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Study offers early look at how Internet is changing daily life

As Internet use grows, Americans report they spend less time with friends and family, shopping in stores or watching television, and more time working for their employers at home - without cutting back their hours in the office.

These are the major preliminary results of a new study that is the first assessment of the social consequences of Internet use based on a large, representative sample of American households, including both Internet users and non-users. The study was conducted by the Stanford Institute for the Quantitative Study of Society (SIQSS) and released today. The sample was of 4,113 adults in 2,689 households.

A key finding of the study is that "the more hours people use the Internet, the less time they spend with real human beings," said Stanford Professor Norman Nie, Director of SIQSS and principal investigator of the study along with his co-investigator Professor Lutz Erbring of the Free University of Berlin. "This is an early trend that, as a society, we really need to monitor carefully."

While a number of commentators have speculated about how the Internet might change people's daily lives, and some studies have looked at the use patterns of non-representative groups of Internet users, only a sample representative of households nationally allows analysts to make projections about future Internet usage and its likely consequences, the researchers say. They worked with InterSurvey of Menlo Park, Calif., to develop a unique Internet-based method for conducting surveys with a national probability sample of the general population, including both Internet users and non-users.

Some of the preliminary findings are:

- People spend more hours on the Internet the more years they have been using it.
- A quarter of the respondents who use the Internet regularly (more than 5 hours a week) feel that it has reduced their time with friends and family, or attending events outside the home.
- A quarter of regular Internet users who are employed say the Internet has increased the time they spend working at home without cutting back at the office.
- Sixty percent of regular Internet users say the Internet has reduced their TV viewing, and one third say they spend less time reading newspapers.
- The least educated and the oldest Americans are least likely to have Internet access, but when they do use the Internet, their use is similar to others.

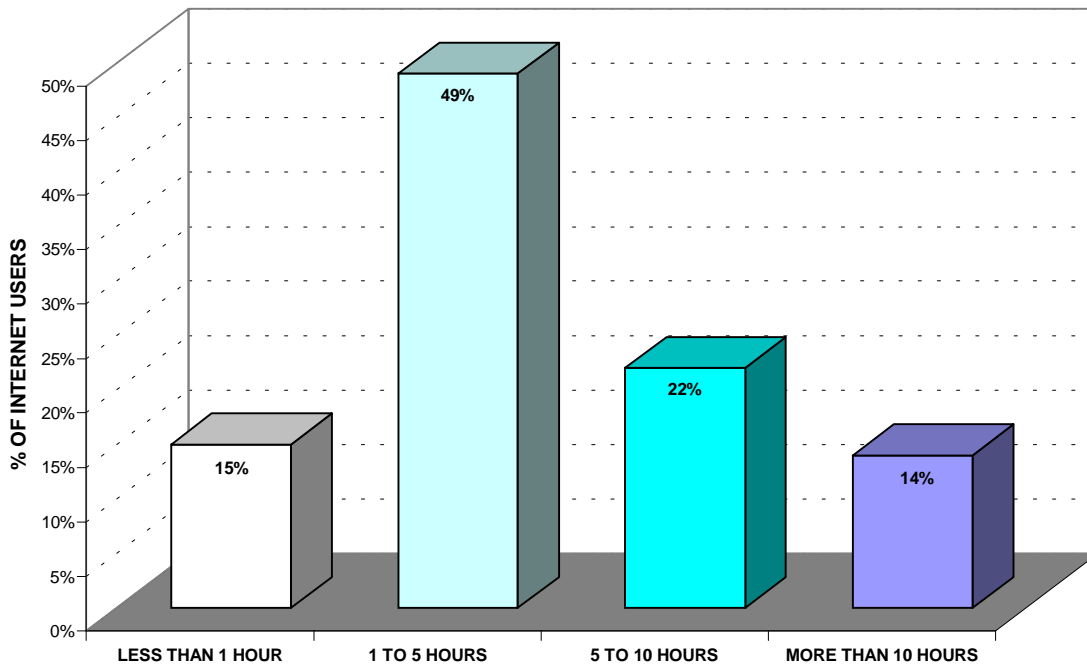
About two-thirds of those surveyed who have Internet access said they spend fewer than five hours a week on the Internet, and most of them did not report large changes in their day-to-day behavior, the researchers said. But the other 36 percent who use the Internet five or more hours a week do report significant changes in their lives. The largest changes are reported by those who spend more than 10 hours a week on the net - individuals who currently account for only 15 percent of all Internet users but are likely to be a much larger fraction in the future.

"As of today, heavy Internet users are still a small fraction of the total population", Nie said, "but that fraction is steadily growing."

