most frequently access computers outside of the home and workplace. In an effort to recruit the most representational population possible in this sample, several fieldsites throughout San Diego county were visited: Cyberlab at the Shield of Faith Lutheran Church in City Heights; the National City Adult Education Center; Casa Familiar in San Ysidro; the Employee Right’s Center in City Heights; the Veteran’s Memorial Center in Hillcrest; and the Community Resource Center in El Cajon. All sites are located in ethnically diverse, low-income areas. With the exception of the El Cajon site, all centers offered basic low-cost computer instruction. Classes ranged from very structured to a more relaxed “work-at-your-own-pace”. With few exceptions⁶, our respondents were low-income people⁷ whose primary motivation for

⁴ National Telecommunications and Information Administration, U.S. Department of Commerce. “Falling through the Net: Defining the Digital Divide”, July 1999.

National Telecommunications and Information Administration, U.S. Department of Commerce. “Falling through the Net: Toward Digital Inclusion”, October 2000.

⁵ The San Diego Regional Technology Alliance (RTA) recently released the results of their quantitative research “Mapping a Future for Digital Connections: A study of the Digital Divide in San Diego County”, February 2001, which investigated the extent of digital exclusion here in San Diego.

⁶ These exceptions primarily refer to persons retired from the workforce who were using this technology to access hobby-related information, write autobiographies, and use e-mail.

acquiring basic computer literacy was to increase their earning potential and to better prepare themselves for the “new economy”⁸.

Regional qualities of the divide

Data collected during the 2001 Regional Technology Alliance (RTA) survey indicates that 73% of all San Diegans own a computer. Similarly, a separate survey commissioned by the City of San Diego to assess San Diego residents’ access to and use of technology found that 71% have computers⁹. This compares to a national rate of 51% overall computer ownership (NTIA, 2000).

Of the ethnic groups surveyed in the RTA study, Caucasians (80%) and Asian/Pacific Islanders (81%) were most likely to have a computer in their home while African-Americans (59%) and Hispanics (52%) were least likely¹⁰. On a national level,

⁷ While we did not ask respondents to reveal their income, the vast majority of respondents lived in socio-economically depressed areas like National City (the 13th poorest city on the United States) and were either unemployed and looking for work or employed in low-income occupations such as “tamale packer”, “bus driver” or retail sales.

⁸ While respondents did not use this term per se, they were all very aware that they and their children needed to have some computer experience to compete for most jobs in today’s economy.

⁹ Godbe Research & Analysis “Resident Opinion Survey”. Conducted for the City of San Diego, December 2000. In this survey, 1600 adult residents of San Diego were queried about their computer access and use. The survey was conducted in both English and Spanish. Spanish interviews accounted for 92 total responses (p.9).

¹⁰ Regional Technology Alliance, “Mapping a Future for Digital Connections: A study of the Digital Divide in San Diego County”, February 2001.

55.7% of Caucasians, 65.6% of Asian/Pacific Islanders, 32.6% of African-American, and 33.7% of Hispanics own computers¹¹.

While the RTA data indicates that the overall wired population in San Diego is quite high, some real concerns remain. First, San Diego has a greater connectivity gap between Caucasians and Hispanics than exists at the national level. Second, while income has been cited as the single most important determinant of access to information technology at the national level¹², the RTA survey finds that, in San Diego, “income is not the predominant factor, and that the range between wealthy and low-income is much narrower than nationwide” (p.18). Thus, they conclude, differences in income (and educational) levels cannot fully account for the lower levels of computer ownership among African American and Hispanic households. Our data adds a third concern: computer ownership does not always accurately reflect computer literacy.

Despite their conclusion that differences in income levels cannot fully explain discrepancies in computer ownership between ethnic populations, the RTA study also suggests that cost is the number one reason why African-Americans (52%) and Hispanics (39%) did not purchase computers or access the Internet from home (p.2). Cost aside, however, this data also reveals that 36.6% of those earning less than \$20,000 per year (and 41% earning under \$10,000) said they intended to buy a computer in the next year (p.20). These contradictory assertions between cost as the primary obstacle to ownership

¹¹ National Telecommunications and Information Administration, U.S. Department of Commerce. “Falling through the Net: Toward Digital Inclusion”, October 2000.

