

Public Access Computers, Libraries, and the Poor: Do Neighborhood Factors Make a Difference?

A Report to the Bill & Melinda Gates Foundation
U.S. Library Program

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Abstract

Responses from over 4,000 individuals during RDD¹ telephone interviews in 18 states, including over-samples of residents of lowest-quartile-income neighborhoods, indicate the persistent importance of income, education, and ethnicity in determining who lags behind in computer and Internet access and use. In addition to illustrating high rates of overall computer and Internet use, this paper explores particular impacts of neighborhood of residence (regardless of income) including distance from libraries, patterns of use, tendencies to own and use computers, to have Internet access, and other neighborhood-related issues. Additional comparisons examining libraries as neighborhood institutions suggest their provision of public access computing is a “structural” feature in poor neighborhoods that enhances awareness and access to “whole new worlds.”

Introduction

The primary mission of the Bill & Melinda Gates Foundation’s U.S. Library Program is to help provide access to the Internet and new information technologies “regardless of age, race, gender, or income.” Foundation officials decided in 1997 that the most effective way to try to achieve this mission was to support public libraries in their developing efforts to provide public access computing: “With public libraries’ long history of welcoming everyone and providing tools for lifelong learning, they are natural partners to help alleviate the inequity in access to digital information.”² In late 1997 the Foundation³ began installing computers and packages of software and providing training in U.S. public libraries with the hope that when they finished in all 50 states⁴ some six years later, free access to computers and to the Internet would be much more widely available – particularly to the poor – than before.⁵ To that end, all public libraries that serve populations with at least 10% of households below the poverty line⁶ have been eligible to participate fully in the program.

In an effort to assess the impacts of public access computing on library patrons, on library staff, and on libraries as community institutions, the Public Access Computing Project (PACP) at the Daniel J. Evans School of Public Affairs at the University of Washington has been conducting an

¹ Random Digit Dial (RDD) surveys.

² The quotes in this paragraph are from the Bill & Melinda Gates Foundation’s Library Program Fact Sheet, found on the web at <http://gatesfoundation.org/mediacenter/publications/libraryfactsheet-021201.htm>

³ Then named the Gates Library Foundation.

⁴ The U.S. Library Program began with the grants and installations in the seven states with the highest percent of people living below the poverty level according to the 1990 U.S. Census.

⁵ By the end of 2003, the Foundation expects to have given approximately 40,000 computers to over 10,000 libraries in the 50 states and U.S. Territories. The Foundation also has a program designed to provide access to computers and the Internet through public libraries in other countries. See also the Foundation website at www.gatesfoundation.org.

⁶ Based on 1990 U.S. Census data, the libraries serving populations where at least 10% of the households have incomes below the poverty line are eligible to receive funds to cover the costs of computers, software, training, installation, on-going technical assistance, updates and other elements of the Gates “package.” Libraries serving relatively richer populations were eligible for “partial” grants that enabled them to purchase the “library model” machines and software at reduced prices. The “library model” – built under contract with Gateway for library use, and especially configured to withstand tampering-- was an important element of the “package”. (Interviews and discussions with U.S. Library Program directors.)

ongoing, independent, multi-method assessment including national and state-level RDD surveys and site visits⁷ in 18 “focus states”⁸ and 17 “large” library systems⁹ (serving populations of 300,000 or more).¹⁰

The focus of this paper is on the impact of the economic status of the neighborhoods in which low-income families reside on several indicators, including whether libraries are readily at hand, whether those libraries have computers patrons can use, and the conditions under which low-income family members are most likely to use library computers. Particular interests of the research team include whether living in a neighborhood where the average family income is low exacerbates the effects of poverty for a family with a low income, and whether computer access to information and other opportunities available in public libraries in such neighborhoods can lessen some of the negative effects of a “culture of poverty” (such as a sense of hopelessness) as espoused first by Oscar Lewis (1966). Wilson (1987), Jencks and Mayer (1989), Jencks and Peterson (1991) and Jencks (1993) all suggest that “structural” improvements in specific locales (for example, the availability of public transportation – or, presumably, public access computing) can significantly affect the “distribution of material hardship” for the poor and for the “underclass,” perceptibly enhancing their lives. Initial analyses of our data generally support these structuralists’ arguments. Subsequently, we discuss the roles libraries have played in the lives of our respondents in terms of their ease of access to computers and the Internet.

The analyses reported here are based on the data from RDD surveys conducted in each of the 18 states; they include the statewide surveys as well as the over-samples of people living in zip code areas where the average household income was in the lowest quartile for that state (referred to below as poor neighborhood residents). Individuals interviewed as part of the random state samples, who lived in the same zip codes as those in the over-samples of low-income neighborhoods were assigned to the low-income neighborhood group. We compared responses of individuals from low-income households (less than \$25,000) living in low-income neighborhoods with responses of individuals with similar household incomes but living in better-off neighborhoods. In addition, we compared the low-income, low-income-neighborhood respondents with higher income people (over \$25,000) living in low-income neighborhoods. Altogether, responses of 4,151 people were used in these analyses.¹¹

⁷ We conducted site visits to over 300 libraries and their surrounding communities.

⁸ Alabama, Louisiana, Arkansas, Mississippi, Florida, Idaho/Montana, Michigan, Texas, New York, Vermont/Maine, Missouri, Pennsylvania, Illinois, North Dakota, New Hampshire and Washington.

⁹ A number of libraries have been the recipients of other donated computers, and some have also received software. Very few libraries report having also received help with installation, training and/or long-term technical assistance as part of other philanthropic or governmental programs.

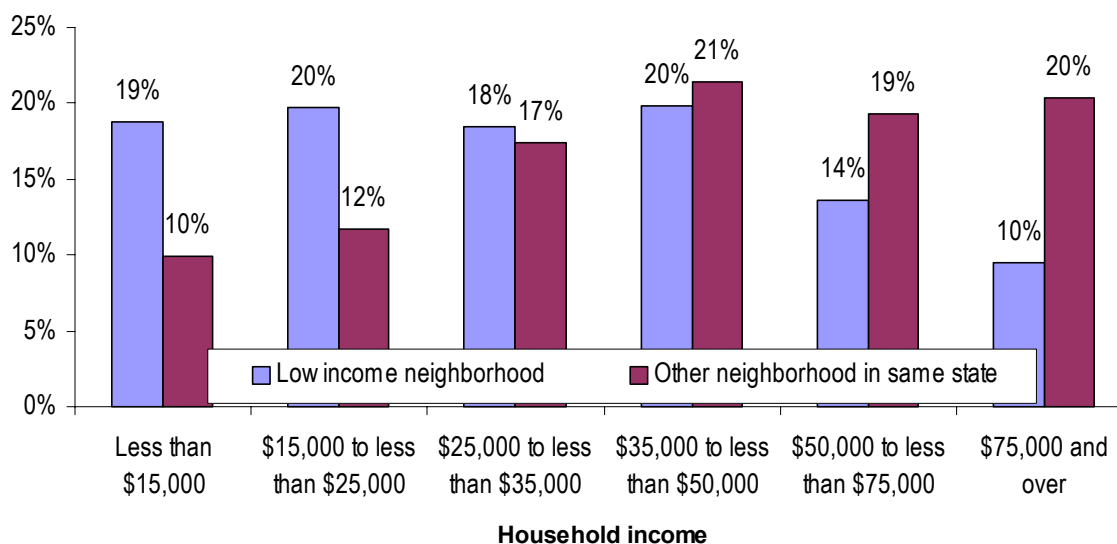
¹⁰ In addition, the project is surveying patrons and librarians in the 18 focus states, conducting focus groups with librarians and Foundation staff, and reviewing documents and computer reports.

