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Syntopia

Access, Civic Involvement, and Social Interaction on the Net

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Abstract

Our research, which began fielding surveys in 1995, and thereafter with variation in 1996, 1997, and 2000, was apparently the first to use national random telephone survey methods to track social and community aspects of Internet use, and to compare users and non-users. Our program has explored the Internet in terms of trends in access, political and civic involvement, and social interaction. We uncovered serendipitously what we have coined the "Internet dropout" phenomenon (Katz and Aspden, 1998). Our findings have found a decline in some aspects of the digital divide, especially once awareness has been achieved and when year of adoption is considered. Contrary to the pessimistic assertions of many, no loss was discerned in terms of our indicators of political or community involvement. In fact, our findings support a more positive interpretation of the Internet's impact, at least in terms of interpersonal communication, where Internet use was associated with greater levels of telephone use (though not of correspondence by mail) and social interaction (though this was more widely dispersed). It also led to many face-to-face friendships that were judged by respondents as a positive experience. Thus, some of the earliest research on the social consequences of the Internet, confirmed over a half-decade of additional surveys, finds a decreasing but still significant digital divide, few negative effects on civic involvement and social interaction, and some positive consequences.

Authors' note

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First National Random Study of the Internet's Social Consequences

The diminutive computer mouse has roared, changing the temporal patterns of millions of people. Due to the networked PC, billions of dollars and hours are now spent differently. However, as this edited book attests, social scientists are only now beginning to be able to identify what have been the consequences for American society in this sea change in communication patterns. This chapter sketches our answer to the question of the Internet's social consequences in three domains of human communication endeavors: access to Internet technology, involvement with groups and communities through the Internet, and use of the Internet for social interaction and expression.

We believe we have the earliest comparative national survey data on the social consequences of the Internet. Having a nationally representative quantitative snapshot of Americans' use (and non-use) of the Internet has shed new light on important questions. By starting our analysis with data from 1995, we have been able to create an evolving picture of the situation. We have been pleased that a model of this kind has been subsequently adopted by many other social science research projects.

We published our initial reports (Katz and Aspden, 1997b, 1997c) in 1997, which found that the Internet did not increase social isolation. Rather, it was a source of civic organizational involvement and new personal friendships. A 1998 press release and subsequent study of users in Pittsburgh, which suggested that heavy Internet use might lead to depression and isolation, received national attention from the media (Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay, and Scherlis, 1998). In their article, Kraut et al., expressed numerous reservations about our findings. The controversy surrounding these competing views helped highlight and call attention to our earlier work. Understandably, though, sharp questions were raised as to which view was correct. The situation became even cloudier when Nie (2001) also concluded that the Internet harms social cohesion and interaction. However, in 2000 the UCLA and the Pew Internet and American Life Project (Howard et al., chapter 1), seemed to confirm our 1995 findings. When in 2001 the Carnegie-Mellon team in Pittsburgh was not able to find further evidence of the so-called Internet paradox (that is, a social technology that made people lonely), we were pleased to have our original conclusions sustained. While science and knowledge are always subject to challenge and change, we were

gratified that our national studies appear to have been borne out even by our severest critics.

We can also point with pride to the discovery of what was thought to be a virtually non-existent group (excuse the pun), namely "Internet dropouts." (This was our name for people who at one time had Internet access, but currently did not have any access.) When our research first uncovered the fact that this group was actually a substantial number of people, we were greeted with intense skepticism. Critics thought that even if such a group existed, it would be invisibly small. We too were surprised at the size of this group, having included it partly to ensure conceptual completeness, but our subsequent surveys, as well as surveys by the Pew Internet and American Life project have confirmed that Internet dropouts are no *terra incognita*.

What Hath the Mouse Wrought?

Part of the reason we have undertaken our research is that we have seen many arguments that the Internet is harmful, or that it has unleashed a revolutionary liberating force. We are concerned first about the accuracy of both of these dystopian and the utopian views, and second about the consequences of accepting an overly negative or positive view of the Internet if indeed those views are wrong.

The dystopian view is that the consequences have been bleak and the future trend is more dismal still. Commercial and technological forces are gaining control of the Internet; individual users are prey to misinformation, deception, hucksters. The Internet exposes users, and especially children, to violence, pornography, and hate groups. Lonely and outcast people are wasting their time in unreal relationships. Pessimistic or ironic interpretative stories concerning good human intentions going awry have inherent appeal to journalists and academics (including ourselves), and seemingly to the general public as well.

So we have looked for evidence as to whether, as dystopians say, the "social technology" known as the Internet decreases interpersonal connection or if virtual involvement in a cause leads to less real-world participation. We found, contrary to some other analysts, use of the Internet in general has not led to a mass wave of despair and loneliness, nor has it released upon the world armies of disembodied multiple selves acting apolitically. It has not destroyed ordinary social intercourse, nor turned us into puppets of global corporate capitalism.

We have also looked at the utopian view, which is that the Internet provides an overwhelming potential for the development of liberating communities, exponential increases in human and social capital, and the achievement of each individual's full democratic participation in every policy decision. In essence, utopians maintain that the Internet is revolutionary, freeing people and groups to achieve finally an egalitarian, multi-media information society.