¹² Bohland, Papadakis & Worrall, “Creating the CyberSouth,” for the Southern Growth Policies Board, September 2000, p.12.

and purchase intentions suggests that “high cost” may be a way to justify but not explain a lack of computer literacy.

For example, the RTA survey finds that these low-income respondents were also more likely to “express negative feelings toward computers as reasons for not owning one” (p.16). Further, 47% of their respondents, including 2/3 of all Hispanics and those earning less than \$15,000 per year believe that “we have come to rely too much on technology”(pp. 2, 21). Conversely, only 1/3 of respondents earning \$75,000 or above agree with this statement (p.21).

When considered together (“cost”, “purchase intentions” and “negative feelings toward computers”) these contradictory responses strongly suggest that, in many cases, cost as a primary barrier to ownership may be obscuring a more complex relationship between economics and attitudes associated with ethnicity and technology than previously examined; and, that this relationship can perhaps better explain why certain groups are choosing not to use computers at this time. Our data more carefully considers this relationship. For example, our research suggests that, because computer technology is so apparently omnipresent, non-computer users often feel embarrassed by their lack of computer literacy. Hence, by claiming that computers cost too much or that one plans to buy one in the future, non-computer users can more comfortably justify their present lack of literacy. One-on-one discussions with new- and non-computer users further revealed that the psychosocial barriers undermining computer literacy are the more difficult to confront and admit. The following sections further discuss our findings and the resulting implications.

Patterns and Implications of Ownership

The UCSD Civic Collaborative digital divide study found that, regardless of gender or ethnicity, one out of five low-income new computer users taking a basic computer class acquired their home computer before knowing how to use it and often long before they decided to take a class. This suggests that: (1) not knowing how to use a computer is *not* always the most significant obstacle to owning one¹³; and, (2) that, consequently, cost may not be as much of a barrier to computer use as other psychosocial factors¹⁴.

Significantly, for example, many of these new- and non-computer users found that having a computer in the home did not resolve the resistances they had to learning how to use it. In several cases, the newly acquired computer only escalated existing anxieties and, subsequently, sat for months unopened and ignored in its box. These respondents explained that, while they wanted to learn, they also feared “blowing it up” or were otherwise intimidated and overwhelmed by its seeming complexity. Interestingly enough, these respondents often had computer literate partners in the home who could have helped them learn. However, their fears prevented them from asking for help and having computer literate partners, they explained, only made them more self-conscious about their perceived inabilities. These potential users did not want to risk erasing important files or appearing foolish in front of their often impatient partners.

Further, slightly more than half of all low-income new computer users who owned a computer acquired it *after* they had enrolled in a computer class but while they

¹³ One of RTA’s key findings is that “one-third of African-Americans, Hispanics, homemakers, the elderly, the low-income (less than \$20,000 annual household income), and the less educated (with high school education or less) don’t own a computer because they didn’t know how to use one”.

were still in the early stages of learning how to use it. Once in class, their anxieties typically subsided and they decided that having a home computer would make it easier to practice and acquire more skills and, therefore, justified the expense. These new computer users also came to view the computer as an investment in their and/or their children's future. Finding the "right" class, these respondents explained, played a big part in helping them overcome their computer anxieties and influenced their purchasing decisions. (The "right" class, as will be discussed more fully later on, includes an accommodating class structure and environment, and low cost classes that are flexible about attendance).

Finally, our data suggests that while cost may be a primary ownership barrier for some, it may also be a smoke screen cited to "save face" when one is too embarrassed to admit that the most formidable obstacles contributing to one's computer literacy are really fear and self-doubt. For instance, *some* non-computer users who cited cost as a primary obstacle also owned big screen television sets, VCRs, CD players, cellular telephones, pagers and other higher-end "luxury/entertainment" devices. Furthermore, the RTA study indicates that 52% of persons earning \$19,999 annually or less and 59% earning less than \$10,000 annually already own computers¹⁵. Taken together, these data suggest that computer technology simply has not yet provided some low-income people with a compelling reason to make ownership a priority.