¹¹ All of the differences discussed in this report are statistically significant at at least the $p < .05$ level. Quotes in boxes throughout this paper are verbatim responses to open-ended question asked during phone interviews.

Key Findings

In order to explore impacts of neighborhood income levels and accessibility of public libraries on our respondents, we first examine the range of household incomes within low-income neighborhoods as compared with the range of incomes in better-off neighborhoods. Then we examine differences in computer and Internet use between low-income neighborhoods and those that were better off. Finally, we discuss the relationships among household income, neighborhood differences, and accessibility of neighborhood libraries with public access computing. These analyses indicate a clear pattern of inter-related findings pointing to the importance of family income and education in access to computing and libraries. They also provide additional confirmation that computer use is now very widespread in our country—for both adults and children, with access to information on the Internet close behind.

Figure 1.
Both types of neighborhoods have a range of household incomes; the differences are in the proportions of high and low-income households



Household Income. Figure 1 shows that both types of neighborhoods (those with low average incomes and better-off neighborhoods) contain households reflecting a wide range of incomes. Further, it shows (not surprisingly) that while low-income families *tend* to live in poor neighborhoods, *some* low-income families live in better-off neighborhoods. Thus, in the lowest-income, lowest quartile neighborhoods, 39% of households receive less than \$25,000 per year, while in the better-off neighborhoods 22% of households receive less than \$25,000 per year.

Computer Use. At one level, the data here reaffirm what we (2001) and others¹² have reported: that is, the substantial majority of the U.S. population now has access to and uses computers.

¹² See, for example, the recent report by Leslie Harris & Associates (July 2002) entitled “Bringing a Nation Online: The Importance of Federal Leadership,” A report by the Leadership Conference on Civil Rights Education Fund and the Benton Foundation with support from the Ford Foundation.

This is sufficient for some to speculate that the “digital divide” may soon be closed. We argue that our analyses indicate otherwise. (In other papers, we explore the crucial role libraries have played in “leveling the playing field” through wide-spread public access computing. (See Heuertz et al., 2002, and Gordon et al., 2003.))

Patterns in our data point to important variations in access, and demonstrate that traditionally disadvantaged groups are most likely to be in the deepest part of the divide as defined by income, education, race, and employment levels. For example, Table 1 indicates that as income and education levels increase, regardless of neighborhood income levels, so do computer and Internet use, as well as home ownership of computers.

Table 1. Differences by household income and neighborhood income

Family Income	Low-income neighborhoods		Other neighborhoods	
	<\$25,000	>\$25,000	<\$25,000	>\$25,000
Use Computers Now	57%	82%	58%	88%
Use Internet Now	43%	72%	45%	78%
Home Computer (all respondents)	36%	66%	41%	77%
Home Computer (computer users)	62%	80%	71%	87%
African American	24%	15%	15%	7%
Hispanic	16%	10%	17%	7%
White	56%	70%	65%	83%
% Employed	56%	80%	60%	81%
% High school education or less	56%	30%	54%	24%

Key additional details include:

- Computer use is widespread even in low-income neighborhoods, with 71% of the respondents in the 18 states reporting that they “use computers now,” for an average of 12.4 hours per week. The comparable figures for higher income neighborhoods are 80% and 14.1 hours. Further, there are significant variations within both types of neighborhoods related to family incomes.
- Nearly 90% of parents in both types of neighborhoods say their children have a chance to use computers, but parents in lower-income *households* in both low-income and better-off neighborhoods are less likely to say their kids have a chance to use computers (80% vs. 89%).
- People living in low-income neighborhoods live farther from their libraries, are less likely to have library cards, don’t rate their libraries quite as highly, are more likely to say

- *When you live 13 miles away it's different... Thirteen miles is a long way to go just to use a computer. I wouldn't do it.*
- *have no computers.*
- *I wish I was more computer literate. I am 12-15 miles from a library, so it is hard to get there to learn*

their libraries have too few PA computers and that either they or their children find it too hard to get on computers there, and to report that their children visit their libraries less often because they are too far away or the hours are inconvenient.

- Members of low-income families, regardless of their neighborhood income status, say they are less likely to have library cards, and that they and their children are less likely to have used a library in the past year. Yet lower-income people are *more* likely to have used computers at libraries, and are more likely to say both they and their children *would* use them for more access in the future, although transportation is a barrier for more of these individuals. People with lower incomes also tend to rate their libraries more highly than do higher-income people, and at the same time, they say they feel less comfortable there.
- People who live farther from their libraries are less likely to have library cards and they and their children are less likely to have used their libraries in the past year. They are also less likely to have used library computers and they are more likely to say that their libraries are too far away or too hard to get to.
- As indicated above, education and income are both key factors in computer and library use. People with more education (i.e., some college or more) and people with more income are more likely to use libraries and computers than those with less education (i.e., no more than high school) or less income. Further, parents with more education are more likely to have children who use *libraries*. However, their children are no more likely than the children of those with less education to use *computers*, another indication of the *importance of schools in exposing children to new technologies, regardless of income*.

Figures 2 and 3 show that income level is only *somewhat* related to *library* use (Figure 2) but is *strongly* related to whether the respondent is a current *computer* user (Figure 3).

