How does the Internet Affect Social Capital[1]

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Forthcoming in Marleen Huysman and Volker Wulf, (Eds.). *IT and Social Capital*.
Draft 4: Tuesday, November 12, 2002

The Impact of the Internet on Social Capital

Two trends intersect in this article. One is the dramatic increase in Internet use since the 1990s, affecting the way people live, work, and play in the developed world. Approximately 60 percent of North American adult households are online, with growing percentages in other countries (Howard, Rainie, & Jones, 2002; Reddick, Boucher, & Groseillers, 2000). For a large proportion of the population of Internet users, Internet access is a daily activity, with more than half of Internet users reporting having been online "yesterday" (Howard et al., 2002).

The second trend is the emergence of "social capital" as a useful conceptual tool to examine the vitality of a neighborhood, a city, or a country (Putnam, 1993, 1996, 2000). Although users of the concept sometimes lack conceptual clarity (Fischer, 2001), thinking in terms of social capital allows researchers and policy makers to evaluate a number of core dimensions, such as public and private community, and civic engagement. There are two complementary uses of the "social capital" concept:

1. *Social contact*: Interpersonal communication patterns, including visits, encounters, phone calls, and social events.

2. *Civic engagement*: The degree to which people become involved in their community, both actively and passively, including such political and organizational activities as political rallies, book, and sports clubs.

This paper is about the intersection of these two trends: How the rise of Internet use affects social capital. We situate the discussion in an ongoing debate about the possible recent decline in Americans' social capital. Robert Putnam uses a variety of survey data as evidence of declining civic and social participation (1996; 2000; see also Norris, 2001). He argues that intertwined with this declining civic involvement is a decline in collective social activities, from family dinners to participating in clubs. Yet Fischer (2001) claims there are two main problems with Putnam's interpretation. First, the decrease in social capital is not constant across all measures of social capital. Although most indicators of political involvement show a consistent decline, indicators of

socializing and visiting are inconsistent. This inconsistency across measures questions the validity and reliability of the construct. The second problem is related to how to interpret the amount of decrease that is occurring. Putnam sees the decrease as substantial while Fischer argues that it is often negligible or short-term.

The Putnam-Fischer debate is a continuation of a 150-year long tradition in the social sciences to see if community is declining or flourishing since the Industrial Revolution (reviewed in Wellman & Leighton, 1979; Wellman, 1999). Analysts contrast contemporary community life with pre-industrialized communities, composed mainly of locally-based interactions in closely-bounded, homogenous groups. Although there were few opportunities for travel, people visited, provided social support, and were concerned with the well-being of their community. People in group-based societies deal principally with fellow members of the few groups to which they belong: at home, in the neighborhood, at work, or in voluntary organizations.

Has this traditional, pastoral community life been lost in modern times? One school of thought sees industrialization – accompanied by such other large-scale social changes as urbanization and bureaucratization – at the root cause of the decline, pointing to long work hours, regimented organization, urban sprawl that creates isolation, and a general lack of public spaces. Costa and Kahn (2001) attribute the decline in entertaining at home to women's increasing work hours. Moreover, new modes of transportation and communication have emerged supporting distant interactions that remove people from their immediate vicinities and ultimately, creating sparsely-knit communities. With industrialization also came increased participation in more individualistic activities, such as watching television (Putnam, 2000).

Counter to the community lost view, advocates of the community liberated view argue that community life is not lost but has gone through radical transformations. Analysts in the 1960's began realizing that communities were flourishing outside of neighborhoods (Guest & Wierzbicki, 1999; Wellman, 2001; Wuthnow, 1991, 1998). Their research shows that people continue to socialize but that few immediate neighbors are known and community has moved from local involvement to interactions with geographically dispersed friends and kin (Fischer, 1982; Wellman 1979, 1999a, 1999b). Face-to-face visits are still the predominant means of communication, but the telephone also occupies a central role, particularly for distant communication (Wellman & Wortley, 1990; Wellman & Tindall, 1993).