¹⁴ As per the RTA survey (2001), cost was given by African-Americans and Hispanics as the number one reason why they did not own a computer.

¹⁵ Regional Technology Alliance, "Mapping a Future for Digital Connections: A study of the Digital Divide in San Diego County", February 2001, pp. 18-19. Only one-third of those owning computers but earning less than \$10,000 were students.

The following sections discuss in detail the three non cost-related obstacles revealed in the 100 interviews we conducted: relevance, comfort zone, and self-concept.

(1) Relevance:

Long before computer cost ever deters access, many potential users dismiss the idea of computer technology as having relevance to their lives. Approximately two out of five of our respondents indicated that they do or did not see computer literacy as a means to an economically, socially, or informationally enriched future. Our findings concur with data collected by the Godbe San Diego survey (2000) which found that 41% of those without computers said they felt they had no need for one¹⁶.

Lenora, for example, is an Hispanic woman in her early forties. She explains that before her son talked her into buying one she had no idea what she could use a computer for,

Before I got one I thought I was OK. I didn't think I needed one. I didn't see how it fit into my life. Why did I want to bother with something I wasn't going to use? My life was just fine without one.

Lenora now uses her computer to e-mail her overseas family members.

Roy, 48 and a salesman living in San Ysidro, also considered computer technology irrelevant to his life and thus put computers at the "back of his mind" for years,

¹⁶ Godbe Research & Analysis "Resident Opinion Survey". Conducted for the City of San Diego, December 2000. While the majority of respondents who said they did not see why they needed one were over 60 years old (64%), a surprising 33% who responded similarly were between 18 and 49 (p.21).

I could balance my books with paper and pen. My brain was my computer. I did not see what I could do with it or why I needed it. My life was fine without one.

In most cases, perceiving computer technology as irrelevant to one's life reflects a lack of knowledge about what computers have to offer rather than an informed and measured rejection of them. Before they became "new computer users", for example, the majority of our respondents were mostly disinterested in acquiring basic computer skills until friends, family, or circumstances convinced them that the computer was more than an expensive children's toy or a high-tech tool for business professionals. Mike, for example, a 42 year-old letter carrier from El Cajon, was disinterested in computers until his roommate showed him how to go on-line. Mike was soon "hooked",

I did not realize the vast amount of information I could access on-line. Now I see all kinds of things I could use the computer for.

Finally, persons whose full-time job did not require them to use computers were also more likely to see computer literacy as "irrelevant" to their lives. Even if somewhat intrigued, this population regarded the time and energy it takes to become computer literate as too great a sacrifice. "Free time" and energy were especially precious commodities for persons who had families *and* full-time jobs. Jorge, a 27 year-old construction worker, explains,

If you are already making money and working full-time, then computers are a waste of time and energy. You don't think about them - especially if you don't see yourself as getting the type of job where you would use them.

Flora, a 38 year-old single mother, also believed she had “no need for them” until she lost her job on the production line. Aware that many “better jobs” require some computer literacy, Flora now feels “pressured to learn”,

I felt forced to learn because everything is computers and I *had* to learn. I resented it. Like I had no choice. I wasn't ready for the change.

Thus, unless circumstances compel them or they discover how computers may enrich their everyday lives, perceiving computers as irrelevant deters non-computer users from sacrificing the time and energy - or money - it takes to become computer literate.

(2) Comfort Zone:

While the potential benefits of computer literacy may be significant, non-computer users also perceive the drawbacks associated with the acquisition of these skills as quite high in three key respects: effort, perceived ineptitude, and fear. In conjunction with one another, these are all obstacles to learning computers because they challenge one's existing physical and/or psychological comfort zones.