Figure 2.
Library use increases somewhat with income, but type of neighborhood doesn't matter

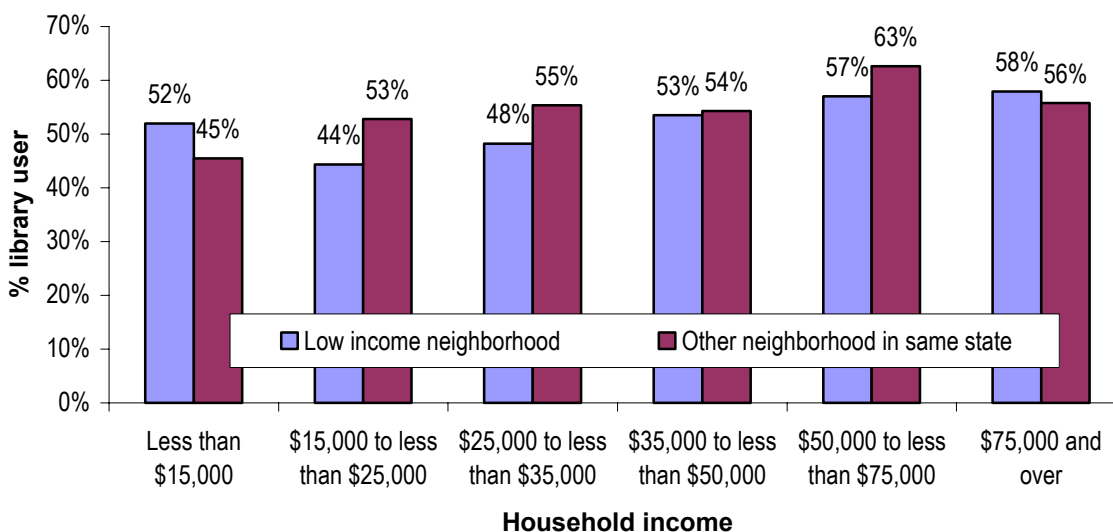
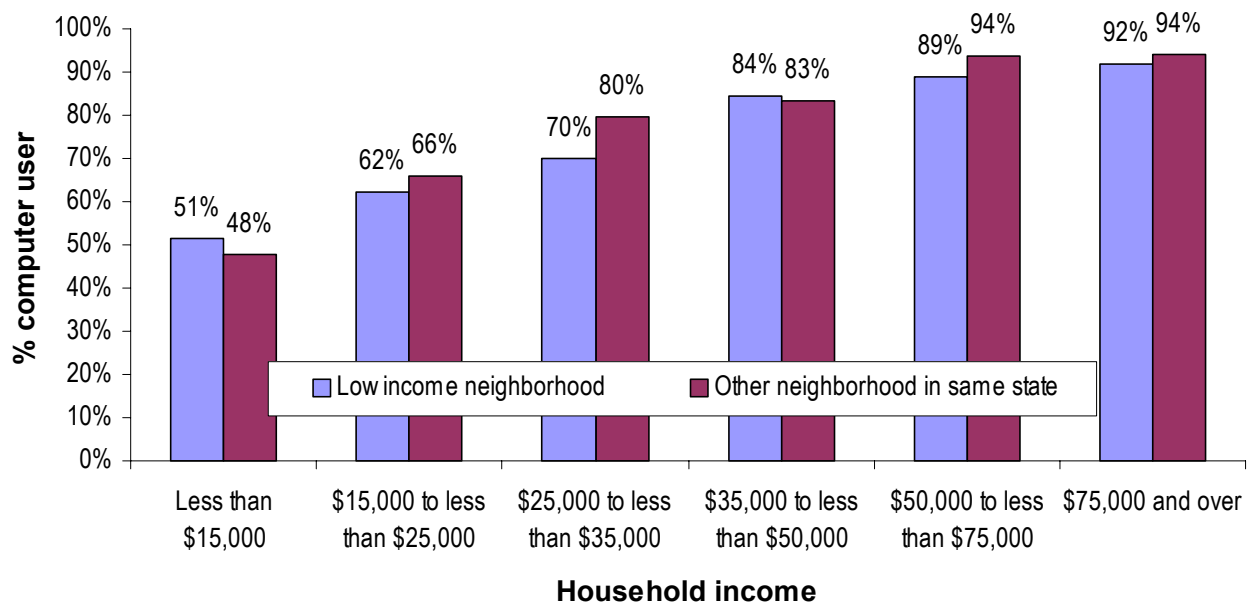


Figure 3.
Computer use increases greatly with income,
slightly more in better-off neighborhoods



Home computer access also increases with household income. Library computer use shows a different pattern. In low-income neighborhoods, library computer use is similar across the income levels, but in better-off neighborhoods, library computer use decreases as income rises.

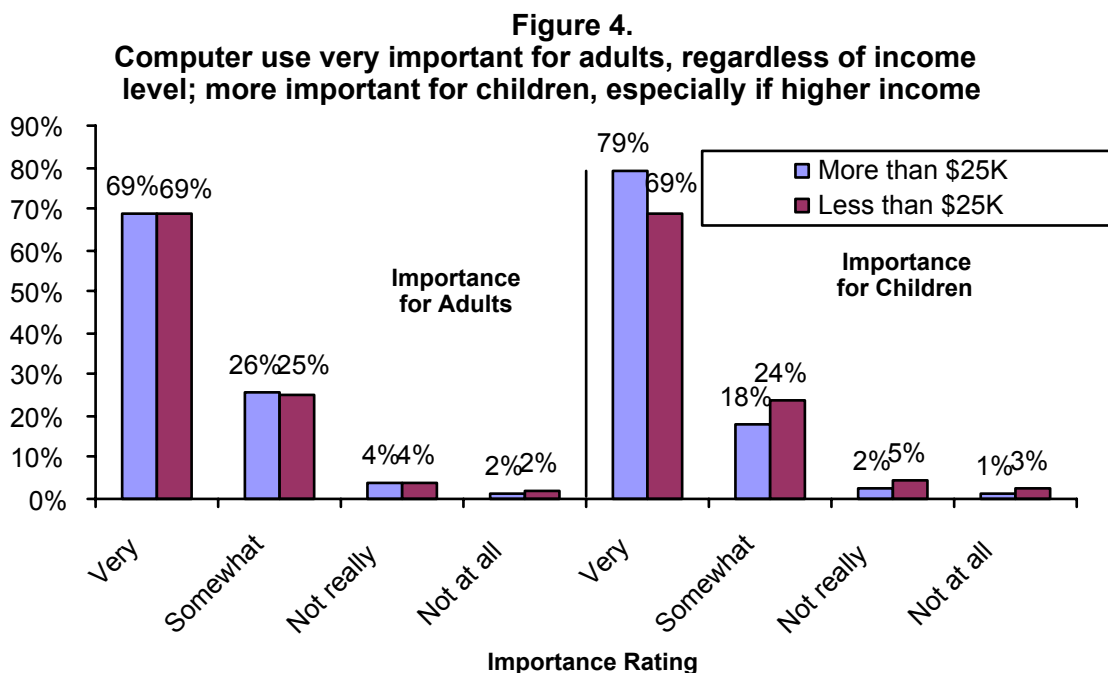
- *I think for people in the community they [libraries] provide valuable services. I know several people who wouldn't have access to the Internet if it weren't for the library.*
- *I think for the community I'm in, the only access to computers is in the school libraries. (From a state where the Gates Library Program has yet to arrive).*

Among computer users in both types of neighborhoods, more of the people with low incomes use library computers and more say the library provides their *only* access. That is, 22% of the residents of low-income neighborhoods who are computer users use the library computers compared with 17% of computer users living in better-off neighborhoods. People with more education and people with more income tend to live closer to their libraries, a finding related to the fact that in these samples, a larger percentage of the low-income families and the families with less education live in less densely populated areas, such as small towns and rural areas. This fact may also illustrate an historical trend for wealthier communities to be more likely to establish libraries.