The changes in how people socialize have created a need to develop new models for conceptualizing and, hence, measuring community. Considering that socializing occurs beyond the boundaries of the local neighborhood, useful approaches define community not in terms of locality, but as social networks of interpersonal ties that provide sociability, support, information, a sense of belonging, and social identity (Wellman, 2001; Wellman, Carrington, & Hall, 1988). By examining people's social relationships, independent of narrowly-defined boundaries based on location, researchers have discovered that many people live in long-distance communities (Wellman & Wortley, 1990). Thus, this evidence suggests that industrialization did not destroy community, but helped transform its composition, practices, attitudes, and communication patterns.

These transformations in the expression of community are related to the development and use of technologies. Transportation technologies have been especially relevant for the development of unbounded, long-distance communities. The car, the train, and the plane, have allowed people to mobilize easily and quickly from one place to another (Wellman, 1999). Innovations in telecommunications, such as the telegraph and telephone have also radically changed how people communicate. The telephone, especially, facilitated relationships among people who were geographically dispersed, and it allowed people who were located near to each other to communicate conveniently and coordinate visits easily.

The latest technological innovation, the Internet, is affecting how people communicate, work, and use their leisure. The evidence suggests that the Internet has blended into the rhythms of every day life and is used for a wide variety of purposes, such as surfing for information, playing online games, and chatting (Howard, et al., 2002; Quan-Haase & Wellman, 2002). Moreover, a large proportion of people report using the Internet for making important life decisions (Howard, et al., 2002).

There are a number of different ways in which the effects of the Internet on social capital can be conceptualized. In general, three different approaches can be identified:

1. ***The Internet transforms social capital***: The Internet provides the means for inexpensive and convenient communication with far-flung communities of shared interest (Barlow, 1995; Wellman 2001b). Coupled with the Internet's low costs and often-asynchronous nature, this leads to a major transformation in social contact and civic involvement away from local and group-based solidarities and towards more spatially-dispersed and sparsely-knit interest-based social networks.

2. ***The Internet diminishes social capital***: The Internet through its entertainment and information capabilities draws people away from family and friends. Further, by facilitating global communication and involvement, it reduces interest in the local community and its politics (Nie, 2001; Nie, Hillygus, & Erbring, 2002).

3. ***The Internet supplements social capital***: The Internet blends into people's life. It is another means of communication to facilitate existing social relationships and follow patterns of civic engagement and socialization. People use the Internet to maintain existing social contacts by adding electronic contact to telephone and face-to-face contact. Further, they often continue their hobbies and political interests online. This suggests that the Internet helps increase existing patterns of social contact and civic involvement (Quan-Haase & Wellman, 2002; Chen, Boase, & Wellman, 2002).

We focus our discussion here principally on the relationship of Internet use to social contact. We draw from previous research done by our *NetLab,* especially data from "Survey 2000," hosted at the website of National Geographic Society. Our discussion

focuses on the North American sample, which consists of 20,075 adults: 17,711 Americans (88 percent) and 2,364 Canadians (12 percent).[2] We also discuss results from similar surveys: the Pew Internet and Everyday Life Project (Howard et al., 2002), Projecte Internet Catalunya (Castells, Wellman, Tubella, Diaz de Isla, & Wellman, 2002; Wellman, 2002b), and other studies (mainly collected in Wellman & Haythornthwaite 2002; see also Kraut, et al. 2002).

Does the Internet Transform Social Capital?

Many analysts see the Internet as stimulating positive change in people's lives because of its rapid diffusion to all strata of the population, its diminishing costs for getting online, its ease of use, and its variety of information and communication tools (De Kerckhove, 1997; Jones, 1998; Lévy, 1997). They foresee a digital revolution restoring a sense of community by connecting friends and kin near and far, providing information resources on a wide variety of topics and engaging various groups in political and organizational participation. They hope that the digital realm will lead to new forms of community by providing a meeting space for people with common interests, overcoming limitations of space and time (Hiltz & Turoff, 1993; Baym, 1997; Jones, 1998; Wellman, 2001). They expect online communities to flourish because people could chose communities of shared interests regardless of their physical location. The unique characteristics of digital, textual communication, and its cue-reduced nature would have democratizing and equalizing effects by de-emphasizing the salience of such characteristics as race, age, and socioeconomic status (Sproull & Kiesler, 1991). Electronic Frontier Foundation co-founder John Perry Barlow sums up this spirit nicely:

> We are in the middle of the most transforming technological event since the capture of fire. I used to think that it was just the biggest thing since Gutenberg, but now I think you have to go back farther. (Barlow, et al., 1995, p. 36).