As an aspect of “comfort zone”, effort in terms of time and energy maps onto but moves beyond “relevance”. In this case, non-computer users with full-time work and/or family responsibilities weigh the potential and perhaps yet unknown advantages of computer use against the sacrifices they would have to make in order to fit a computer class into their lives. In many cases, potential users viewed giving up family or relaxation time as a source of discomfort. Alfred, for example, is a 42 year-old father of three. He recently became unemployed and decided he would use his time to upgrade his

skill set. However, Alfred explains, he did not have the motivation to become computer literate while he was still working,

When I was working full-time and making money, I was content with the status quo. I felt like my job was secure. Also, I wanted to go home to my family and relax after dinner instead of taking night classes. Without the extra motivation, it is difficult to make the effort.

Eddie, 33, who works in construction and is a father of two young children, also speaks to the difficulty of altering one's familiar routine in order to commit to a new goal - especially if one does not see what purpose computers could serve in one's life,

I see very few people making a change from physical labor to office type jobs. People in construction stay in construction. That is what they think about.

However, these respondents also explained how the psychological resistances they had to leaving their comfort zones increased their reluctance to acquire computer literacy. For example, three out of four new computer users retrospectively described how the thought of learning computers provoked feelings of anxiety sufficient to all but abandon the idea. For instance, they harbored fears that they either were not competent enough to learn computer technology or that computers would be too complicated for someone with their educational or social background to learn¹⁷. Thus, not wanting to risk failure, these potential users were reluctant to challenge their negative self-assessments.

¹⁷ Likewise, the RTA survey found that 1/3 of persons earning less than \$20,000 annually said they did not own a computer because it was too difficult to use (Regional Technology Alliance, "Mapping a Future for Digital Connections: A study of the Digital Divide in San Diego County", February 2001).

For example, May, a 44 year-old Caucasian woman with a high school equivalency degree, has been employed as a “care giver” most of her life. Currently she is taking a basic computer literacy course in order to learn new job skills. While May has been contemplating a career change for several years, she explains she simply avoided applying for jobs that required basic computer knowledge rather than confronting her fears,

I was intimidated by them. There is so much to learn. They seem really complicated. I didn't know if I could do it. It seemed overwhelming. It sometimes still does.

Danny, a 40 year old African-American with a high school equivalency degree, explains that he avoided computers because he did not want to embarrass himself, “I thought I would never get it. Plus, it just looked scary”.

Others feel intimidated by this technology because they unrealistically regard the computer as practically omnipotent which, in turn, reinforces a sense of individual powerlessness. For example, Mark, a 75 year-old retired police officer and WWII veteran with a master's degree, describes himself as a “life-long learner” who enjoys trying new things. However, when it came to learning computers Mark resisted “for years” because they made him feel “out of control”,

I was petrified of them. I saw them as cold, inanimate objects, as something to which I would have to be subservient to. I was afraid that it would be smarter than me; that it would be in control. Plus, I thought it would be harder than it is.

Thus, a lack of confidence, Mark explains, deterred him from wanting to “spend all that money to end up looking foolish”. A computer is not like a TV, Mark points out, “with a computer, you have to go beyond knowing how to turn it on and off to enjoy it”.

Closely related to and often reinforcing a lack of confidence in one’s perceived technological competence is the notion of “fear”. While “fear” condenses many anxieties into a single overarching term, people are generally afraid of computers because they are intimidated by this technology and, lacking understanding, fear the unknown. Three out of four respondents asserted that regardless of cost or ease of access, fear of irreparably damaging or “blowing up” the computer kept them from acting on any desires they might have to learn this technology. To them, the computer seemed highly complex, somewhat fragile, potentially combustible, and very expensive to fix or replace. Indeed, a significant number of respondents expressed that they neither wanted to look foolish if they accidentally erased a file nor did they want to pay if they damaged it. Regardless of gender, age, or ethnicity, these fears were strong enough to deter respondents from touching or wanting to touch a computer.