Just as we do not agree in the main with the dystopian view, we also do not see that the Internet has ushered in an era of Woodstock-like "peace and love." It has not, nor will it, lift from mankind the blight of hate, prejudice, vindictiveness, poverty, and disease. We may have passed into a completely new millennium, but the Internet is no Second Coming.

Our view is that neither perspective is correct. The little computer mouse, hooked to a keyboard and CPU, and linked with vast networks, servers, and other infrastructure, has acted to weave a rich tapestry of friendship, personal information, and community among people of all nations, orientations, ethnic groups, and classes. In a manner not unlike that of Adam Smith's invisible hand of the marketplace, the sum of the mouse movements and keyboard clicks (and increasingly voice and video streams) has allowed individuals and small groups to find common interests, engage in various types of exchange and create bonds of concern, support, and affection that can unite them. The "invisible mouse tracks" have led around the world, creating electronic and emotional strands among people and their software representations. The result is an intricate tapestry of individuals engaging in what they already do in other arenas, for good or bad, while expanding possibilities for new kinds of thought, interaction, and action.

In this chapter, we analyze these perspectives in more detail, and look at empirical data to probe the Internet's consequences. We explore the consequences for American society in three domains:

- 1 access;
- 2 civic and community involvement; and
- 3 social interaction and expression.

To support our arguments, we have relied on national survey data, much of which we ourselves have collected. These findings are drawn from our book-length treatment, which was published by MIT Press in 2002. Its tentative title is "Social Consequences of the Internet."

Through our efforts, we seek not only to evaluate the answers suggested by a variety of commentators, researchers, policy advocates, and industry proponents. We also wish to propose our own unique take as well. We refer to this view as "Syntopia," and thus the name of our initiative is "The Syntopia Project."

The Syntopia Project

It is worth taking a moment to say a few words about the origin and evolution of the activity reported herein. The work itself is from a larger project, which we now call the Syntopia Project. James Katz and Philip Aspden originally headed the Syntopia Project team; Ron Rice joined as a co-principal in 1999 and has contributed mightily to the project since then. Our joint aim has been to create through a series of national random telephone surveys a multi-year program charting social aspects of American's behavior on- and offline. We began work in 1994, and fielded our first surveys in 1995. We have had the good fortune to be able to conduct surveys again, with variation, in 1996, 1997, and 2000. We reiterate here, to help establish our priority, that our surveys seem to have been the first to:

- use national random telephone survey methods to track social and community aspects of Internet use;
- compare users and non-users, to identify and analyze Internet dropouts; and
- identify and analyze those still unaware of the Internet as opposed to aware non-users.

We chose the name "Syntopia" for our project for several reasons. First, we have been looking at a wide array of emerging communication technologies, including not only the Internet but also the mobile phone and related technologies. Although we focus heavily on the Internet, it bears stressing that the Internet is just one of many tools people use to communicate. Throughout our analysis, we touch on technologies such as newspapers and magazines, TV, and the telephone. Thus, an important aspect of the Syntopia concept is that the Internet is part of a much larger fabric of communication and social interaction. Second, in this connection, an exclusive focus on the online world can be misleading. People do have a physical embodiment, and

their physical and social situation and history influence their actions online. Likewise, what they learn and do online spills over to their real-world experiences. By formulating the neologism Syntopia, we deliberately seek to underscore this synergy across media and between mediated and unmediated activities.

Third, the term "Syntopia" draws together the words "syn" and "utopia." Derived from ancient Greek, the word means literally "together place," which is how we see the Internet and associated mobile communication and its interaction with unmediated interpersonal and community relations. The term Syntopia invokes both utopian and dystopian visions of what the Internet does and could mean. At the same time, it brings these two visions together symbolically and, perhaps not so subtly, also alludes to the Internet's dark side in the homophone "sin." Other nominal connections are "synthetic" and "syntheses" all of which are appropriately evocative, and also fit with our project results to date. The Internet is a place for people to interact, express themselves, emote and find new friends. It is also a place in which people seek to hurt, cheat, and exploit others. The Syntopia Project aims to identify what these activities mean for issues ranging from social and community involvement to friendship formation and webcams.

In the Syntopia Project, we have relied heavily on quantitative survey data. This helps provide a rigorous base upon which to build insights and understand the broad flow of social change. But we also draw upon an array of ethnographic observations, case histories, and concrete examples since this allows us to have a nuanced and detailed understanding of peoples' uses of and reactions to the Internet, and more broadly, interpersonal communication technologies (ICTs). ICTs, which is the term of art in Europe, encompass the full array of networked and mobile technologies, including personal digital assistants (PDAs), mobile phones, computer kiosks, and of course the Internet.