Overall, about two-thirds of the people say that *computer* access for adults is “very important,” and about half say that *Internet* access is “very important.” Further, regardless of their income level or which type of neighborhood they live in, about 80% of people say that *access to*

computers is more important for closing the gap between society's haves and have nots than is access to the Internet. Figure 4 shows that people in higher income homes say that computer access is even more important for children than for adults.

- *I just feel as a teacher, many children cannot afford a computer, or don't have access to one at home, and in order for them to compete with the kids who do, they need access.*



- However, once they have gained access, adults from both types of neighborhoods and income levels report *similar uses* of the computers, primarily for Internet-related activities such as e-mail, looking up information, and following current events. They also use computers for word processing and educational purposes. Looking more closely, however, important differences emerge in patterns of use.

▪ *For me personally, it has broadened my horizons. I have a lot more opportunities to get new information, to learn. It has had a great impact on me. I was computer illiterate before I started school, but now I can get on the Internet and put in key*

- Adults in low-income households are more likely than those from higher-income households to say they use computers for chatting, and playing games. Higher-income respondents, on the other hand, are more likely to report using computers for work, shopping, travel and management of personal finances. This finding is consistent with our earlier results, and with the results of other recent researchers¹³ (See also Figure 5). The Pew “Internet and American Life” report, for example, indicates a pattern for “new”

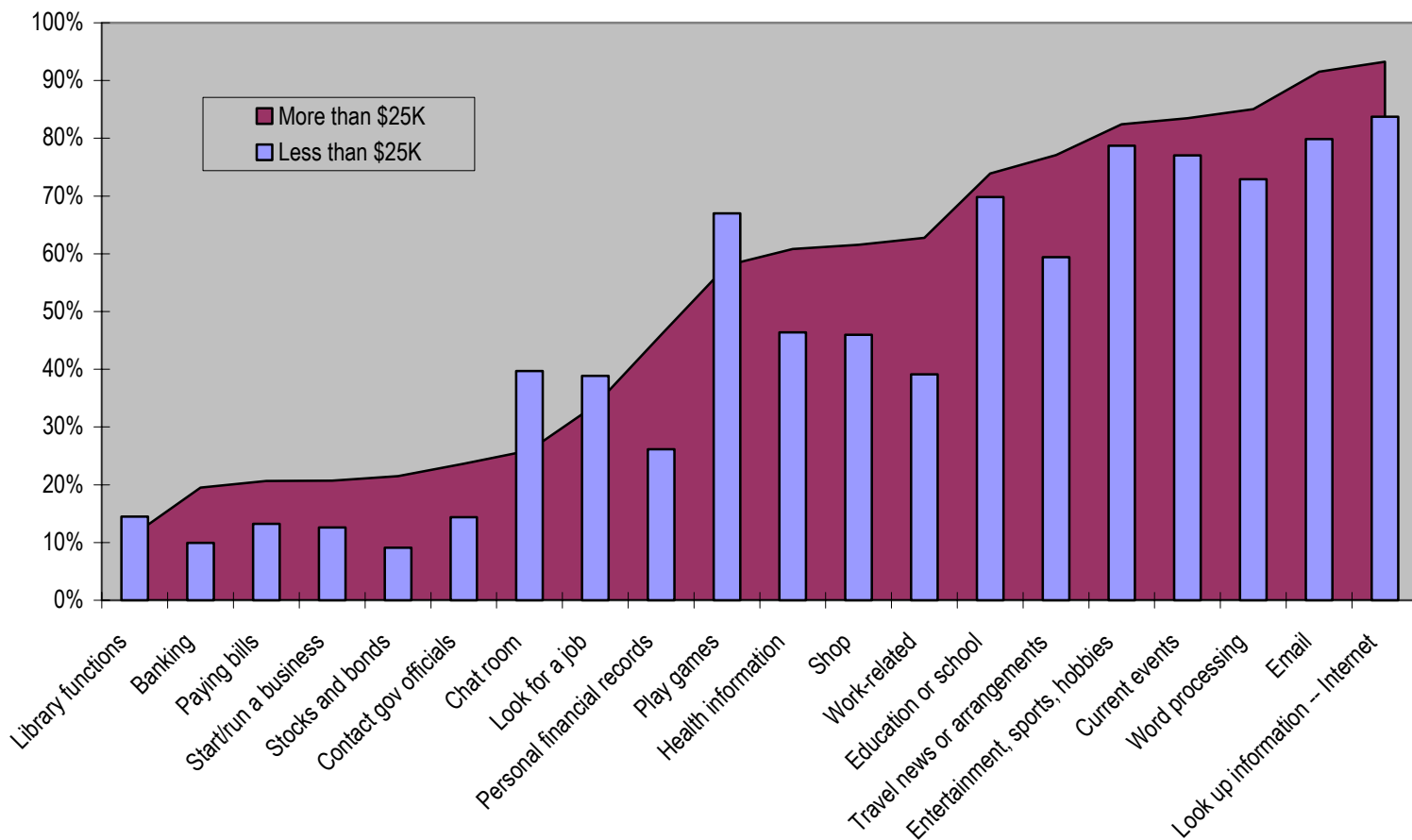
¹³ Pew Internet and American Life Project. *Getting serious online*. March, 2002.

computer users that is similar to our pattern for “lower-income household” users: new users of computers and the Internet also seem to use the computers *more* for recreational purposes, such as games and chatting, and less for more “serious” activities such as word processing, looking up health and other information, doing financial business or shopping. Our other analyses and observations also indicate that low-income patrons very frequently use library computers for job seeking, resume preparation, and other employment-related activities – frequently enough for this to be a supported and encouraged activity in many public libraries.

- A few differences in use also emerge by neighborhood income, separate from household income: people in poorer neighborhoods are more likely to say they use computers for education or school work, and less likely to say they use computers to keep personal financial records, to find health or medical information, to shop, to find news about travel or make travel arrangements, or to send or receive e-mail.

- *It's a big help, because most folks (in her neighborhood) don't have a computer at home. For children, it's educational, and for adults, they can use it to find jobs.*

Figure 5.
How computers are used is related to income: more lower income people play games, chat and job hunt online



Among Low-Income Families, What Factors Predict Which Families Live in Low-Income Neighborhoods While Others Live in Better-Off Neighborhoods?