Some evidence supports the community-multiplying nature of the Internet. Many users of the Internet participate in online communities, such as "listserves" and newsgroups. The Pew studies report that 84 percent of American Internet users have been members in an online community (Horrigan, 2002). In the Survey 2000 study, 76 percent of North American users report having participated in an online community, such as newsgroups, listserves, and other group emails. Within the population of members of online communities, 37 percent receive or send messages on a daily basis to "listserve" discussion groups or "Usenet newsgroups". Forty four percent of the sample reports participating in listserves at least once a week, while only 14 percent of the sample reports participating in newsgroups at least once a week (see Table 1).

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[2] For details on the study and previous publications see (Quan-Haase & Wellman, 2002; Wellman & Quan-Haase, 2001). "Survey2000" is available at http://survey2000.nationalgeographic.com. Supplementary tables are available at www.chass.utoronto.ca/~wellman/publications. For other descriptions of these data, Witte, Amoroso, & Howard (2000); and Chmielewski and Wellman (1999).

Table 1.　　　　　Participation in Online Communities (Survey 2000).

	Listserves and Other Group Emails (Percentage)	Newsgroups (Percentage)
Never	28	57
Rarely	23	23
About monthly	6	5
About weekly	8	4
A few times a week	9	5
Daily	26	5
Total	100	99

People seek out those who share similar interests with mailing lists and newsgroups providing the means to connect on a regular basis to these groups. Most members of online communities report participating in ones related to trade associations (50 percent of respondents) or to shared interest groups (50 percent), followed by sports fan clubs (31 percent) and television fan clubs (29 percent; Horrigan, 2002). For example, fans of soap operas discuss their favorite shows online creating a common understanding and reinterpretation of the events occurring on the shows (Baym, 1997).

Such high levels of participation in online communities suggest that the Internet has become an alternative route to being involved in groups and pursuing interests. Therefore, Putnam's (2000) observed decline in organizational participation may not reflect actual disengagement from community but rather community becoming embedded in digital networks rather than in traditional, geographically bounded groups; in short, a movement of community participation from public spaces to cyber space (see the related discussions in Lin, 2001; Wellman, 1999, 2001). Moreover, the positive relationship of the amount of time spent on the Internet with feelings of community online suggests that online participation may intensify reciprocity and trust (Quan-Haase and Wellman, 2002). Similarly, a Pew study shows that half of those who belong to online communities say that the Internet provides them with an alternative means to connect with people who share their interests (Horrigan, 2002). Thus the Internet not only provides a new sphere of communication, it also helps in *establishing* new social relationships. These social relationships are often continued offline creating a mix of online and offline interactions (e.g., Müller, 1999; Rheingold, 2000).

The Internet promises to create a global village consisting of sparsely-knit communities by removing space constraints and allowing for far-flung interactions. This trend is enhanced by the large diffusion of email as a communication technology. In Survey 2000, North American users report exchanging emails more than 5 times per

week with 68 percent checking their email on a daily basis. Clearly, email is a useful technology for communicating with friends and kin. Survey 2000 respondents use email for 24 percent of their near-by contacts (within 50 kilometers) and for 49 percent of their more distant contacts. This suggests that email is especially useful for keeping in touch with those who are far away because of low costs, which do not increase with distance. Email is also asynchronous, making it easy to contact people living in other time zones (Howard et al., 2002; Quan-Haase & Wellman, 2002). Yet, the bulk of contact – email and phone as well as face-to-face – remains relatively local.