Shocking events can cast a stark new perspective on ordinary lived experience. Before delving into the details of our quantitative findings, it is worth noting the use of the Syntopian realm in response to the tragedy surrounding the September 11, 2001 assaults on the United States. In this attack, civilian airliners were hijacked and rammed into the World Trade Center and the Pentagon, killing thousands of Americans and scores of people from other countries; many of the victims were burned alive. This book is about the Internet in every-

day life, but both the Internet and everyday life exist within a context that is both contiguous with other technology, in this case other ICTs, and other types of life, here involving extraordinary and tragic events.

Syntopia and Life beyond the Everyday

The major constituents of Syntopia, the mobile phone and the Internet, were understandably central to people's communication activities as the plot unfolded.

Mobile phones, which we see as part of Syntopia, were used to relay what was happening aboard the hijacked airliners. These communications appear to have been instrumental in alerting passengers on one flight (UA Flight 93) of the hijackers' intended suicide mission. By having these mobile phone communications, the passengers on that flight, at the cost of their own lives, were apparently able to thwart the hijackers, bringing the plane down on a southwestern Pennsylvania field rather than a Washington, DC, landmark. Mobile phones were also used to call for help and to let friends and relatives know what was happening as the disaster unfolded. Emergency workers, victims and families coordinated and updated themselves. The voice networks were heavily overloaded due to the spike in use, but two-way pagers, such as the BlackBerry, and data networks, were able to keep up with the demand. Mobile phones clearly saved lives as they were used to tell people in the stricken buildings to evacuate immediately. (Some victims initially thought their tower had been bombed and decided to await rescue, unaware that suicide squads had steered fuel-laden passenger jets into the towers: Adam Mayblum, personal communication, September 26, 2001).

In a sick hoax, though, some people used their mobile phone to call emergency services pretending to be trapped. These calls were taken seriously, of course, which led to the distracting and endangering of the rescuers. Phones, both mobile and stationary, were also used to make false bomb threats to federal buildings, synagogues, and mosques. In several of these cases, caller-ID technology was used to catch perpetrators, allowing authorities to relieve fears (Case, 2000; Harden, 2001; Katz, 1999).

The Internet was used to find out information about the attacks and to seek reassurances that loved ones were safe. But the Internet was also used to show the solidarity of the American people as various online sites were established to handle charitable contributions,

Table 3.1 Online resources for responding to September 11, 2001, attacks on World Trade Center and Pentagon

- The American Red Cross created websites for those who wished to contribute to disaster relief. They also provide online guidance about how to donate blood. They also established a *Family Registration Web*, to help those searching for information on family members affected by the disaster. Those from the disaster areas could register at the site to help Red Cross workers provide information to family members and loved ones.
- *United Way* and *The New York Community Trust* have established *The September 11th Fund*. Contributions will be used for immediate and longer-term needs of the victims, their families, and communities affected by the events of September 11.
- The *New York State World Trade Center Fund* supports the emergency response and victim support efforts in New York.
- Contributions to the *Salvation Army* go towards the physical, emotional, and spiritual needs of families, individuals, and emergency personnel involved in the disasters. Aid is given to those affected both directly and indirectly by this tragedy.
- The non-profit organization *FireDonations* has established an online contribution site for their *New York Firefighter 9-11 Disaster Relief Fund*. It aids families of the firefighters who died in their attempts to assist others during the World Trade Center tragedy.
- *Mercy Corps* supports organizations that provide counseling for survivors, emergency personnel, and families of the victims. They also support organizations that provide scholarship funds for children who lost parents in the attacks.

provide psychological support services, and communicate emotional succor and concern. Examples of the scores of such sites are given in table 3.1.

One of the authors of this chapter received email messages of concern and condolence from around the world. Many sites were established to allow people to give expression to their feelings. For instance, the *Washington Post* has one at <http://www.washingtonpost.com/wp-srv/metro/daily/sept01/0911react.html>

At the same time, the Internet was used to spread a variety of false stories. One was that the US Central Intelligence Agency and Mossad (Israel's intelligence service) had mounted these attacks as a provocation. Another false message concerned the origin of videotapes showing Palestinians celebrating the September 11 attacks. A graduate student in Brazil sent a message to a highly regarded news group accusing CNN of misidentifying the tapes as from another, earlier

event. This accusation was found to be in error, and the Brazilian student sent out email retracting his statement. Yet the false challenge continued to circulate and multiply, even becoming transmogrified into an identically phrased letter purporting to be from the head of Internal Communication at the BBC in London. The BBC of course disavowed the forgery (Barringer, 2001). Thus, Syntopian technologies are plastic in that they can be employed for help or harm, information or disinformation, as the person propagating the communication sees fit. They were used in the war to overthrow the Taliban. US Special Forces on the ground in Afghanistan reported that they used laptop computers for email to communicate with their partners, the Northern Alliance fighters. The US troops coordinated with the fighters, and worked to get them what they requested, namely equipment ranging from 9 mm tracer rounds to Oakley sunglasses.

Themes

The rise of the Internet has brought with it some important questions about how this new form of communication might be affecting society. We consider fundamental tensions or opposed positions about the consequences of the Internet in three areas: the digital divide, community and political involvement, and social interaction. Since 1995, we have been examining these three themes through a series of national random telephone surveys.

