INTERNET AND SOCIETY:
A PRELIMINARY REPORT

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ABSTRACT
(Data Available)

The revolution in information technology (IT) has resulted in innovations that are having increasingly visible affects on the life of the average American. These developments are shaping social lives and behaviors, but there has been no systematic, representative study tracking the sociological impact of information technology. Using data from a national random sample of American adults, it is found that the more time people spend using the Internet, the more they lose contact with their social environment. This effect is noticeable even with just 2–5 Internet hours per week, and it rises substantially for those spending more than 10 hours per week.

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Over the last five years, the revolution in information technology (IT) has resulted in innovations that are having increasingly visible effects on the life of the average American. These developments affect not only how people work, but where they work, how much they work, or with whom they interact face-to-face or electronically. Will future workers continue to share physical proximity with their colleagues, or work largely alone wedded to digital devices with occasional electronic mail or voice communication? What will these changes mean for social trust and social life beyond the family? Will the growing trend of working at home with the aid of IT help strengthen the family or add to the intrusion of the workplace into the home? Will it reduce the hours people work, or increase them by infusing work into every sphere of life, devouring leisure time and family life? And how will the Internet affect the role and use of the traditional media?

These same IT innovations are revolutionizing information and entertainment delivery, affecting their production and consumption, transforming social life and behavior, even political institutions and the role of citizens within them. Some argue that the new technology of email, online discussions, on-demand information, and web-powered information diffusion and interest aggregation will lead to a more informed, engaged, and influential mass public. Will one live in a better informed and connected, more engaged and participatory society—or in a society of lonely ex-couch potatoes glued to computer screens, whose human contacts are largely impersonal and whose political beliefs are easily manipulated, relying on the icons of a wired or wireless society?

The human meaning of these changes remains unclear at present. Some greet these developments with euphoria, others warn of dire consequences. The truth is likely to be somewhere in the middle. Some of the social/political changes will be liberating, some will have little social effect, but others may be harmful or even socially and politically explosive; some may even be perverse, and the most critical ones may well be unanticipated by everyone. For answers to these questions, one must move from ideological claims to empirical evidence. This study is an attempt to do just that.

SURVEY METHODOLOGY

The study is based on data collected using a revolutionary new methodology developed by Knowledge Networks to conduct surveys over the Internet. Unlike surveys of Internet users or households, which suffer obvious sample distortions and preclude generalizing results, this new survey methodology is based on a panel of households recruited as a genuine random telephone sample of the U.S. population. In order to use the Internet for the purpose of efficient multi-channel data collection, each household in the sample—with or without prior Internet connection—is equipped with a WebTV set-top box, with free Internet access and email accounts.

The data for the study were collected in December 1999, from a national random sample of 4113 individuals in 2689 panel households, as a baseline for a continuing research program. Questionnaires were completed independently by each member of a panel household using their television and their WebTV controls to answer the questions displayed on the screen. To avoid contamination of results due to the fact that the study was itself conducted over the Internet (all sample households have Internet access, as a result of having been equipped with WebTV), the results on Internet use presented in this study are based only on the responses of participants who had Internet access (at home or elsewhere) prior to and independent of the WebTV access installed by Knowledge Networks. The margin of sampling error is about 1.5 percent for results from the complete survey, and about 2.5 percent for the subset of Internet users.

RESULTS

The major questions of interest are shown in Appendix A and the frequency responses are shown in Appendix B. Some 65 percent of American households have at least one computer (of that, 19 percent report a multi-computer household); 43 percent of American households are connected to the Internet.

In terms of individual Internet access, 38 percent of Americans over 18 access the Internet at home, 34 percent access the Internet elsewhere (17 percent exclusively, 17 percent in both places). Thus, 55 percent of the population currently have access to the Internet.

Internet Activities: Four thousand respondents were asked to select among a list of 17 common Internet activities and say which they did or did not do. It was found that email is by far the most common Internet activity, with 90 percent of all Internet users claiming to be emailers. For the most part, the Internet today is a giant public library with a decidedly commercial tilt. The most widespread use of the Internet today is as an information search utility for products, travel, hobbies and general information. Virtually all users interviewed responded that they engaged in one or more of these information gathering activities. A little over a third of all Internet users report using the web to engage in entertainment such as computer games (such as online chess, role games, and the like). Thus, the current Internet is also emerging as an entertainment utility.