When Lenora and her husband purchased their computer, for example, neither of them knew how to use nor set it up. Moreover, both were terrified of it,

We left it in the box for three months. I was so scared to touch it. I thought I would break it.

Gloria, 36, had access to her husband’s computer at home prior to enrolling in a basic computer skills course. However, she never went near it because she feared she would break it,

I was so afraid because I didn't know what I was doing and I was afraid that I would push the wrong button and erase something and then people would be mad at me.

Jane's fear of computers was nothing short of paralyzing. Jane, a 44 year old Caucasian outreach worker with a high school education, describes herself as someone who is not generally afraid of trying new things. The computer, however, was another story,

I was working as a receptionist and had been doing fine with my typewriter. One day I came in and there was a computer at my desk. They said I had to learn it. I started crying. I was scared. I was afraid I was going to wreck something and I couldn't afford to take that chance. I thought I was going to have to quit this job because I would not be able to learn how to use it.

On the other hand, Gilbert, a 56 year old Mexican-American and small business owner knew that he could use the Internet to increase sales. Thus, in 1999, Gilbert tried to push past his fears by purchasing a computer for his son. Having one in the house, he reasoned, would make it easier for him to learn. His fears, however, proved prohibitive:

I panicked. I was afraid that I was going to mess something up inside. I was just scared of the machine. It was scary to look at...like seeing an opponent.

Gilbert further explains that he was afraid of being made "to look stupid" by a machine in his own and his family's eyes. In fact, that his children were able to use his computer only exacerbated Gilbert's embarrassment. Consequently, until enrolling in an adult-friendly computer class, Gilbert avoided his home computer more often than he explored it. Thus, psychosocially delimited comfort zones contribute to the perpetuation of the divide in ways that discussion about access and cost does not address.

(3) Self-Concept:

A “possible self” is the vision one holds about who and what one may become. Our data suggests that seeing oneself as the “type” of person who uses computers is correlated to the acquisition of computer skills. Fully seven of ten respondents said that, in one way or another, they initially believed themselves to be unlike the “type” of person who uses computers either personally or professionally. In other words, their self-concept or cultural identity did not include “computer user” as being among their “possible selves”.

For example, Donna, an Hispanic 28 year-old single mother with a high school education, thought of computers as something that only wealthy, well-educated people used,

I thought of it as a luxury, not a necessity, and I didn’t want to be part of that world. I don’t want to be a rich yuppie. I thought I had no need for it.

Thus, Donna’s rejection of “yuppie culture” dissuaded her from learning these skills earlier in life. Consequently, Donna found herself unable to advance in her current place of employment where she works as an entry-level receptionist. She has since begun to reconsider and renegotiate this stereotype.

Verique, 42, Hispanic, and a high school graduate, explains that before she overcame her resistances she, too, believed that computers were, “not for people like me”,

I thought they were too much to dream about; like a dream that is too far from reality. I couldn’t see myself as someone who uses computers. I thought they

were for smart people or college students. When your self-esteem is low you think you can't do certain things. I had that feeling.

Verique also explains that none of her friends use computers and thus computers were not part of her everyday life, "I didn't think about them. I was doing other things".

Exposure to computers as an everyday part of life plays an important role in being able to see oneself as a "computer user". For instance, approximately four out of five of our Caucasian respondents had friends or relatives who owned and regularly used computers as compared to only half of Hispanics and African Americans. Moreover, 7 of 10 Caucasian respondents had a home computer while did only 3 of 10 Hispanics and half of African Americans¹⁸. Likewise, the RTA survey also found that the "digitally detached" - those who lacked total access to computers - were less likely to know people who used computers thus suggesting that "environment influences willingness to use computers and the Internet" (p.18). Jorge, a Mexican-American with a 9th grade education living in City Heights, further articulates the significance of this point,

I grew up in Calexico. The desert. You don't see people in the ghetto or in the hood using computers. They have other stuff to worry about; they aren't even thinking about computers. I was just thinking about my life from day to day and not about the future.

