Is there a Place in Cyberspace: The Uses and Users of Public Internet Terminals

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The Possible Importance of Place

The Internet presents a paradox of place. On the one hand, it is the principal means by which the "global village" communicates – to use Marshall McLuhan's evocative phrase (1962). Its ability to connect people at the speed of light reduces the importance of spatial distance. As long as people and organizations are on the Internet and as long as the Internet is not clogged with too much traffic, place may no longer matter as much for contact. What matters is the interconnection, not the place (Wellman, 2001).

On the other hand, people do not exist as ethereal creatures. They have to connect to the Internet – and each other – from some*where*. In the great majority of situations, they are physically tethered by wires connecting their personal computer to the Internet. Even when their connection is wireless – a small but a growing minority – at any given moment, they are communicating from a place. They may be sipping a café latté at a Starbucks coffee shop or they be walking through a wireless friendly university campus. Yet, they are somewhere.

Does the place where one communicates matter? It undoubtedly does for many users, as it is a quite different matter to be on the Internet at work than it is at home. Whereas organizations generally want their employees to use the Internet for productive purposes, family members may resent the Internet's alienation of affections away from domestic communication and bliss (Nie, 2002). It is quite possible that how one uses the Internet varies with where one uses it from.

The place where people use the Internet also affects who will be online and with what sorts of facilities. For one thing, high-speed (broadband) Internet connections are differentially distributed. Developed countries have more high-speed connections, as do affluent, technology-intensive organizations. Even residential use is differentially distributed. Rich and urban localities are more apt to have broadband access available than are poor and rural localities. Moreover, pubic access points are apt to be differentially distributed: in richer schools, at universities, in cybercafes clustered near transient points, in small stores with a few computers (Fernandez-Maldonado, 2002), and in non-governmental organizations reaching out to get the poor online (Gurstein, 2000; Keeble and Loader, 2001). Nor are these marginal operations: an estimated 75% of Peruvians use *cabinas publicas de Internet* to access the Internet.[1]

We concentrate on public users here. Such users usually do not have their own computer available to them when they need to communicate. Hence, we suspect that they

[1] Ana Maria Fernandez-Maldonado: private communication, October 2002.

are more apt than other users to be poor or transient. At the start of our research, this was just a supposition. Fortunately, we have data available from a large international survey of Internet users that allows us to make some comparisons between those who access the Internet from public terminals and those who access it from work, school and home.

We use data from the National Geographic Survey 2000 to examine the users and uses of such public terminals (see also Chen, Boase and Wellman, 2002; Quan-Haase and Wellman, 2002; Witte, Amoroso and Howard, 2000). The diverse range of information available in this survey allows us to consider many characteristics of public terminal users, including demographic characteristics, national groupings, types of Internet use, and different kinds of social contact. We also investigate the ways that survey respondents use the Internet instrumentally and recreationally. Our concern with the social implications of these terminals also extends our analysis to include ways in which survey respondents use public computing for social purposes. We also examine ways that Internet use fosters an online and offline sense of community.

When using the term "public terminals" we include Internet terminals that are located in community centers, public libraries, cyber café and other places. During the fall of 1998, many of the respondents who used public terminals were likely using cyber cafés. Nevertheless, some users may have been using public terminals in other locations, which were likely government subsidized. While the term "public terminal" does not specify whether users are accessing at a free public terminal or a cyber café, the category does allow for some equivalence among users. People using free public terminals are similar to those who pay to use cyber cafés, insofar as they are not accessing the Internet from a location that is as fixed and as stable as the home or the workplace. To make it simple and clear, we primarily focus on the comparison of public terminal users between users at home, workplace, and school. Analysis will tease out how they differ from those accessing the net from home, work and school.

Who Uses Public Terminals?

The research literature tells us that public terminal users come from diverse backgrounds, in terms of their gender, age, and educational achievement. Public terminals are most popular with students, those traveling on business, tourists, and low-income earners (Rao, 2002). Given this information, some questions that come to our mind are:

- To what extent are particular kinds of users taking advantage of public terminals and for what purposes?
- Do disadvantaged people such as the elderly, those with low education, low income, and those from developing countries actually take advantage of the quick and relatively inexpensive services offered by public terminals?
- Alternatively, do public terminals appeal to those who already have Internet access at home, work and school? These users tend to be of relative high socioeconomic status.
- Perhaps those with a high amount of resources are most likely to use public terminals while in transit, to maintain their high levels of connection.

Before we address these questions using our own data, we briefly summarize the findings of previous research.

Gender: During September 2001 the U.S. Census Bureau surveyed 137,000 respondents and found almost identical amounts of Internet use the among both men and women (Evans, 2002). Although Internet access is fairly even in United States and in Canada, women tend to be light Internet users while men tend to spend more time online (Kraut, 1996; Reddick, Boucher & Groseillers, 2000; Witte, et al., 2000). Men and women may also experience the Internet in different ways. An American survey of 630 undergraduate students found that women report more computer anxiety, less computer efficacy and less favorable attitudes towards computers (Jackson, 2001).