The first fundamental concern is access, including who has/does not have access to the Internet; what motivates people to use the Internet; what barriers there are to usage; and what characterizes those who stop using the Internet (Katz and Aspden, 1997a, 1997b, 1997c). Access is the major public policy area for those who see the Internet as a universal service and for issues related to political and economic equity (McCreadie and Rice, 1999a, 1999b). Most studies report, for example, that Internet users are more likely to be male, younger, better educated, more affluent, white, and urban (Hoffman, 1998; Katz and Aspden, 1997a, 1997c), although admittedly this is a moving target as the population constantly changes. The usual term for this differential access to and use of the Internet according to gender, income, race and location is "the digital divide."

The second fundamental tension is whether the Internet will decrease community involvement, political participation, social interaction, and integration (Kraut, Lundmark, Patterson, Kiesler,

Mukhopadhyay, and Scherlis, 1998; Selnow, 1994), or whether it will foster diverse mediated communities with greater social capital. Concerns about the decline of community expressed two hundred years ago (by, for example, Benjamin Franklin, Thomas Jefferson, and John Quincy Adams) often seem little different than those expressed continually since World War II (Merton, 1957, p. 356; Putnam, 1996). A major component of this lively debate has been the question of the impact of communication technology on these processes. Analysis and criticism started earnestly shortly after the telegraph was invented, and was reinvigorated and intensified as each new communication technology became popular: the telephone, radio, movies, and, most profoundly, the TV (c.f., Fischer, 1993; Schiffer, 1991).

We discern two broad but conflicting views on social communities in cyberspace. The first general view is pessimistic. Cyberspace cannot be a source of real community, or it detracts from meaningful real-world communities (Baudrillard, 1983; Gergen, 1991; Kiesler, Siegel, and McGuire, 1984; Nunes, 1995; Stoll, 1995; Turkle, 1996). There has been concern about a possible reduction in the objectivity of traditional media if these media were to lose their status and impact as a result of the growth of Internet usage (Symposium, 1995; Van Alstyne, 1995). A related concern is that lack of access to Internet resources by various groups in society, relative to traditional outlets such as newspapers, radio, and TV, would translate into a narrowing of the basis of political participation and legitimacy of government (White, 1997). Others argue that the Internet could weaken the legitimacy of the governing process, by encouraging the spread of small, "net-savvy" special interest communities who could pursue their own narrow agenda at the cost of the public commonweal (Starobin, 1996). The quality and validity of material reported on the Internet is also increasingly problematical, leading to concerns about the corruption or debasement of elections, and a consequent reduction in political participation. As noted above, some theorists have argued that the Internet is destroying community groups and voluntary associations that are necessary for the democratic process to succeed (Putnam, 1996; Turkle, 1996). Other critics fear that the Internet will absorb and dissipate the energy of the citizenry away from traditional political processes (Carpini, 1996; Rash, 1997).

The second general view is optimistic. Cyberspace involvement can create alternative communities that are as valuable and useful as our familiar, physically located communities (Poole, 1983; Rheingold, 1993). The Internet may very well foster political involvement: "Life

in cyberspace seems to be shaping up exactly like Thomas Jefferson would have wanted: founded on the primacy of individual liberty and a commitment to pluralism, diversity, and community" (Kapoor, 1993, p. 53).

The third concern is whether the Internet will hinder expression, or will foster new forms of identity and social interaction (Baron, 1984; Cergen, 1991; Hiltz and Turoff, 1995; Parks and Floyd, 1996; Turkle, 1996; Wynn and Katz, 1997). Can online social activity and creativity translate into meaningful friendships and relationships? The first school of thought holds that computer-mediated communication technology is too inherently antithetical to the nature of human life for meaningful relationships to form (Stoll, 1995). To type is not to be human, to be in cyberspace is not to be real; all is pretense and alienation, a poor substitute for the real thing. Thus, cyberspace cannot be a source of meaningful friendships (Baudrillard, 1983; Numes, 1995). Further, the technology is too limited to provide a useful basis for relationship formation. Hence, CMC inherently leads to "experimental truth" (that is lying to others who cannot immediately know what the truth is) about one's identity and qualities. Such an atmosphere can be dominated by trickery, lechery, manipulation, and emotional swindles. So much posturing, "gender-switching" and faking of identities can take place that it is extremely difficult for any real relationships to be created and maintained (Turkle, 1996).

However, a second school of thought increasingly sees the Internet as a medium for social interaction (Rice, 1987a). Numerous case studies of CMC have shown that "the social" is an important glue that binds together the task-oriented aspects of CMC, and in some cases even supplants them (Rice, 1987b). This work has been complemented by research on the functioning of medical discussion lists and newsgroups, health and psychological support groups, Internet relay chats, multi-user dungeons, object-oriented MUDs, and even online dating services, all of which are essentially social and "affect" (as opposed to task) oriented (Rice, 2001). A good proportion of those searching and participating in health information sites and discussion groups do so as "third party" intermediaries, seeking information and support for their significant others, for themselves to help them deal with illnesses of significant others, or to bring information from the Internet to stimulate, challenge, or engage their health care providers (Aspden and Katz, 2001). The growth and persistence of web-based chat rooms and "instant messaging" offering "community" would seem to provide additional evidence refuting the "non-social" nature of CMC. Baym

summarizes a decade of research as revealing "the ways in which people have appropriated the commercial and non-commercial networks demonstrate that CMC not only lends itself to social uses but is, in fact, a site for an unusual amount of social creativity" (Baym, 1995, p. 160); Rice (1987a) argued that fundamental aspects of social groups and communities may well be supported, even extended, through online communities, though the boundaries and permanence of such groups might be quite different.