Although dystopians fear that the Internet will lead people away from their local communities, the evidence suggests that the Internet also supports local community interests. For example, the Pew study reports that 29 percent of members of online communities take part in a local community group via the Internet, providing information about local activities, issues, and debates. The study reports that such participation does more for fostering civic involvement than it does for social contact (Horrigan, 2001). However, evidence for the Internet fostering increased social contact comes from an ethnographic study of a new residential area ("Netville") that was wired with very high speed Internet access. In Netville, people with access to the high-speed Internet (and the accompanying listserve) socialized more frequently with their neighbors (Hampton & Wellman, 1999, 2002). Those with access not only knew more neighbors locally, but also used the Internet to keep in contact with friends and kin at a distance. Wired residents therefore, became "glocalized": involved in both local and long-distance relationships. The Internet not only helped people to meet and exchange messages regarding the residential area, it was also used as a tool to organize and mobilize. Thus, in Netville, the Internet managed to combine far-flung connectivity with local interests.

Does The Internet Diminish Social Capital?

Not all Internet activity is social. Much is web-oriented, seeking information or engaging in solitary recreations (Wellman, et al., 2001). Moreover, social contact online can be immersive, drawing people away from face-to-face and phone contact. Indeed, when people with one telephone line use dial-up modems to be on the Internet, they cannot send or receive telephone calls. There is some empirical evidence for these suppositions. One longitudinal study found that as newcomers used the Internet more, their social contact offline decreased and their depression and loneliness increased (Kraut, et al., 1998). However, with more experience, the Internet was associated with an increased number of weak and online ties, but a simultaneously decrease in stronger and offline ties (LaRose, Eastin, & Gregg, 2001; Kraut, et al., 2002).

Is local community more adversely affected? If the Internet allows for easy access to online communities that span the globe, what consequences does this have for family ties and local interactions? The high level of global connectivity may have a downside, especially for local interactions and family ties. Even those activities that are social can lead to domestic conflict. For example, Survey 2000 data shows a positive association between the time a person has been online and the amount of email he/she sends and receives (Quan-Haase & Wellman, 2002; see also Howard, Rainie, & Jones, 2002; Kavanaugh, & Patterson, 2002). The data show that people are maintaining far-flung as well as local relationships. Maintaining many far reaching ties may result in less time for

interactions with household members. Moreover, if people are spending more time online, public spaces become less relevant for interaction and socializing.

To date, such suppositions are more deductive than supported by evidence. Two informal studies done with Wellman's students (in 1999 and 2002) show a preponderance of local emails. But these are students, not a broadly representative sample. Further data is supplied by Survey 2000, in which daily email users report that 58 percent of their contact with friends and 83 percent of their contact with kin are with those living within 50 kilometers: within a one hour drive in most developed areas (Quan-Haase & Wellman, 2002).

Is the Internet failing to support a "global village" (McLuhan, 1962)? It depends on how you look at it. Although local connectivity remains high, it is still a lower percentage of contacts than was the case prior to the coming of the Internet (Wellman, 1996). The Internet may be differentially fostering contact with acquaintances, thereby tilting the balance between such weak ties and stronger ties. Yet, weak ties have their own value, in providing new information and access to disparate networks.

The Internet may compete for time with other activities in an inelastic 24-hour day. There are discrepant findings about whether online time sinks do or do not pull people away from other interactions inside and outside the household (Nie & Erbring, 2000; Nie et al., 2002). The Internet can draw people's attention away from their immediate physical environment because when they are online, they pay less attention to their physical and social surroundings (Nie & Sackman, 1970). As the number of activities performed on the Internet increases and the amount of time spent on these activities also increases, there is a risk of the Internet reducing time spent in face-to-face contact with family and friends. For example, some evidence from research on children's heavy involvement with online games shows that it can reduce family ties and children's socializing.

Some scholars see a parallel between the effects of television and the Internet (Putnam, 2000; Steiner, 1963). Both technologies draw people away from their immediate environments, potentially alienating them from social interactions and civic engagement. However, broadcast television is not a good analogue to the socially interactive Internet because it is much less individually immersive, and engages viewers much more passively than the Internet.