We began to answer this question with a Discriminant Function Analysis, a statistical technique that selects a *set* of factors that best differentiates two or more groups—in this case, the families that live in poor neighborhoods as distinguished from the families that live in better-off neighborhoods.

These data show that while most people even in low-income neighborhoods have access to computers and the Internet and are using them currently, *those without access are the most disadvantaged in those neighborhoods*. Further, they indicate that these people *live the farthest from public libraries*, but are *most* likely to depend on them for computer and Internet access.

More specifically, our analysis shows that the following factors from our survey instrument (in addition to family income itself¹⁴) are most important for predicting whether respondents live in low-income neighborhoods. Together this set of factors accurately differentiates low-income neighborhood residence 63% of the time:

- Living in a rural area;
- Being African American or Native American;
- Not having a computer or the Internet at home, and not using a computer or the Internet;
- Not working;
- Having no more than a high school education;
- Living farther from the library (an average of 6.1 miles); and
- Not having a library card.

■ *We live out in a real secluded area, so it's [computer and the Internet] helpful to look up current events and information from other cities. It's made access to the world of information faster and easier than ever. It's helped accomplish things for my family, like homework, information, and articles that otherwise would take weeks to get.*

The Discriminant Function Analysis describes only general tendencies and while this set of statistically significant factors increases the chance that a person lives in a low-income neighborhood, it does not necessarily describe the typical low-income neighborhood resident. In fact, we know that the *majority* of residents of poor neighborhoods (and most other neighborhoods) are Caucasian¹⁵, and that 71% of poor neighborhood residents use computers and want more access. Further 60% of poor neighborhood residents have more than a high school education, and 69% are employed.

¹⁴ Not surprisingly, living in a household with a total income under \$25,000 is the best predictor of living in a low-income neighborhood. Less obvious is the finding reported above that only 39% of the families living in the lowest quartile neighborhoods in their states have incomes that low. And 22% of families living in better off neighborhoods have incomes under \$25,000

¹⁵ Because they comprise over 72% of the entire U.S. population.

More generally, these data suggest the need for special attention to smaller, poorer libraries that serve people who are more often poor and more often live greater distances from their libraries, making it more difficult for them to visit them regularly or to use the libraries' computer and Internet resources (assuming the libraries have them). Furthermore, the libraries themselves are further apart and less able to support one another, and, as noted above, tend more frequently to be under-funded and understaffed. Our initial analyses indicate that it may well be that computer and Internet access in these libraries have the greatest impacts on poor Americans. (This issue is examined more fully in PACP project reports. See Heuertz et al., 2003)

Are there “Low-Income Neighborhood Effects” Separate from “Low-income Household Effects”?

The Income Effect and Computer and Internet Use

After controlling for the effects of *household* income (that is, comparing people with similar incomes) those who live in low-income neighborhoods are:

- *less* likely than those with similar incomes living in better-off neighborhoods to be current computer users. Interestingly, people with incomes above \$25,000 are also *less* likely to be computer users if they live in low-income neighborhoods (82% vs. 88%);
- *less* likely to be current Internet users (As with computers, the neighborhood effect is much stronger among people with more income – perhaps people with more choice, see below.);
- *less* likely to have a computer at home;
- *more* likely to say that they want or need *more* computer and Internet access;
- *more* likely to say the library doesn't have enough public access computers;
- *more* likely to say they would attend computer classes at the library (even though they are *less* likely to know if the library has computers); and
- *more* likely to say they don't have enough time to use the library computers (perhaps related to the perception that there are not enough computers at these libraries).

Residents of poor neighborhoods also tend to agree less with the importance of Internet access for children and are more in favor of using library budgets for public access computers.

The patterns in these responses indicate the possibility of factors, in addition to having a low income itself, in low-income neighborhoods (but not in better-off neighborhoods) that depress computer and Internet use. It is not unreasonable to speculate that one such attribute may be what Lewis (1966), and others have characterized as “sense of hopelessness,” lack of ambition or motivation, sense of being discriminated against, and the absence of material resources related to learning new skills, especially technological ones. If the statement that the respondent *might* or *would* attend a computer class at the library indicates and acknowledges need for training, for example, then the lack of awareness of whether classes are available might reflect limitations in awareness or other resources for identifying and taking advantage of opportunities for learning new skills. It is also possible that higher-income people choosing to live in low-income neighborhoods may hold other values that distinguish them from higher income people living in higher income neighborhoods. For example, if these individuals generally reject consumerism

and advertising pressures, they may want to keep their homes free of “unnecessary” technology, also lowering the rate of home-computer ownership in these neighborhoods.

For the low-income respondents, there is considerable evidence in the open-ended comments that they are acutely aware of the “leveling” or “equalizing” effects of public access computers, and that once given consistent access, they believe that computers “open up a whole new world for people,” and take advantage of using them for just that purpose. Here are some representative quotes.

The leveling and equalizing effects:

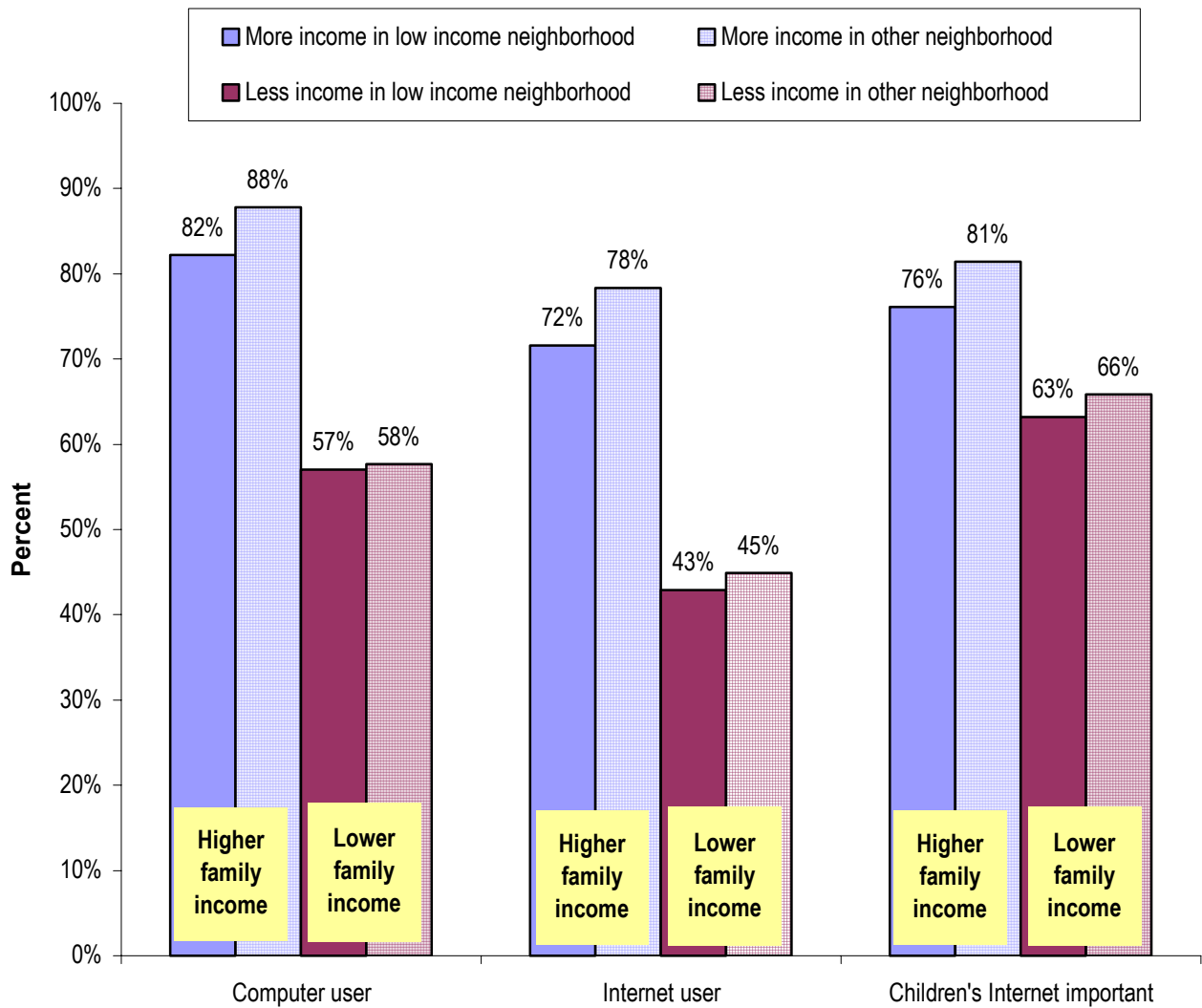
- *It gives all of us who can't get a computer for some reason [the chance] to learn just as much as those with a computer.*
- *It gives us access. For someone like me, who doesn't have [other] access, it has opened up so much. You can get everything that you would otherwise have to go to individual places to get. It gets you places that you can't get to any other way.*
- *I think they even out the score for people, so that people who can't afford one can still have the same access as everyone else.*
- *They give people that don't have computers the opportunity to access what others have at home.*

Opening up new worlds:

- *They have allowed in general people to access information that they otherwise would not be able to reach. It greatly empowers people in their life by allowing them to have access to so much information.*
- *It has expanded their horizons. It has a bigger spectrum of information.*
- *I think it has made us more aware of things we did not know. If you are sitting at the computer, you find out things you never knew before.*
- *It gives you a broad perception of information. The Internet can be accessed globally. People will say more because of the computer.*
- *I think it provides an opportunity to be more educated. It will help us feel more connected to each other. It will give us easier access to information that is otherwise out of reach.*
- *They empower people by providing opportunities for people to find a variety of information quickly.*
- *It's rather profound...easy access to information...it expands our view of the world. We here [small town] are the*

Figure 6 shows that the neighborhood effects associated with computer and Internet use are usually small after taking household incomes into account, and seem -- in contrast to our expectations -- to be strongest at the *higher* income levels. Low household incomes (below \$25,000) seem to reduce the likelihood of current computer use or Internet use, regardless of type of neighborhood. Lower-income respondents, regardless of the economic status of the neighborhood they live in, are also less likely to endorse the importance of Internet access for children. The “neighborhood effect” is most apparent at higher income levels (above \$25,000), where residents of low-income neighborhoods are less likely to be current computer users (82% vs. 88%), current Internet users (72% vs. 78%), or to believe in the importance of Internet access for children (76% vs. 81%).

Figure 6.
Neighborhood effect in play at higher income levels



Different Categories of Non-users: Distinctions Between Neighborhood Types

Our data allow us to partially address why this might be: There seem from our data to be two distinct groups of people who do not currently use computers and the Internet at home – relatively wealthy people who have *chosen* not to have home access, and relatively impoverished people who say they *cannot afford* this access. The relative wealth of their neighborhoods of residence further distinguishes these groups.

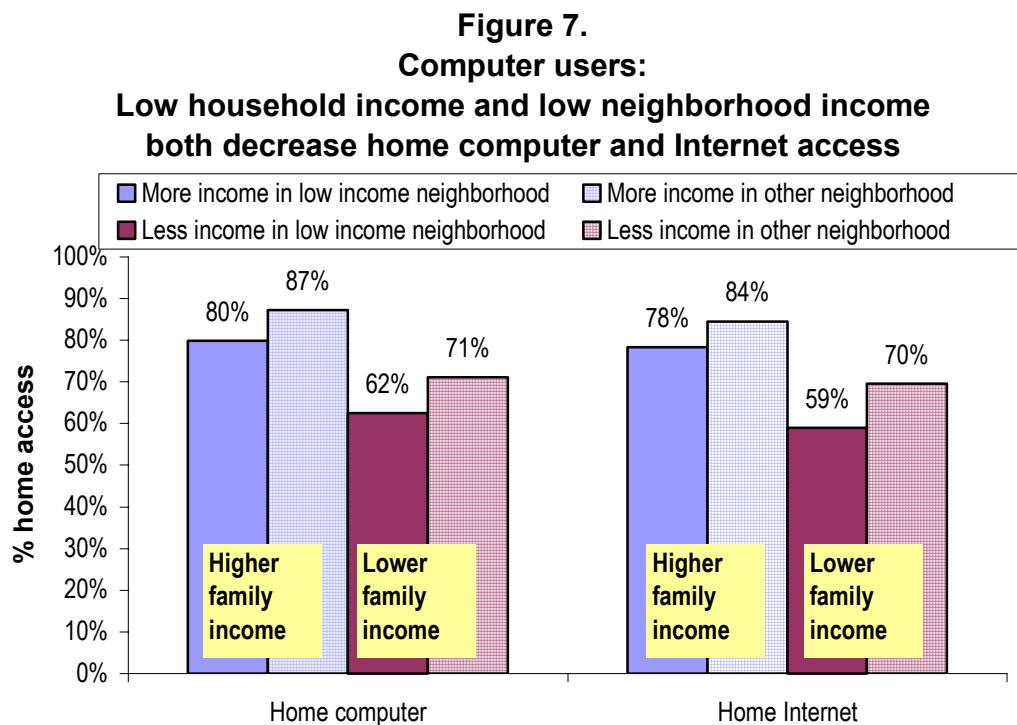


Figure 7 shows that lower-income families are less likely to have home computers or Internet access regardless of the socio-economic status of the neighborhoods they live in, and, reciprocally, that residents of low-income neighborhoods are less likely to have home computers or Internet access, regardless of family income level. Low-income families in low-income neighborhoods are the least likely of all to have home computers or Internet access.