Data Sources

The data summarized here, as well as detailed in various reports from the overall programmatic research, came from a series of national probability telephone surveys, all designed by us but administered by commercial survey firms. These surveys follow rigorous sampling protocols, and use random-digit dialing, to produce statistically representative samples of the adult US population. Figure 3.1 provides summary details on nonusers, users, former users, and sample sizes.

Access to the Internet

During each of the national surveys we asked users the year they started using the Internet (referred to in the surveys as "the Internet, also known as the Information or Electronic Superhighway"). This enabled us to establish cohorts of users based on the year they started using the Internet – those starting in 1992 or before, and those starting in 1993, 1994, 1995, 1996, 1997, 1998, and 1999/2000. We report usage by demographic measures, both for the various cohorts, and for the survey years (1995, 1996, 1997, 2000). Table 3.2 provides the percentages.

Gender

Across the cohorts of users (1992 to 2000), the proportion of female users increases. New Internet users are proportionally more female than are reported in surveys that only indicate usage as of the year of the survey; in recent years females are even more frequent users than are males.

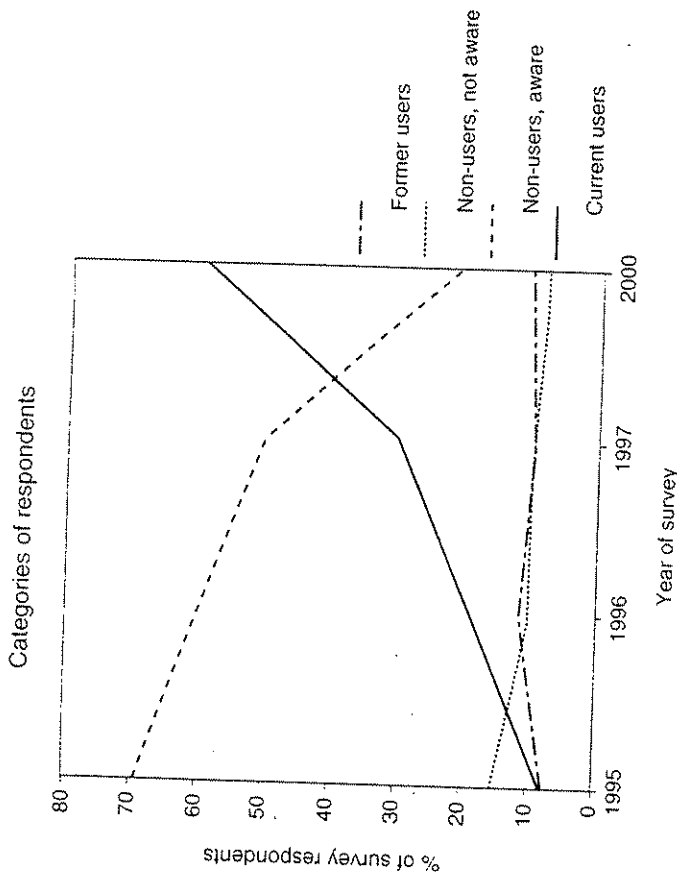


Figure 3.1 Percent of survey samples who are users, former users, aware non-users, and not-aware non-users

Age

Despite the increases in the proportion of users aged 40 and over, this proportion is still well below the proportion aged 40 and over in the general population (approximately 55 percent). Again, new Internet users are older than the average age of users reported in surveys that only indicate usage as of the year of the survey. However, the percentage of those 65 years and older who are using the Internet is still quite small.

Income

The proportion of Internet users with a household less than \$35,000 is increasing, with a more even growth across cohort years than is indicated by the data reported by survey year only (as opposed to usage by cohorts).

Table 3.2 All Internet users, by cohort year and by survey year, belonging to each of several demographic categories (%)

Demographic	Census 1999/ (1998/ 2000 2000)									
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2000
Gender: female	29.3	36.7	38.5	47.0	47.3	56.6	51.9	54.5	54.5	51.0
Age: >40 yrs	38.4	38.9	30.5	41.8	43.3	42.0	45.0	48.9	48.9	55.0
Age: >65 yrs				0.6	2.9	2.4		5.2		
Income: <\$35k	23.3	23.1	31.7	23.5	26.9	23.7	26.5	28.1	28.1	44.6
Education: <college	30.2	37.5	47.5	47.6	56.0	65.1	62.8	67.0	67.0	71.9
Race: African-American	9.0	2.3	4.7	5.6	9.3	9.4	7.9	8.9	8.9	12.7
				6.0	5.1	7.5		9.1		