Chat rooms are for the young and the anonymous. Although a quarter of Internet users claim to have used chat rooms, this activity substantially decreases after age 25. And the chatters report that the overwhelming portion of their chat room interaction is with anonymous others whose identities remain unknown. Consumer-to-business transactional activity—purchasing, stock

trading, online auctions, and e-banking—are engaged in by much smaller fractions of Internet users, with just more than a third reporting they make purchases online and under 15 percent doing any of the other transactional activities. Despite all of the sound and fury, business-to-consumer commercial online transactions are but in their earliest stages.

The average Internet user reports engaging in 7.2 different types of activities. While there is probably some double accounting due to an attempt to be comprehensive in the list of activities, the average user is engaging in at least 5 distinct types of activities on the Web: a combination of different types of information searches, entertainment and games, and for one quarter, some commercial transactional activity. The Internet has been around for about five years now, and the longer people have been web users the more hours and the more activities they report engaging in. Although self-selection may be playing a role with early adopters, the data strongly suggest a model of social change with not only a growing number of Internet users, but with web users doing more and more things on the Internet in the future.

Social Life: It was found that the more time people spend using the Internet, the more they lose contact with their social environment. Figure 1 shows that this effect is noticeable even with just 2–5 Internet hours per week; and it rises substantially for those spending more that 10 hours per week, of whom up to 15 percent report a decrease in social activities. Even more striking is the fact that Internet users spend much less time talking on the phone to friends and family: the percentage reporting a decrease exceeds 25 percent—although it is unclear to what extent this represents a shift to email even in communicating with friends and family or a technical bottleneck due to a single phone line being preempted by Internet use.

Other Activities: Moreover, the more time people spend using the Internet, the more they turn their back on traditional media. This effect increases proportionally with hours of Internet use: for every additional hour on the Net, people report further decreases in time spent with traditional media, reaching 65 percent for those spending more than 10 hours a week on the Net. Clearly the media are competing with the Internet for time, especially in the case of television where even with as little as two hours/week on the Net, a quarter of Internet users report decreases in TV viewing—one can't surf the web and watch TV at the same time. For newspapers, the same effect is less dramatic and may also reflect the fact that people could substitute reading the news on the web for reading the paper.

Besides, the amount of time spent using the Internet is found to be positively correlated with the amount of time spent working at home—and at the office. Even with less than 5 hours/week of Internet use, about 15 percent of full-time or part-time workers report an increase in time spent working at home.
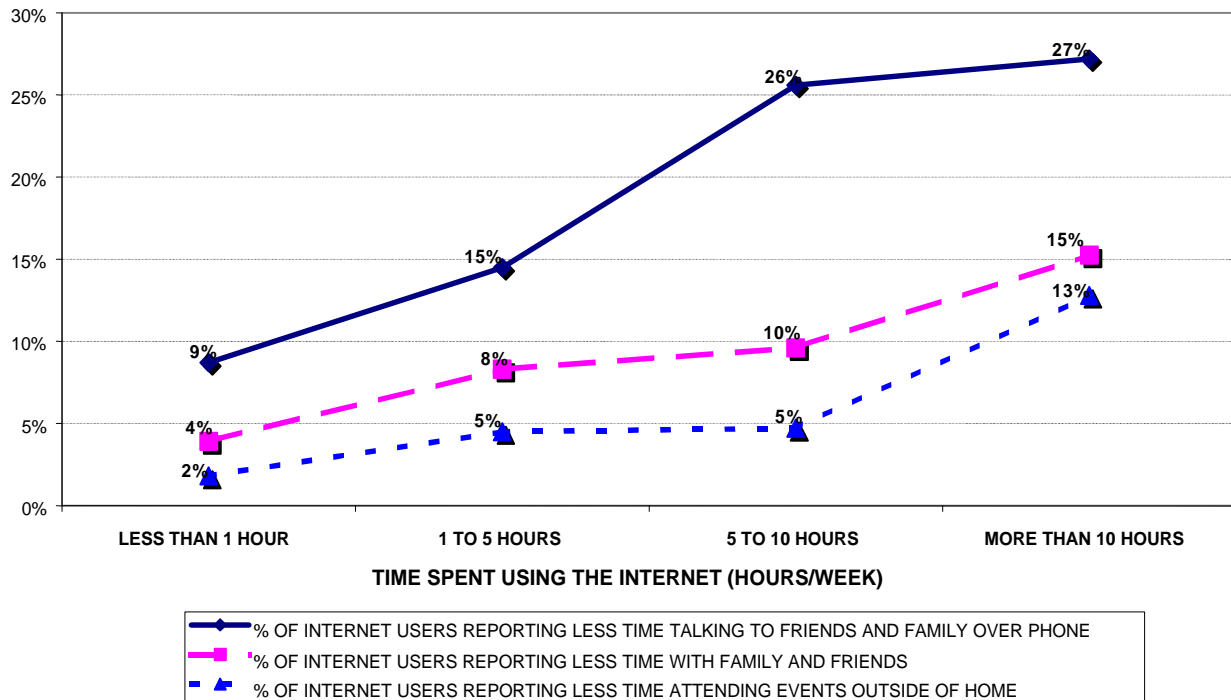
FIGURE 1: SOCIAL ISOLATION INCREASES WITH MORE INTERNET USE