On the other hand, people with higher incomes who don't have home computers are more likely to say that they have *unused* access (more access than they need), little time to use a computer at home, or that they have access somewhere else such as at work. People with lower incomes who don't have a home computer, by contrast, are more likely to say they do not have home computers because of financial constraints or because of not knowing how to use the computers, and they are more likely to say they feel left out because they don't have a computer.

In summary, it appears that the lower income individuals who don't own computers perceive a lack of opportunity to have a home computer, while those with higher incomes who don't have computers may have a lack of interest.

A similar pattern exists with respect to Internet use and home Internet access. Whereas, overall, less than 10% say they don't use the Internet because they never had a chance to learn how, this percentage increases to 16% among the less educated and lower income respondents.

Likewise, less than 10% say they don't use the Internet because they lack the desire or need. It is in higher-income neighborhoods where those responses are more common: that is, while less than 5% of low-income respondents and low-income neighborhood residents say they don't have home Internet access because they don't want it, this increases to 15% among college-educated, low-income respondents in low-income neighborhoods, and to 15% among higher-income, better-educated respondents in higher-income neighborhoods.

A similar pattern exists for computer use: 5% of the respondents overall say they don't use computers because nothing about computers interests them-- *except* for the college-educated, low-income respondents in low-income neighborhoods where 14% gave that reason. A similar pattern emerged for the reason "I hate computers," offered by 10% of the college-educated, low-income respondents in low-income neighborhoods.

Household income levels¹⁶, not average neighborhood incomes, appear most influential on *how* computers are used. Overall, regardless of neighborhood economic status, people in low-income households perform *fewer functions* on computers than do people living in higher-income households. Figure 8 demonstrates this: People in low-income families (pink lines) use computers similarly (for the same basic functions) but somewhat differently from people in higher-income families (blue lines).¹⁷

Among higher-income respondents (blue lines), however, neighborhood economic status makes a difference for a number of functions. Compared to higher-income people in *better-off neighborhoods*, higher-income people in *low-income neighborhoods* are:

- *less* likely to use computers to maintain personal financial records;
- *less* likely to use the Internet to look up health or medical information;
- *less* likely to make investments in stocks and bonds online;
- *less* likely to look up travel information or make travel plans online;
- *more* likely to participate in chat rooms; and
- *less* likely to use e-mail.¹⁸

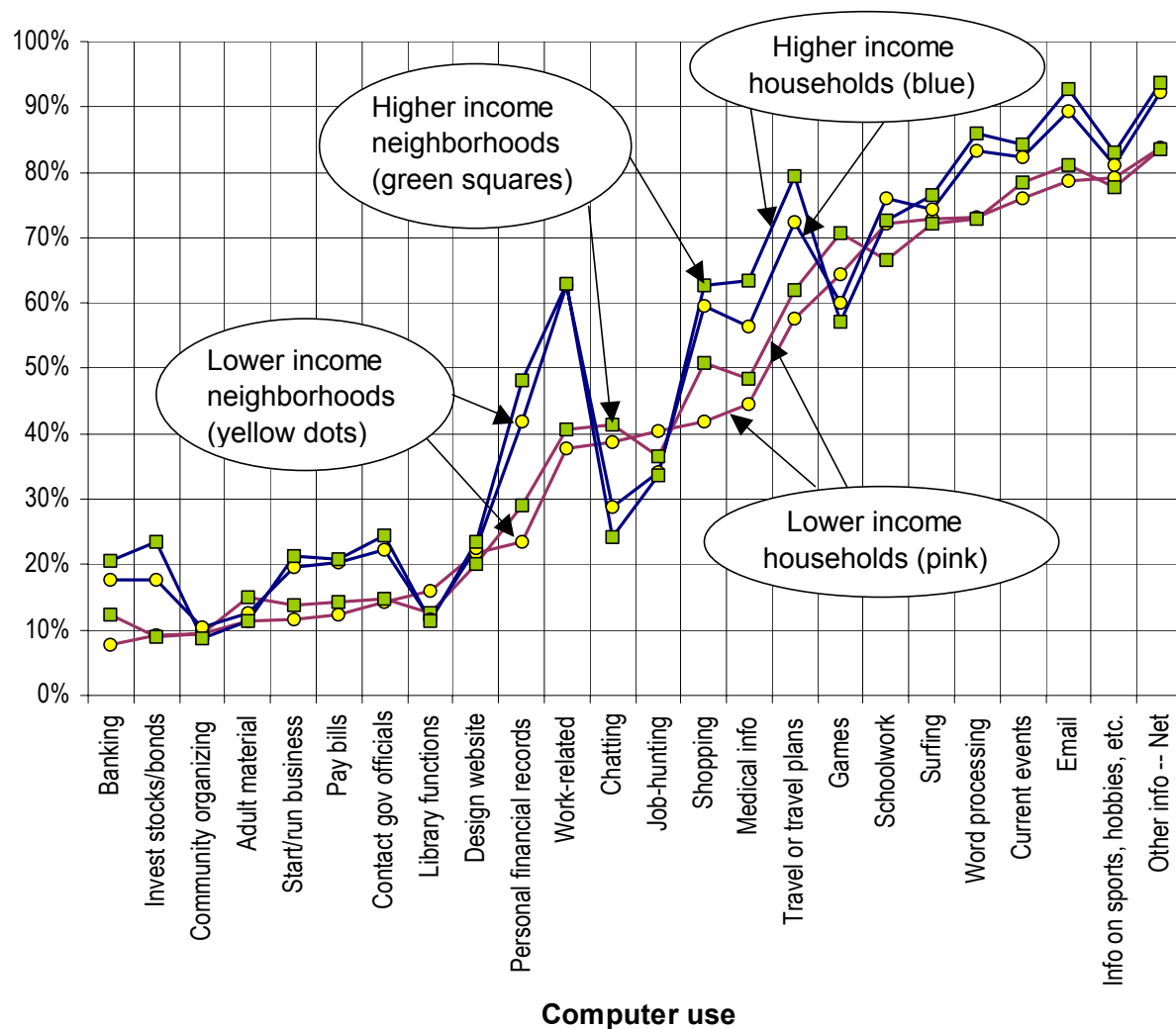
¹⁶ Or coupled with computer experience as suggested by the Pew Report cited above.

¹⁷ Interesting findings embedded here (e.g., that low-income people in poor neighborhoods shop online less than low-income people in better-off neighborhoods) are currently being explored.