Each demographic represents one of the dichotomized categories of the full demographic (i.e., gender, income, education, race). The top row of percentages for each demographic variable is the percent of users who belong to that demographic category in each cohort year (that is, the year in which the respondent began using the Internet), while the bottom row is the percent of users who belong to that demographic category in each survey year (that is, the year in which the survey was conducted), except for age of 65 and older, which is for survey year only. Census figures are from the online Statistical Abstracts of the US, either 1998 counts or July 1, 2000 estimates: www.census.gov/prod/www/statistical-abstract-us.html (January 1, 2000). Note that the overall percent of African-Americans in the survey samples were 9.3% in 1995, 7.3% in 1996, 11% in 1997, and 11% in 2000, while the percent of African Americans in the Census data is 12.7%. This indicates that at least the 2000 survey, and probably all the surveys, slightly underestimates the percentage of African-Americans in the population. This may mean that the surveys slightly underrepresent the percent of Internet users who are African-American; however, if those African-Americans who are underrepresented in national probability samples are especially poor or less educated, then they are also less likely to know about or use the Internet, so these percentages may be slight overestimates.

Education

For those users who started in 1992 or before, the proportion of non-college graduates was 28 percent, rising to 67 percent for the 1999/2000 cohort. Over the years the surveys were administered, the percentage rose from 48 percent to 56 percent.

Race

The proportion of African-Americans using the Internet rose and then declined a bit over both the cohort and survey years. The difference in percentage of users and non-users between African-Americans and White non-Hispanics was significant only in 1996.

Motivations for Use

Regarding motivations for Internet use, two points stand out (Katz and Aspden, 1997a, 1997c). Users in the 1995 and 2000 survey rated sending/receiving email as a significantly better reason someone might be interested in becoming an Internet user than did non-users (in this analysis, we include former users, or "dropouts", as non-users). There was no significant difference between users and non-users, in both 1995 and 2000, as to the extent that they rated having contact with new people as a motivation for usage. While in 1995 users and non-users did not significantly differ in the extent to which they believed that people might be interested in becoming an Internet user "because it's a good thing to do," in 2000 users were more likely to feel this way.

Awareness

Our research identified a second digital divide, relating to *awareness of the existence of the Internet* (defined by the question "Have you heard of the Internet or the Information Highway?"). We looked at the percentages of each binary category of gender (male/female), age (under or over 40), income (less or more than \$35k), education (less or more than college), and race (African-American or White non-Hispanic). Of those that were aware of the Internet, the percentage of women rose from 45.5 percent in 1995 to 53.3 percent in 2000; the percentage of those over 40 rose from 47.9 percent to 50.2 percent; the percentage of those earning under \$35k fell from 52.1 percent to 33.5 percent; the percentage of those with less than a college education dropped from 70.6 percent to 64.9 percent; and the percentage of those who were African-American rose from 7.2 percent to 10.5 percent. Thus the awareness divide seems to have pretty much disappeared according to gender, age and race, but seems to be increasing by income and education.

Combined influences on usage and awareness

Summary logistic regressions were run to predict awareness (vs. never heard), and to predict usage (vs. non-users; here former users/dropouts were not considered) from the same demographic variables.

In 1995, significant predictors of being *aware* of the Internet were: younger, greater income, greater education, white American (14 percent of variance explained, 86 percent of the 1814 cases correctly predicted). Significant predictors of being an *Internet user* were: male, younger, greater income, and higher education (16 percent, 91 percent of the 1676 cases correctly predicted). In 2000, significant predictors of *awareness* of the Internet were the same as in 1995: male, younger, greater income, and white American (9 percent variance, 93 percent of the 1037 cases correctly predicted). Significant predictors of *usage* were: younger, greater income, and greater education (45 percent, 80.2 percent of 924 cases correctly predicted). Note that, once awareness is achieved, in the multivariate analyses there is no digital divide – differences between non-users and users – on the basis of gender or race in 2000.

Dropouts

Internet dropouts – people who have used the Internet, but no longer do so – are usually overlooked in discussions about cyberspace (Katz and Aspden, 1998). Approximately 8 percent of respondents were dropouts in 1995, 11 percent in the 1996, 10 percent in 1997 and 11.5 percent in 2000. In 1995, 1996, 1997, and 2000, dropouts were significantly younger, less affluent, and less well educated than users – but not more likely to be female or African-American. In 1995, dropouts over 20 years old, compared to current users over 20 years old, were more likely to have been taught to use the Internet by friends (42 percent compared to 19 percent for current users), less likely to have learned at work (18 percent compared to 35 percent), and less likely to have been self-taught (15 percent compared to 25 percent). Of those who dropped out, the following percentage of respondents (averaged across the 1995, 1996 and 1997 surveys) indicated agreement with these three reasons for ceasing to use the Internet were: they lost access to the Internet (23 percent), generally due to losing a job or leaving college; the Internet was not sufficiently interesting (12 percent); con-

nection and/or usage bills were too high (15.7 percent); and it takes too much time (7.5 percent).