The Internet Supplement Social Capital

What if the Internet has neither radically transformed the nature of community nor markedly diminished it? Evidence is accumulating showing that the Internet adds on to existing patterns of communication, "used in a manner similar to other, more traditional technologies" (Flanagan & Metzger, 2001, p. 153). It is an important, but not dominant, means of communication for contact with friends and relatives. Email, chat and other communication capabilities supplement social contact by helping people to organize meetings and social events as well as filling communication gaps (Wellman & Haythornthwaite, 2002).

For example, email is an important medium to keep in touch with friends and relatives but as the amount of email send and received increases, interactions and phone

calls do not decrease (Howard et al., 2002; Quan-Haase & Wellman, 2002). Email appears to support existing social contact, but does not substitute for phone and face-to-face communication. Our Survey 2000 study shows that most contact is over the phone (41 percent), by email (32 percent), and in face-to-face encounters (23 percent), with a small amount (4 percent) of postal letter writing and greeting cards (Table 2). Those with low social contact over the phone and face-to-face also email less. Similarly, people who visit and phone frequently also email frequently. Thus, the capabilities of the Internet add on to interactions with other media. The stronger the relationship the more media are used and the more types of information are exchanged (Haythornthwaite & Wellman, 1998).

Table 2.   Social contact with friends and kin, near and far.

	Phone	*F2F*	*Email*	*Letters*
	(Days/year)	(Days/year)	(Days/year)	(Days/year)
Friends Near	126	92	118	9
Kin Near	114	58	49	7
Friends Far	25	10	85	8
Kin Far	43	10	72	10

Nor does the way the Internet fits into people's lives always follow the email-heavy North American model. In 2002, the Open University of Catalonia surveyed 3,005 adult residents of this autonomous region of Spain, of whom 1.039 (35 percent) were using the Internet.[3] The study shows that Catalan networks are more local than their North American counterparts. Nearly two-thirds (64 percent) of Catalan network members live within the same municipality. These 13.5 local network members consist of an average of 0.8 parents (including those living in the same house), 4.5 other kin, 5.5 friends, and 2.7 neighbors. Personal encounters are the predominant mode of communication, especially among the great majority of network members who live within the same municipality or elsewhere in Catalonia. Telephoning is of secondary importance. The Internet is hardly ever used except to communicate with those few friends who live in other countries (Castells, et al., 2002). There is a contrast on the other side of the globe: The residents of Hong Kong use the Internet even more than Americans for socializing (Chau, 2002).

In short, the Internet has joined the telephone and face-to-face contact as a main means of communication, one that can be more convenient and affordable. [4] Although

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[3] Manuel Castells and Imma Tubella (Open University) led the entire study, with Barry Wellman doing analysis of this section in cooperation with Isabel Diaz de Isla. For details, see http://www.uoc.edu/in3/pic/esp/1/1/1.html

[4] The Survey 2000 study and others (Wellman, 1979; Wellman & Leighton, 1979) show that other than ritual greeting cards, people rarely send letters through the traditional post anymore, even as the Internet itself boosts the sheer volume of written communication. It would be interesting to compare the effects of the Internet to that of the introduction of the telephone as a complement to and replacement for face-to-face

face-to-face and telephone contact continue, they are complemented by the Internet's ease in connecting geographically dispersed people and organizations bonded by shared interests.

In the population as a whole, the Internet also does not appear to have radically transformed civic involvement in voluntary organizations and politics, although more active groups use it extensively (Kavanaugh, et al., 2002; Norris, 2001; Quan-Haase & Wellman 2002). Survey 2000 shows that people who engage in political and organizational activities tend to use the Internet as much as those who are not engaged. There is no strong statistical association between Internet use and active participation. However, subtler dynamics are at work. The Internet helps and supports the activities of organizations and individuals who are interested in obtaining national and internal news. For those with access, it facilitates accessing news at low costs. However, the Internet's possibilities may not have a widespread mobilizing effect. The hope that the Internet would be especially useful in encouraging many people to join political discussions has not been realized (Norris, 2001).