¹⁸ The finding that there are numerous differences among higher-income people related to the economic status of the neighborhood they live in deserves more attention. Further analyses are reported in Gordon et al., 2003.

Even though more and more households are obtaining computers every year, among those that didn't have computers at home, people with lower incomes (especially in better-off neighborhoods) and people with high school or less education are *less* likely to say they "will get a computer next year" (income: 18% vs. 23%; education: 16% vs. 23%). *This provides additional evidence that those deepest in the digital divide persist in their need for public access to computers, perhaps even more so as the expectation of computer access increases.*

Figure 8.
Differences in computer use are more related to household income than neighborhood income (similar line colors track together; similar symbols don't)



Neighborhood Library and Library Computer Use

The data analyzed in this research also provide additional evidence of the importance and role of library access to computers for the nation's impoverished citizens, and augment our understanding of the importance of location in interesting ways. For example:

- People in low-income neighborhoods live farther from public libraries and are less likely to have library cards. People with low incomes are less likely to have used libraries in the past year, and to give ratings indicating they are the least “comfortable” of our respondents in their libraries.
- Lower-income respondents (especially those living *outside* low-income neighborhoods in places where they may have easier access¹⁹) are more likely to say both that they and especially their children would like to have *more* computer access at their libraries, while those with higher incomes are more likely to say they and their children have enough access already and have no additional need to use their libraries.
- Among library users, low-income people are more likely to use library computers. People with low incomes and others in low-income neighborhoods are more likely to say their only computer or Internet access is at libraries and are less likely to say their children have enough computer access without the libraries' public access computers.
- Among current computer users, people with low incomes are more likely to say they use library computers, and to say that their libraries are the *only* places they have access to computers or the Internet.²⁰
- People across the different types of neighborhoods and at different income levels express similar concerns about the dangers of the Internet, especially for children: access to adult entertainment, availability of information about bomb building, violent games, loss of privacy, false advertising and too much advertising. Low-income respondents living in either type of neighborhood express less concern about the ability to purchase guns over the Internet.

Large majorities of respondents from different income levels and both neighborhood types agree that public libraries are appropriate places for public access computing and that public access will help to close the gap between the more advantaged and the less advantaged in our society.

¹⁹ Since those with lower incomes living in better-off neighborhoods have easier access to libraries, their aspirations may have been enhanced and they report wanting still more access.

²⁰ Among library patrons in this survey, about 28% say they use the library computers, similar to the 30% estimate given by library administrators. (See Gordon, Moore, and Gordon, 2001.)

People in Low-Income Neighborhoods Are Willing to Pay Taxes or Fees for Public Computer and Internet Access

Three-fourths of the people interviewed, at all income levels and in both types of neighborhoods, believe that public access to computers and the Internet will help to narrow the gap between the haves and the have-nots of our society.

The only thing I can say is thank God for them, because the haves and have nots have an equal opportunity for access to them. They don't exclude anybody.

And, as in our previous surveys,²¹ respondents say they are willing to “pay taxes or fees” for public computer and Internet access. Nearly three-fourths—73%—regardless of where they live, responded positively to the question, “How much, if anything, would you/your family be willing to pay per year, for example in taxes or fees, to keep computer and Internet access available for everyone at the public library?”

Among those willing to pay,²² higher-income respondents are willing to pay more in actual dollars than the low-income respondents (an average of \$32 vs. \$25), but low-income respondents are willing to contribute a larger proportion of their annual household incomes (\$1.82 per \$1,000) than the higher-income respondents (\$.65 per \$1,000). When aggregated at neighborhood levels, those living in low-income neighborhoods name a figure that translates into a higher proportion of their incomes than those in better-off neighborhoods (\$1.16 vs. \$.83). A majority (65% to 70%) in all the income and neighborhood groups believes that support for PA computing should come primarily from government(s),²³ presumably from taxes.

The computer is the future in learning, and the federal government should supply computers to libraries.

Low-income residents of low-income neighborhoods are more likely to believe that schools and universities should contribute, while higher-income respondents, regardless of neighborhood, are more likely to name foundations.

Conclusions

The data presented here portray a consistent picture and indicate that although computer and Internet use and home access are widespread and seem to be available in economically depressed and better-off neighborhoods and across a range of income levels, access is far from universal. Further, income and education, and to some extent, type of neighborhood, influence how, and how much, people use computers and the Internet. That is, people with higher incomes use computers for more hours per week, for a greater variety of functions, and for more “serious” uses.

In contrast, people in low-income neighborhoods are less likely to have current computer or Internet access and are more likely to want more access. They tend to live farther from their libraries and are less likely to have visited them in the past year. Nonetheless, they are more

²¹ Gordon, Gordon, Moore & Boyd, Support for Public Access Computing Widespread and Strong

²² 71% of those with family incomes under \$25,000 say they are willing to pay.

²³ Federal, State, County, City. See also the Harris & Associates 2002 report on the importance of federal leadership in bringing a nation online.

likely to say that they would go to the public library to access computers, but they also say that the libraries don't have enough computers, the waiting times are too long, the library is too far away and at least for their children, the hours are too inconvenient. People in low-income neighborhoods also say they would attend computer classes offered at their libraries, but those in low-income households are less likely to know whether there *are* computers at their libraries.

The additional "effects" of living in low-income neighborhoods appear to be most applicable to the higher-income respondents who choose to live in low-income neighborhoods. They are less likely than those living in better-off neighborhoods to be using computers or the Internet, or to have home computers. Further, they are more likely to say that they want or need more access, that their libraries do not have enough public access computers, and that they don't have enough time to use the public access computers. These respondents may be among the "former users" who once had access (perhaps at school or work), but now, for some reason, do not.

Our low-income respondents' comments also introduce another insight relevant to the neighborhood effects literature: these individuals express their awareness that they are on the disadvantaged side of the digital divide, and that public access computers can "level the playing field" by equalizing opportunities. Further, they indicate they know the computers can help them to broaden the cultural experiences they have right where they live, and allow them to "enter" and "travel" to "whole new worlds." Thus, providing access in libraries may be an example of a "structural" neighborhood feature—perhaps like readily accessible public transportation-- that changes the outlooks or otherwise empowers the very poor.

Public libraries are providing access to computers and the Internet for many low-income people, regardless of the economic status of the neighborhoods they live in – and they provide the *only* access for some, especially the low-income people in low-income neighborhoods. *Nearly 20% of the very poor are using library computers, and many of those indicate they do not have other access, even if their children do.*

Since some logical policy implications—creating more libraries in low income neighborhoods, helping the less educated to get more education, giving poor people more money, and/or enabling people to move to higher-income neighborhoods—are not politically feasible at the moment, the findings from these analyses raise important challenges for libraries with regard to outreach if those with the greatest apparent need are to be served.

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