Community and Political Involvement

To see whether Internet usage is associated with community and political involvement (or social capital), we analyzed five categories of respondents to the 1995 survey (long-time users, those who started using the Internet before the survey year of 1995, and recent Internet users, those who started during the survey year of 1995, former users, non-users who have heard of the Internet, and non-users who have not heard of the Internet) (Katz and Aspden, 1997b), and the more parsimonious categories of current users versus non/former users for 1995 and 2000.

Participation in organizations

There was no difference between Internet users and non-users in rate of membership in religious organizations, in either 1995 (about 63 percent) or 2000 (about 56 percent). However, in 2000, users who spent more hours online per week were slightly more likely to belong to more religious organizations ($r = 0.07, p < 0.01$). Current users were significantly more likely to belong to any leisure organizations than were non-users (60.1 percent compared to 49.4 percent) in 1995, but not differently in 2000 (93.4 percent for both). Users were significantly more likely to belong to at least one community organization than non-users in both 1995 (40.8 percent vs. 37.1 percent) and 2000 (28 percent vs. 15.4 percent). In 2000, for users, spending more hours online was not significantly correlated with membership in more leisure or community organizations.

Political involvement

We identified four dimensions of *offline* political activity: (1) *political activities* such as attending rallies, making phone calls on behalf of candidates, and giving money to political causes, (2) *reading* and the importance of magazines and newspapers, (3) the importance of national and local TV shows and interviews in the 96 campaign, and

(4) *voting* in the 1996 election were all greater for Internet users than for non-users. There was no difference in real-world political activity, including voting, between heavy and light users, and long-term and short-term users (Katz, Aspden, and Reich, 1997).

There seem to be two kinds of *offline* political activity. *Browsing* was a composite of: reading bulletin boards/discussion groups; visiting websites with political information; following part of the election but reading online news; following election day coverage by computer; and viewing information via the computer after the election. In our sample of Internet users, 46 percent participated in at least one of these. *Interaction* consisted of four activities: participating in electronic discussions with people about the election; receiving emails about the campaign/election; sending/receiving emails to/from government official; and sending emails to others regarding the campaign/election. In this 1996 sample, 28 percent of the Internet users participated in at least one of the four activities.

Communication by letter and telephone

Respondents were asked how often in the week prior to the interview they communicated with other people by letter, or by phone. In 1995, usage of both increased from non-users who had not heard of the Internet (letters, 37 percent reported sending at least one letter; phone, 41 percent reported making 11 or more calls) up through current users (letters, 56 percent; phone, 72 percent). For letter contact, there was no difference between users and non-users, after controlling for significant influences of gender and education. For phone contact, Internet usage was still associated with increased phone contact after controlling for significant influences of education and age. In 2000, two-thirds of Internet users had written no letters in the prior week, while 60.4 percent had made more than 10 telephone calls.

Social interaction

We first explored the extent that respondents met with friends. In the week prior to the 1995 survey, 38 percent of long-time users met 1-3 times with friends and 54 percent met 4 or more times. Of recent users, 40 percent met 1-3 times with friends and 48 percent met 4 or more times. Former users met with friends somewhat less often - 48 percent

met 1-3 times with friends and 44 percent met 4 or more times. Of non-users who had heard of the Internet, 48 percent met 1-3 times with friends and 40 percent met 4 or more times. Non-users who had not heard of the Internet reported meeting with friends less - 43 percent reported meeting 1-3 times with friends and 39 percent meeting 4 or more times in the week prior to the survey. In other words, those who had been using the Internet the longest also were the most likely to have met with 4 or more friends, while those who were not even aware of the Internet were least likely to have met with 4 or more friends in the prior week. Clearly long-term Internet usage is associated with more, not less, frequent sociability. These differences between non-users and users, in getting together with friends, remained after controlling for employment status (full-time, part-time, retired, unemployed).

We asked respondents the extent they agreed with the question, "In your social life are you frequently away from home?" The aggregate responses to this question were similar to the above but the differences were more marked with users (current and former) more strongly agreeing to the statement than non-users. Fifty-nine percent of long-time users, 56 percent of recent users and 57 percent of former users agreed or strongly agreed with the statement. By contrast, only 37 percent of non-users who had heard of the Internet and 34 percent of non-users who had not heard of the Internet agreed or strongly agreed with the statement. Differences in being frequently away from home remained for non-users versus users after controlling for significant influences of educational achievement and marital status.

Finally, we asked participants in the survey how many of the 10 people living closest to their home they knew. Of non-users who had not heard of the Internet, 37 percent reported knowing the 10 closest people and 31 percent knowing 4-9 of the 10 closest people. Similarly, of non-users who had heard of the Internet, 33 percent reported knowing the 10 closest people and 36 percent knowing 4-9 of the 10 closest people. Former users reported knowing slightly fewer neighbors - 28 percent reported knowing the 10 closest people and 42 percent knowing 4-9 of the 10 closest people, followed by long-time users - 28 percent reported knowing the 10 closest people and 37 percent knowing 4-9 of the 10 closest people. Recent users reported knowing the fewest neighbors - 21 percent reported knowing the 10 closest people and 43 percent knowing 4-9 of the 10 closest people. So there is evidence that long-term and recent Internet users are more likely to meet with friends in the past week, but also more likely to be

away from home and to know fewer neighbors. This implies that users' social communities are more physically dispersed than non-users'. However, there was no significant difference between categories of users and non-users in this knowledge of the 10 closest neighbors after controlling for significant influences of employment status and age, implying that the use of the Internet, per se, is not associated with different levels of awareness of one's neighbors.