Considerations in Internet Research

Not only is the Internet an evolving technology that constantly recreates itself, it is also a social technology. There is no simple technological determinism with the Internet driving social trends. The Internet's development also resonates with and responds to social trends. Our analyses of Internet and social capital show that there are a number of challenges that researchers need to take into consideration:

1. *Rapid, unpredictable changes*: The Internet has chameleon-like properties that are constantly changing. The most prominent changes are the large increase in content, the increase in bandwidth, and the ubiquity of access. A second important change has been the commercialization of the Internet. Most large, international companies offer and advertise their products online (Castells, 1996). The composition of Internet users has also changed from users who were predominantly young, White, North American, and male to a more diverse set of users.

2. *Measurement*: The Internet leads to new forms of social capital that cannot be easily captured with existing forms of measurement. Thus, to assess the full impact of the Internet on social capital, researchers need to develop new forms of measurement that complement existing ones.

3. *Effect direction*: Most research is aimed at identifying an effect, regardless of whether the effect is positive or negative. However, our analyses shows that in many cases no directional effect is present because the Internet adds on to existing patterns of communication and engagement.

4. *Target group*: Many of the changes associated with the Internet are specific to a particular user group. For example, women seek health information on the

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and postal communication. For the beginnings of such analyses, see Fischer (1992) and Wellman and Tindall (1993).

Internet three times more frequently than men do (Howard et al., 2002). By contrast, men seek information on stock markets five times more frequently than females do (Howard et al., 2002). Thus, the particulars of a group have to be examined to understand how they are appropriating the Internet and how the Internet fits into their every day routines.

5. *Uses of the Internet*: Not all uses of the Internet are social. Although email is a common use of the Internet, the Internet is also a widespread tool for seeking information. Moreover, not all uses of the Internet are predictable. The Internet may not affect social capital when it is used for one-to-one email purposes, but it might affect it when used for other purposes such as virtual communities. Therefore, analyses will be different when applied to different uses of the Internet.

6. *Changing Uses*: Until about now, there has been an implicit assumption that as the Internet grows up around the world, it will increasingly resemble the North American Internet. That is, email will be a principal use, complemented by web surfing. Yet, with time and research, two things are becoming clear. First, Internet use varies around the world. For example, Catalans use email less frequently than North Americans, and Japanese and Europeans often use short message texting (SMS) instead of email. Second, Internet use is changing within countries. Email attachments of text, photos, audio and even video are becoming more widespread. Wireless connectivity means that people can be reached anywhere, and not just where their desktop computers are wired into the Internet.

Conclusions

The evidence we have gathered suggests that the Internet occupies an important place in everyday life, connecting friends and kin both near and far. In the short run, it is adding on to – rather than transforming or diminishing – social capital. Those who use the Internet the most continue to communicate by phone and face-to-face encounter. Although it helps connect far-flung community, it also connects local community.

We have shown that what makes the communication possibilities of the Internet unique are its capability to support many-to-many information exchanges among geographically dispersed people. Online communities around a wide variety of topics flourish by allowing people to exchange ideas and provide social support (Wellman & Gulia, 1999). The Internet has led to new communication forms with users often using the communication tools in unforeseen ways. For example, the use of short text messages on mobile phones leads to increased social contact because it is often used to arrange face-to-face meetings with close friends (Katz & Aakhus, 2002).

The evidence to date suggests that, like the telephone (Fischer, 1992), the Internet's effects on society will be important but evolutionary, While the Internet's effects on social capital may be less dramatic than the "transformationists" had dreamed of, the effects may be extensive in the long run. The unique features of the Internet will interact with existing social factors creating new, often unexpected, behaviors and changes.

Therefore, an analysis of the impact of the Internet needs to consider that the Internet may be contributing to new forms of interaction and community that cannot be

measured using standard indicators of social capital. The fact that people are not interacting in visible public spaces does not mean that they are in isolation. They may be going online to create new online worlds, using instant messaging to chat with old and new friends, visiting online communities, or playing multi-user games. The Internet makes it necessary to redefine our understanding of what social capital is. We believe that the Internet will intensify the interpersonal transformation from "door-to-door" to "place-to-place" and individualized "person-to-person" networks (Wellman, 2001).

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