Unequal access to the Internet is far more prevalent outside of Canada and the United States. An international comparison using findings from the National Geographic Survey 2000 (the same data set used here) indicates that 34% of women in OECD countries other than the United States and Canada and 37% of women in Non-OECD countries have access to the Internet. (Chen, Boase and Wellman, 2002

Age and Life Cycle*:* Americans are least likely to access the Internet if they are either very old or very young (NTIA, 2000). Children 3 to 8 years of age have an access rate of only 15%, and adults older than 50 have an access rate of 30%. These are the only two groups below the national average. Adolescents are much more likely than younger children to use the Internet; indeed they are among its heaviest users. This heavy adolescent use means that a majority of American children between the ages of 5 and 17 are regularly using computers (Williams and Alkalimat, 2002).

The elderly are less likely to use computers than adolescents or younger adults. A survey of 1,900 individuals by the Consumer Federation of America shows that the elderly who are least likely to have Internet access at home (Cooper, 2000).

There are also international differences in the age of use. Survey 2000 shows that those from Canada and the United States are about 5 years older than those from other countries (Chen, Boase and Wellman., 2002). The mean age of such North American respondents is 38 years old, while the mean age in Other OECD countries, and in Non-OECD countries is 33.

Employment*:* People with high income are more likely to have Internet access as compared with those with lower income. Fortunately, the number of low-income earners who are gaining Internet access is increasing. In the U.S., the number of low-income earners with Internet at home grew by 25% between December 1998 and September 2001 (Evans, 2002). By contrast, the number of high-income earners that accessed the Internet from home grew by only 11% during that time. Another survey of 40,000 American households found a steady increase in access rates among low-income earners (Smolenski, 2000).

People of different incomes tend to access the Internet from different places. There is some evidence that few high-income earners use public terminals that are located in libraries, although such terminals are used by middle-income earners. A 1999 study of California libraries found that a majority of users were local small business people, and

workers for local governments organizations. The most actively used library terminals were located in low-income communities (Bertot, McClure, Ryan, 1999).

Income also affects the amount of time that people spend online at home. Although low-income earners are less likely to have internet access at home, those who have access at home also tend to spend more time surfing the web at home. Part of the reason is that higher income earners spend more time using the Internet at work than do low income earners (Grenier, 2000).

Is It All Just Fun and Games? Instrumental and Recreational Activities on Public Access Terminals

Are public terminals really the next generation of video arcades? Or, are they important places where people access important resources and carry out activities that can improve their position in society?

Instrumental Internet Use: There are at least two reasons that people might use public terminals primarily for instrumental purposes. First, because patrons are required to travel to public terminal sites, and often must pay to use them, they may be more likely to make goal-oriented use of their time. At least one case study supports this: Telecenters in Sweden are used in instrumental ways, including job hunting, calculating taxes, contacting authorities via email, and downloading forms (Projekt Medborgarterminal, 2002). By contrast, those who have easy access to the Internet at home may be more likely to surf the Internet for fun, since they can log on and play a quick game while dinner is cooking.

Second, "road warriors" may be using public terminals mostly for instrumental purposes, connecting with work associates and taking care of unfinished business. Such road warriors need ubiquitous and instantaneous contact to stay connected with work and family during their many days away from their home bases. (Dholakia, et al., 2001).

Recreational Internet Use: There are also reasons to believe that public terminals may be used more for recreational Internet use. Some evidence and media reports suggest that public terminal patrons may actually be using the Internet more for playing online multi-user games (for example see USA Today, 2002; Laegran, 2002). This gaming culture might even be thought of as a new kind of youth counter culture where the public terminal becomes the next evolution of the video arcade. As with past gaming centers, public terminals may be conducive to adolescent males who have less active lifestyles. In Hong Kong, the lifestyle of younger adolescents affects whether or not they use the Internet for recreation or instrumental purposes. Those boys with a sedentary lifestyle are more likely to play games, while more active boys will do instrumental jobs such as doing homework or communicating with others (Ho, 2001).

Do Public Access Terminals Enhance Community Life? Connecting with others is an important kind of use that is not easily captured in the simple dichotomy of recreational vs. instrumental. The extent to which public terminals are actually used to connect with friends and family is not well known. Although public terminal sites do

provide an environment for people to meet both online and offline, they may do little to enhance social interaction.

It is possible that public terminal sites provide environments where friends can meet face-to-face, or online. People who do not own computers have an environment in which they may meet with familiar habitués face-to-face, and at the same time maintain contact with others through email, chat rooms and instant messaging (Laegran, 2002). This might resemble an environment that revitalizes the kind of public sphere that occurred in eighteenth century European coffeehouses (Habermas, 1962; Roche, 1981; Nunes, 1999). This kind of contact might foster a sense of community and increase the total amount of emotional and instrumental support available to users.

The administrators of some public terminals bridge a number of different individuals and groups in their special locale (Liff, 2000). These bridges also inform the administrators about the needs of their users, which help them to tailor their services to the needs of a local community. If this turned out to be a common practice, public terminals might increase social inclusion and community building.