Culturally-embedded gender issues may also steer some Hispanic males away from seeing themselves as computer users. For example, Leo, a 37 year old Mexican-

¹⁸ Commensurate with one of the RTA's key findings, however, we also found that Caucasian and Asian households are much more likely to own computers than African-Americans or Hispanics, with the most significant gap existing between Caucasian and Hispanic households. Our research

American bus driver who lives in San Ysidro, explains why his self-concept for so long excluded “computer user” as a possible self,

When I was in high school, my friends would tell me that computers and typing are for girls and ask me why I would want to do that. I shouldn't have listened to them. Even though that was a long time ago, it kinda stuck in my mind.

Culturally influenced gender roles also undermined Gloria's self-perceptions,

When I was married, my husband would tell me that my time was gone and that it was too late for me. That I had no future. He didn't want me to go to school or work. He just wanted me to stay home and be a housewife. He is Mexican. That is the old way.

Some respondents also said they found it difficult to imagine themselves as “computer users” because educational success was not highly valued in their culture or sub-culture. Betty's eighteen year-old boyfriend, for example, talked her out of going to college because “only brains go to college”. Betty explains that where they grew up “brains” were the “nerds” who were picked on. Until recently Betty, now 33, accepted this world view,

For all those years, I brainwashed myself into thinking that computers were for brains! That's what I thought growing up. I don't believe it anymore but it is something that doesn't just easily go away.

2 out of 5 respondents also perceived computers as something for children or those well advanced in their professional careers. Thus, they perceived themselves as being “too old” to learn computers. For instance, Juana, a 53 year-old housewife,

found that, overall, approximately 3/4 of Caucasians owned computers while did only 1/2 of African Americans and 1/3 of Hispanics.

imagined that she was too old to learn because she associated computers with children, on the one end, and business professionals, on the other:

I was afraid that others would look at me and say, “What is that old lady doing here? She should be in the house. She is not capable of learning this new technology”.

Surprisingly, even respondents as young as 32 years of age also said they feared being too

old to learn computers. As these examples illustrate, self-concept and/or cultural identity can significantly interfere with one’s motivation to become computer literate. However, as most of these respondents are now “new computer users”, it is also clear that, while daunting, these obstacles are not insurmountable. In the following section, we discuss the goals, expectations, and experiences of these new computer users and offer suggestions on how local programs and policies can go beyond the issue of access and better address the psychosocial barriers which undermine computer literacy.

Overcoming obstacles: implications and recommendations

Drawing upon the insights and experiences of this study’s respondents, our research indicates that the willingness of non-computer users to engage with this new technology would be increased if their assumptions, fears, and pre-conceived ideas about computers were pre-emptively addressed. For instance, despite the initial and sometimes deeply entrenched resistances they had to computers, the majority of our new computer users quickly overcame their fears and reservations once they had an actual hands-on computer encounter in a supportive and comfortable adult learning environment. In fact,

most expressed relief and surprise at finding this technology much less difficult to learn than they presumed and retrospectively admitted that their reservations had been largely unfounded. Thus, most described becoming computer literate as the “right thing to do” and as contributing to a sense of psychological satisfaction and improved self-esteem.

Further, as most of these new computer users were working adults with a high school education or less, community technology centers (CTCs) played a pivotal role in helping them overcome their resistances. In addition to being low-cost, these centers also offered low stress “work-at-your-own-pace” learning environments conducive to adult schedules and family obligations. Conversely, many of our adult learners felt intimidated by community college computer courses that were highly structured, test-centered, largely populated by young people, and often taught at levels which assumed basic computer familiarity or required English proficiency. Before discovering the CTCs in their neighborhood, these frustrated, discouraged, and intimidated potential users sometimes indefinitely postponed their commitment to computer literacy because they did not know where to find a class for people “like them”.

These positive learning experiences point to the vital role CTCs can play in promoting computer literacy. Indeed, the RTA survey finds that “African-Americans and Hispanics clearly use public facilities to access the Internet more often than other ethnic groups. This indicates that improving access to public facilities could help bridge the digital gap” (p.13).