"Moreover," Erbring added, "time spent on the net also grows with the number of years a person has been connected."

Nie and Erbring emphasized that their analysis is preliminary, and SIQSS plans to conduct follow-up studies on at least an annual basis.

INTERNET USE (HOURS/WEEK)



Method used

The research methodology employed for this study produces a large, representative sample of all American households, not just current computer or Internet users. Nie and Erbring used InterSurvey, a company Nie co-founded, to conduct the survey on the net. (Nie, a political scientist with expertise in surveys, is co-founder and chairman of the company's board. Stanford is an investor in the company, and the university's business school has an agreement to conduct occasional research through InterSurvey.)

InterSurvey is in the process of giving Internet devices and connectivity to several hundred thousand households in exchange for their participation in surveys and marketing studies of all types. To date, InterSurvey has built a 35,000-person panel of participants and has supplied them all with free Web TV. Using this set-top box allows people to access the Internet through their television set, and enables the researchers to quickly survey those who would not otherwise have Internet access. The company also pays for every participating household to be connected to the Internet.

By using newly enrolled households Nie and Erbring were able to distinguish between those who had prior connection to the Internet and those who did not. The sampling error for this study is plus or minus 1.5 percent for questions asked of everyone in the sample and plus or minus 2.5 percent for information collected only from those who have had Internet prior access.

Social isolation up

"Internet time is coming out of time viewing television but also at the expense of time people spend on the phone gabbing with family and friends or having a conversation with people in the room with them," Nie said.

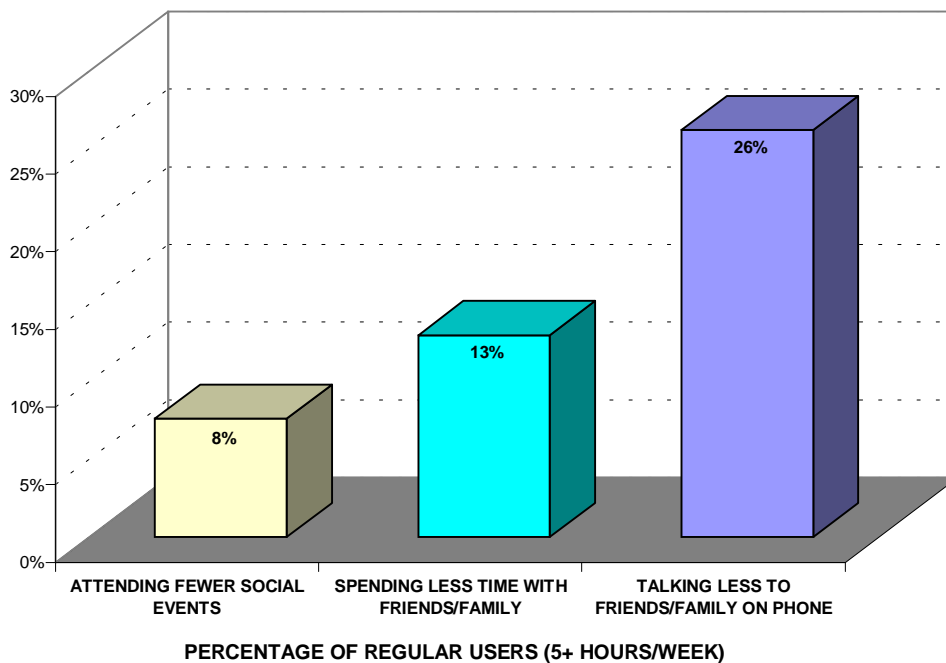
Most Internet users use e-mail, and undoubtedly have increased their "conversations" with family and friends through this medium, he said. "E-mail is a way to stay in touch, but you can't share a coffee or a beer with somebody on e-mail or give them a hug," he said.

"The Internet could be the ultimate isolating technology that further reduces our participation in communities even more than television did before it," he said.

For the most part, Nie said, the Internet is an individual activity. "It's not like TV, which you can treat as background noise. It requires more engagement and attention."

Of regular Internet users, who use the net 5 or more hours a week, about one quarter report spending less time with family and friends, either in person or on the phone, and ten percent say they spend less time attending social events outside the home.