And as their amount of Internet use rises above 5 hours/week, a growing number—up to an additional 12 percent—even report spending more time working at the office, as well as at home. For heavy Internet users with regular jobs, a substantial portion of their total Internet use is likely to take place at the office to begin with—and it seems to be keeping them there for longer hours, in addition to invading their home. There are at present no indications suggesting the beginnings of telecommuting.

However, a negative correlation has been found between time spent using the Internet and time spent shopping in stores and commuting in traffic. This effect grows with the number of Internet hours/week, and as might be expected, stands out particularly clearly for people who use the web for researching product information or for actually making purchases online, thus saving trips to the store. But it does not affect time spent commuting in traffic, which decreases with the number of Internet hours for the nonworking population only, whether or not they shop on the web—working Internet users drive to work just as much as before.

CONCLUSIONS

For the most part, the Internet is an individual activity. Unlike like TV, which can be treated as background noise, it requires more engagement and attention. Although 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 nonrepresentative groups of Internet users, only a sample representative of households nationally allows analysts to make projections about future Internet usage and its likely consequences.

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. A key finding of the study is that the more hours people use the Internet, the less time they spend with real human beings. It appears that time on the Internet is coming out of time spent viewing television, but it is also done at the expense of time on the phone with family and friends and time in conversations. 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. This is an early trend that society really needs to monitor carefully. Email use is an additional medium now available for communicating with friends and family, but one can't share a coffee or a beer with somebody on email or give them a hug.

APPENDIX A
QUESTIONNAIRE

Q.: Has using the Internet changed the amount of time you spend...

	Increased	Unchanged	Decreased
Working at the office	1	2	3
Working at home	1	2	3
Shopping in stores	1	2	3
Commuting in traffic	1	2	3
Reading newspapers	1	2	3
Watching television	1	2	3
Spending time with your family	1	2	3
Spending time with your friends	1	2	3
Watching television	1	2	3
Attending events	1	2	3

Q1. On average, about how many hours a week do you spend using the Internet?

(1) None
(2) Less than one hour
(3) One to five hours
(4) Five to ten hours
(5) Ten to twenty hours
(6) More than twenty hours

Q3. Has using the Internet changed the amount of time you spend talking to friends and family on the telephone?

(1) Increased
(2) About the same
(3) Decreased

APPENDIX B
FREQUENCIES

CH_WFAM Family: Has using the internet changed the amount of time you spend: spending time with your family?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Increased	101	5.0	6.0	6.0
	2 Unchanged	1445	71.0	85.5	91.4
	3 Decreased	145	7.1	8.6	100.0
	Total	1690	83.1	100.0	
Missing	System	345	16.9		
Total		2035	100.0		

CH_WFRN Friends: Has using the internet changed the amount of time you spend: spending time with your friends?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Increased	72	3.6	4.3	4.3
	2 Unchanged	1458	71.7	86.5	90.8
	3 Decreased	154	7.6	9.2	100.0
	Total	1685	82.8	100.0	
Missing	System	350	17.2		
Total		2035	100.0		

CHFRIEND Has using the internet changed the amount of time you spend talking to friends and family on the phone?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Increased	68	3.4	3.4	3.4
	2.00 Unchanged	1593	78.3	79.0	82.4
	3.00 Decreased	354	17.4	17.6	100.0
	Total	2015	99.0	100.0	
Missing	System	20	1.0		
Total		2035	100.0		

HRSWEEK On average, about how many hours a week do you spend using the Internet?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 none	39	1.9	1.9	1.9
	2.00 less than one hour	298	14.7	14.8	16.7
	3.00 one to five hours	968	47.5	48.1	64.8
	4.00 five to ten hours	437	21.5	21.7	86.5
	5.00 ten to twenty hours	187	9.2	9.3	95.8
	6.00 20 +	85	4.2	4.2	100.0
	Total	2014	98.9	100.0	
Missing	-2.00	22	1.1		
Total		2035	100.0		