However, while CTCs clearly provide an important community service, they are presently an underutilized resource. For instance, while the City of San Diego has more

than 80 CTCs¹⁹ that provide free computer access and/or low cost instruction, the RTA study reveals that less than 5% of San Diegans with no home Internet access use CTCs to meet their computing needs (p.20). Similarly, the Godbe San Diego Resident Opinion Survey identified only 2% of the local population without home computers visiting CTCs to obtain access (p.25). This compares to a 1999 national CTC utilization rate of 5% (NTIA, 2000).

Our research suggests that the problem lies not with the potential of CTCs to successfully bridge the access gap but with a general lack of consumer awareness about them *and* the psychosocial resistances we have identified. In short, many individuals who might otherwise take advantage of the generous services CTCs can offer simply do not know that they exist, and, if they do, their resistances undermine their potential motivation and interest in them²⁰.

Thus, we suggest that while the psychosocial obstacles we have illustrated here can each generate their own set of actionable strategies, they can also be simultaneously addressed by implementing a series of culturally-sensitive, community-based outreach efforts that are not just aimed at children and youth. Rather, outreach efforts should target adults of all ages, ethnicities, and socio-cultural backgrounds - and especially those who are active in the labor force. Effective outreach strategies would illustrate the specific and myriad economic and social advantages of computer literacy in concrete

¹⁹ Myrland, Susan. Interactive Media Management, *in* Regional Technology Alliance, "Mapping a Future for Digital Connections: A study of the Digital Divide in San Diego County", February 2001, p.27.

²⁰ A study of CTCs found that 65% of people who use them do so to improve job skills, 51% felt more positively about themselves because of their new skills, and 82% asserted that a "comfortable and supportive atmosphere" was the primary reason for coming to a CTC (Chow, et al., 1998).

ways that emphasized ease of mastery and assuaged fears. Additionally, as many of our respondents had heard of but were not familiar with what, exactly, the Internet did, CTCs offering basic skills and Internet courses would do well to not only increase their advertising in neighborhood and ethnic-community publications but to explain how the Internet can be an invaluable resource.

To advance the goals of digital inclusion, specific outreach strategies need to be community-based, -specific, and -implemented. Further study might consider how media campaigns, educational programs, and “get-acquainted” computer kiosks at public venues and attractions can be viable and user-friendly ways to introduce people to this technology, establish relevancy, and overcome computer-related fears and anxieties.

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Appendix A - New and Non-User Characteristics (N=100)

<i><u>NEW COMPUTER USERS</u></i> (n=80)		<i><u>NON-COMPUTER USERS</u></i> (n=20)
<i>Male</i>	<i>33</i>	<i>8</i>
<i>Female</i>	<i>47</i>	<i>12</i>
<i>Hispanic</i>	<i>40</i>	<i>4</i>
<i>Caucasian</i>	<i>21</i>	<i>12</i>
<i>Asian/API</i>	<i>10</i>	<i>0</i>

<i>African-American</i>	9	4
<i>18-24</i>	6	1
<i>25-34</i>	18	2
<i>35-44</i>	25	9
<i>45-54</i>	9	4
<i>55-64</i>	10	0
<i>65+</i>	12	4
<i>Employed (full or part-time)</i>	32	3
<i>Unemployed (looking)</i>	24	9
<i>Retired</i>	11	4
<i>Homemaker</i>	8	1
<i>Never worked</i>	3	0
<i>Disabled</i>	2	3
<i>8th grade or less</i>	6	1
<i>Some High School</i>	14	9
<i>High School or equivalency degree</i>	34	7
<i>Trade School</i>	2	0
<i>Some College</i>	14	0
<i>College Degree or higher</i>	10	3
<i>Home Computer</i>	45	6
<i>Home Computer with Internet</i>	33	0
<i>No Home Computer</i>	35	14
<i>Computer at Work</i>	17	0
<i>Computer at Work & Home</i>	11	0