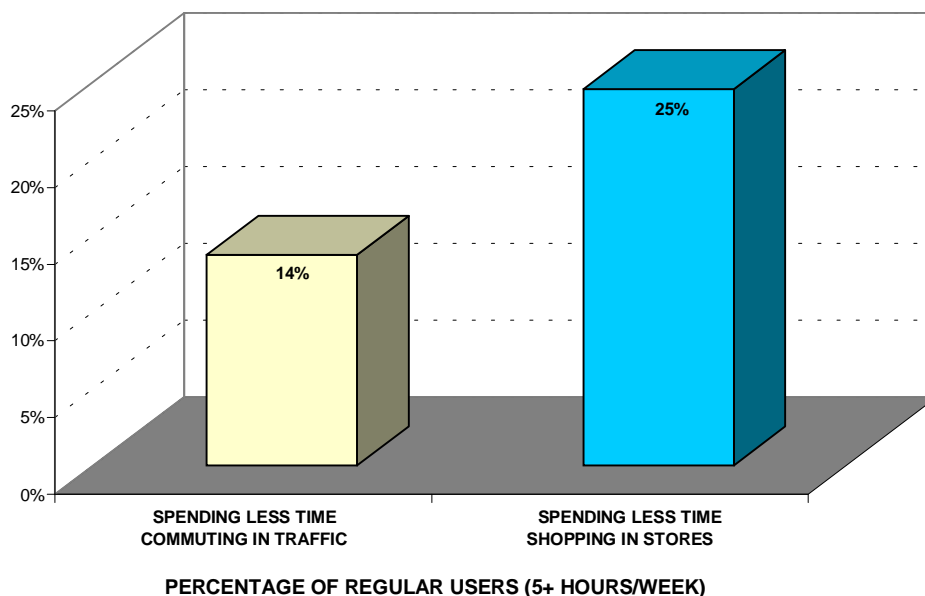
INTERNET USERS SPEND LESS TIME IN SOCIAL ACTIVITIES



On the other hand, Erbring said, "those who use the Internet most also report spending fewer hours caught in traffic, fewer hours in shopping malls, and especially, less time watching television."

"E-commerce may soon change land use for bricks-and-mortar retail as some people have been saying," Nie said, "and eventually we may start to see some cap on the growth of traffic gridlock."

INTERNET USERS CHANGE SHOPPING & DRIVING HABITS



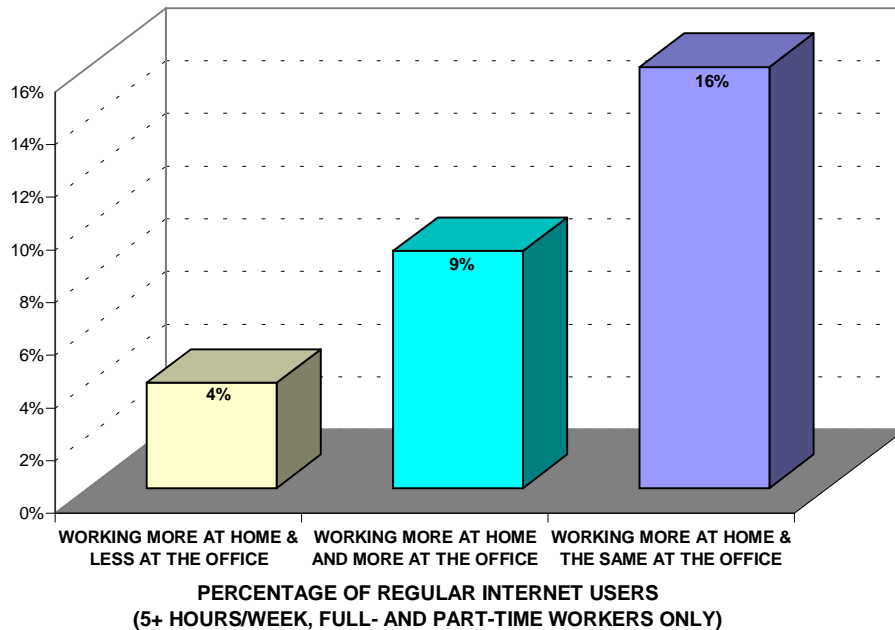
Work invades home

"One of the surprises for us was the degree to which people tell us that they are working at home on the Internet for their employers," Nie said.

Only small number – 4 percent of regular Internet users working full or part-time – said they had cut back their hours at work since gaining Internet access, but a much larger number - 16 percent of employed regular Internet users - said they were working more hours at home since they gained Internet access without cutting back at the office, with 9 percent actually reporting increases in time spent working both at home and at the office. In effect, more than A quarter of full or part-time workers who use the Internet more than 5 hours a week said the Internet has increased the amount of time spent working at home without decreasing the amount of time spent working in the office.

"We may be seeing the very beginning of telecommuting," Nie said of the 4 percent who have cut back on hours in the office. "On the other hand, we all know from our cell phones and laptops that work appears to be intruding into every other aspect of our lives, and that's one of the clearest trends in these data."