In the 1995 survey, 42 percent of users reported contacting family members through the Internet at least once or twice. Long-time users reported contacting family members more often than did recent adopters. In the 2000 survey, 21.8 percent of the users reported contacting family members online at least several times a year.

Other possible indicators of home and social activity include having any children, work situation (full-time, part-time, retired, unemployed, or student), owning one's home, and number of years living in the same home. In 1995, users were more likely than non-users to work full-time (69.5 percent vs. 54 percent for non-users) or be a student (13.5 percent vs. 5.9 percent), and have lived for fewer years in their current house (6.4 years vs. 10.5). The same differences existed in 1996, except that users were also more likely to own their own home. In 2000, users were significantly more likely to have children, work full-time (62.7 percent vs. 44.2 percent) or be a student (8.8 percent vs. 2.1 percent), and have lived for fewer years in their current house.

Finally, respondents' sense of overload (rushed, too much to do) was significantly higher for users than non-users in 1995, but not in 2000, and reported satisfaction (overall, and with communication with friends, family and work colleagues) was significantly greater for users than non-users in 2000, but not in 1995.

New Forms of Expression

In the 1995 survey, 25.5 percent of users reported being a member of an Internet community. Thirty-one percent of long-time users and 17 percent of recent adopters reported participating in Internet communities; 23 percent participated in 3 or 4 communities, and 27 percent participated in five or more communities. For the vast majority of both long-time and recent users, use of the Internet does not appear to have much impact on the time spent with friends and family. The two groups' views were not statistically different. Eighty-eight percent of

users reported that the time spent with friends and family face-to-face or by phone had not changed since they started using Internet. The same proportion of users (6 percent) reported they spent more time with friends and family face-to-face or by phone, as reported they spent less time. In 2000, 10.4 percent reported being a member of at least one online community.

In 1995, 11.5 percent, and in 2000, 13.8 percent, of users who responded to the question had established friendships via the Internet. Those reporting a higher number of Internet friends in 1995 were more likely to have met at least one of them. In 1995 17 percent of users who responded to the question reported that they had met face-to-face at least one person they had first encountered online (not necessarily one of those online friends), and in 2000 10.1 percent of users did so. There were only weak or in most cases non-existent statistical relationships of this Internet-based friendship formation with demographic variables, traditional forms of interaction, or personality attributes.

Summary

This chapter summarizes some of the major results from one of the earliest and most comprehensive survey approaches to:

- understand the societal and individual consequences of the Internet;
- consider issues of awareness and dropouts; and
- study the Internet in a way that compares users to non-users and that also controls statistically for their demographic differences.

Concerning access, on all the dimensions considered here – gender, age, household income, education, and race – the digital divide is shrinking. Nevertheless, all the differences within the demographic variables, based on the years of the survey, were significant. Further, for some dimensions of the digital divide there is still a long way to go before the digital divide disappears. Public policy initiatives aimed at extending Internet usage could most usefully focus on low income families, the elderly and African-Americans. The inequities of awareness and use will become increasingly urgent as more job-related services (postings of job opportunities, training), government functions and public service information (health, education, insurance, financial support) become available via the Internet.

Concerning community and political involvement, the results show that Internet users were more likely than non-users to engage in additional political activity in the 1996 general election, including voting, controlling for demographic differences, and the Internet provided a platform for a significant amount of additional forms of political activity. Users tend to communicate with others through other media (especially telephone) more than do non-users, meet more with their friends, and interact more with others in general, although in a more widely dispersed physical environment. Users were more likely to work, have children and own their home, than were non-users, but had lived in their homes for fewer years. Users experienced greater overload (in 1995) but also greater satisfaction with their communication (in 2000).

Finally, concerning new forms of social interaction, somewhat more than one in ten of users have become friends with others online, have met a notable percentage of them, and belong to online communities.

Our conclusions do not in the main support arguments about pervasive negative or paradoxical effects of the Internet, certainly with respect to involvement or expression, and to some aspects of access, which have generally been based on case studies and samples that were neither random nor representative. Rather, the findings support perspectives maintaining that this new social technology has substantial benefits to society. Let us be clear, however: our survey results do *not* conclude that there are *no* negative aspects or consequences of the Internet. However, the nature of survey research precludes studying particular kinds of negative consequences or detailed aspects of especially damaging, pathological, criminal, or chronic uses. Nonetheless, we find that Internet usage (1) is becoming more equally accessible and widely used, (2) is associated with increased community and political involvement, and (3) is associated with significant and increased online and offline social interactions. Hence, we view the Internet as an important and multiplicative social capital resource for US society.

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