WORK INVADES HOME WITHOUT REDUCING WORK IN THE OFFICE

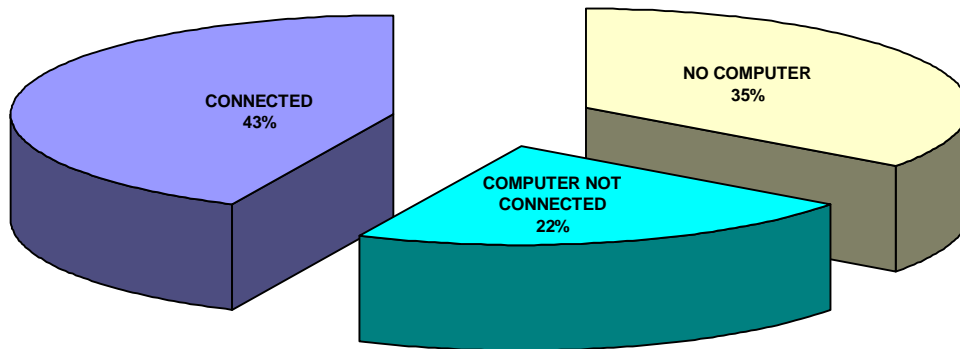


Mainstream online but digital divide persists

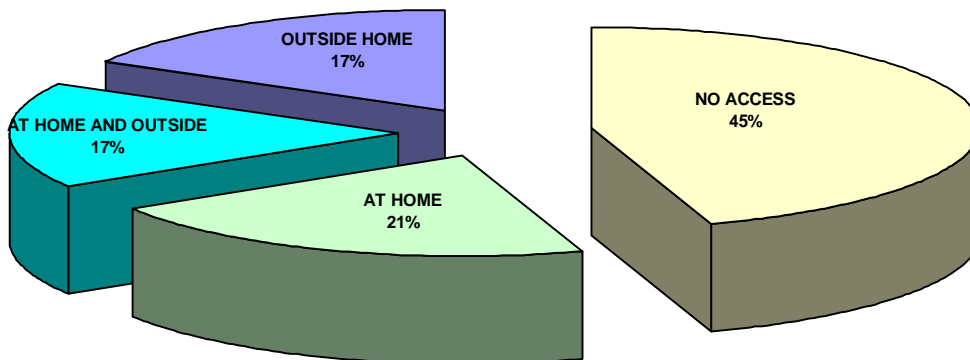
“The Internet is entering the mainstream of American society,” Erbring said, with about half of the population having access somewhere, 38 percent of them in their homes, and another 17 percent elsewhere, mostly offices and schools.

“Everybody is going to be a user soon, and access is growing by successive birth cohorts.” Nie said. “That means we can expect to see large changes for communities and society as a whole.” What we are marking now is the halfway point in this dissemination process.

HOUSEHOLDS CONNECTED TO INTERNET



INDIVIDUAL INTERNET ACCESS



Mere access to the Internet has been studied more in the past than actual Internet use. "This study confirmed others that have found demographic differences in

who has access," Nie said. "Those without access are, above all, less educated and, to a lesser extent, more likely to be African Americans or Hispanics. Women also have somewhat less access, but the Stanford researchers found the gender difference to be mostly among men and women who are not working outside the home. This is the often discussed "digital divide."

"What's equally interesting, however, is that once people have access to the Internet, there are more similarities in than differences in terms of how much they use it and the activities they use it for," Nie said. "Once people have access, blacks look like whites, the college-educated look like the non-college educated, and age groups tend to be more homogeneous than we might have thought, except for those above age 65.

E-mail popular, not chat rooms

The most common Internet activities for each demographic group are sending and receiving electronic mail and searching for information, he said. On average, users said they used it for six to seven different activities. A majority have started to use it as a consumer resource. "For example, between 40 and 60 percent use it for travel and product information," Erbring said. "A little over a third of Internet users report having made an online purchase. Online stock trading, banking, or auctions remain marginal activities, barely reaching 10 percent, and only approaching 20 percent even among veteran netizens who have been Internet users for more than five years." Still, one in four regular Internet users say they spend less time shopping in stores, and 15 percent say they spend less time in traffic since they gained Internet access.

There are some usage differences between demographic groups, but they are relatively small, Nie said. "Men, for example, are more likely to look for stock quotes or buy stocks on the net than women, and chat rooms are almost exclusively used by those under age 30. After age 65, Internet usage falls off quite a bit, but the baby boomers and the young are about equally active on the net. This indicates we've come to the point where if you are going to be part of the modern economy or society, you have to be connected. It's a contagion that's already reached people in their fifth decade," Nie said.

Television use down

The study confirms suspicions that Internet use comes partly at the expense of television viewing.

"We find that about 60 percent of those who use the Internet more than five hours a week are telling us it is coming out of their TV time. Even among those who spend only a few hours a week on the net, a quarter tell us it cuts into their TV viewing," said Erbring, who is a professor of mass communications spending a sabbatical at the Stanford Institute and teaching social research methods in the Department of Communication. "This trend is likely to have a major impact on the economics of the

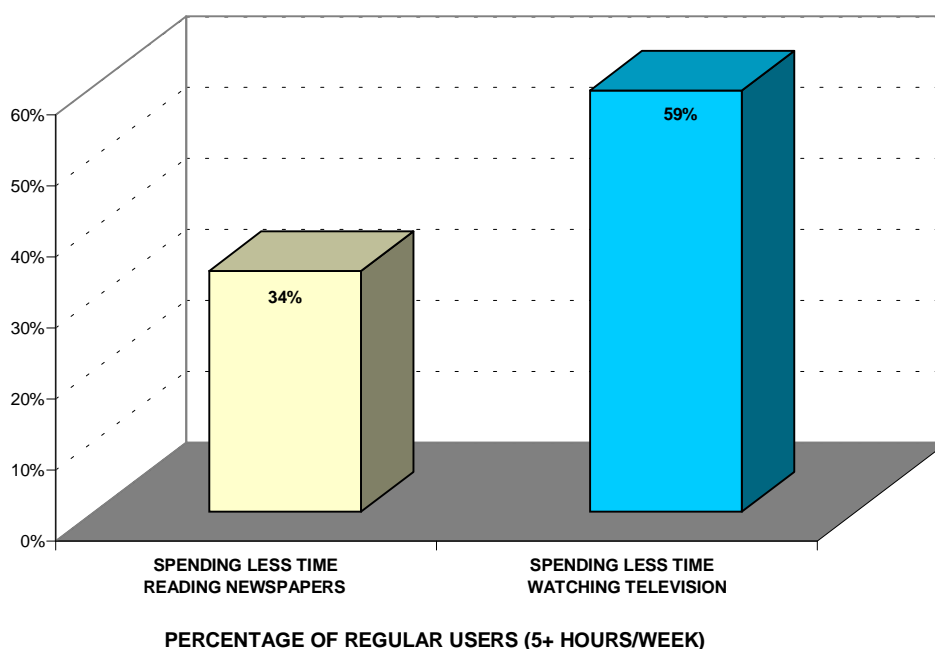
media industry and, as recent developments suggest, may lead to further integration of media and information delivery technologies."

Internet users also report spending less time reading newspapers. "Of course, it may be that they are reading news on the web so they don't read hard copy any more," he added.

Television has consumed a much bigger chunk of people's time than newspapers, however, so it is in greater competition with the Internet for time, he said. "If you spend two or three hours a day on the net, those are two or three hours you don't have for watching television," Erbring said. "You can't surf the web and watch TV at the same time."

In the near future, people may be able to view a television program on the same screen where they are working on the Internet simultaneously. "Its too early to tell if people will do this sort of multi-tasking as part of their daily routine, but even if they do, their attention will be fragmented, because Internet use demands more concentration." Erbring said.

INTERNET USERS DESERT THE MASS MEDIA



'Home alone and anonymous'

Nie, who has in the past studied the decline of American involvement in politics and community organizations, said that while many commentators have expressed concerns about invasion of privacy on the Internet, few have focused on the potential psychological and emotional affects of "more people being home, alone and anonymous."

Nie also expressed concern about the ethical effects for business dealings. "When we lived in small communities, the old story was that you said to yourself, 'I'll see this guy and his wife at church on Sunday so I better be honest with him today.' Then we moved to the big anonymous cities and it became 'Hell, I'll hardly ever see this guy.' Now, it's becoming 'Hell, I won't ever even know this guy's name.' "

Nie said the Institute plans to continue to study the social effects of information technology as users' patterns change and more people gain access. "Plenty of companies are doing research on the Internet, but it's mostly about people's buying behavior," he said. "We need to look much broader than that to contribute to a public discourse as we build this powerful new technology, and to help us formulate better public and private policy decisions," he said.

" Hopefully, we will do more conscious job of examining the unintended and potentially negative consequences of constructing our new electronic system for information and commerce in this century than we did in building its physical counterpart of streets and highways in the last century."