The Data

The *National Geographic* magazine and society publicized Survey 2000 worldwide and featured it on their popular website, September to November 1998. Visitors to the site were encouraged to answer the survey on the spot. The survey collected data from Internet users in 178 countries about activities they carried out both online and off-line.[2] Twenty thousand (20,282) adults (18+ years) completed all the questions that are of interest to us. The web-based data collection method for Survey 2000 was innovative, convenient, cost-effective, wide ranging, and produced a large sample. However, as the survey was not based on random sampling, it constrains our ability to generalize reliably about the characteristics of Internet users around the world. Indeed, as 85% of the respondents who mainly use public terminals are Americans and Canadians, our overall findings essentially reflect the situations of these North Americans. Moreover, as the *National Geographic* appeals to a literate, family-oriented readership, it is probable that the survey over-sampled well educated and financially comfortable respondents.

Respondents to Survey 2000 were asked to indicate the location from which they completed their online questionnaire. As they spent a mean of 40 minutes completing the online questionnaire, we consider the place where they completed the survey to be their primary location for accessing the Internet: home (63%), workplace (29%), school (5%), and public terminals (3%). Despite the low percentage of public-place users, the large sample size of Survey 2000 means that 622 respondents were using public terminals.

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[2] Details of Survey 2000 are at http://survey2000.nationalgeographic.com. Witte, Amoroso & Howard (2000) discuss the development and administration of the survey. See Quan-Haase and Wellman (2002) for more detailed analyses of the North American data obtained from this survey. Also see Chen, Boase and Wellman (2002) for an international comparison using the same data. Although the magazine itself is published in many languages, Survey 2000 was only available in English. Data from the newer, multilingual Survey 2001 are not yet available, although Survey 2001 itself is available at http://survey2001.nationalgeographic.com/ngm/servlet/Page1.

We examine in this paper the relation between the place of the Internet access and the characteristics of Internet users and uses. We first report descriptive statistics that provide a social and demographic profile of Internet users at different places of access. Second, we use logistic regression to investigate which social and individual characteristics are associated with where people use the Internet. Third, we use multiple regression to see if place is associated with how people use the Internet. We wonder if the place of Internet access is associated with how the Internet is used when we control for other phenomena such as gender, age, language spoken at home, education, marital status, household size, employment status, use of more conventional media (e.g. newspapers/ magazines, and television), and countries?

Based on their relation to the Internet centrality and levels of economic development, we group countries into the three categories we have earlier used in our paper on the users and uses of the Internet: North America, Other OECD countries, and Non-OECD countries (Chen, Boase & Wellman, 2002). North America has been the prime source of Internet technology and use, to capture the effects of early adoption. We limit our operationalization of "North America" to the United States and Canada because of Mexico's lower Internet involvement and economic development. To explore the importance of economic development on Internet use and access, membership in the Organization for Economic Cooperation and Development (OECD) is a useful indicator to distinguish developed countries from developing ones. The economically developed countries that are members of the OECD are classified into one group, excluding the U.S and Canada. All other countries are grouped into the category of Non-OECD countries.

The Social and Demographic Characteristics of Internet Users by Place of Access

Findings from Survey 2000 (Table 1) suggest that users accessing the Internet from public terminals have a somewhat different profile from users at home, work, and schools.

>>> Table 1 about here: Social Profile by Place of Access<<<

Country of Access: The distribution of nationalities among public terminal users reflects the global digital divide between North America, Other OECD countries, and Non-OECD countries. In general, users depend more on public terminals and workplace access outside of North America – the prime source of Internet technology and use. Nevertheless, three quarters (76%) of public terminal users are from either the U.S. or Canada, while 16% of them are from Other OECD countries and 8% from Non-OECD countries. Hence, our findings generally reflect the characteristics and experiences of North Americans.

Gender*:* About half (31%) of public terminal users are women (51%). There are slightly lower percentages of female users at work (45%), home (47%) and school (49%). If these gender differences prove to be true in the general, public terminals may help narrow the gender gap among Internet users. The slightly higher percentage of women accessing the Internet from public terminals counters the image of public terminals as dens of adolescent boys. On the other hand, such boys are active users of public terminals

in many countries that are not well represented in our data. They enjoy the excitement and rapport of playing Internet games in social settings (Kim, 2002).

Age: Public terminal users are the second youngest with a mean age of 34 years old. School users, of course, are the youngest (mean age = 24), while home users are the oldest age group (mean age = 39).

Marital Status: Public terminal users are the second most likely to be single after school users. Almost 60% of them are single, as compared with 34% of home users and 41% of workplace users. Not surprisingly, the great majority (81%) of those using the Internet at school are single.

Education: Public access terminals attract people with a variety of educational attainment. More than half of the public terminal users have a university degree (58%), the second highest percentage after workplace respondents (73%). By contrast, 53% of home users, and 30% of school users have university degrees.

Employment: The distribution of employment status among users at the workplace and at schools is consistently concentrated in straightforward ways: fulltime workers at workplaces and students at school. Except for school, where 94% of users are students, public terminal users have the highest concentration of students (25%). However, public terminal users are more likely to be unemployed (14%) than home (11%), school (0.8%), and of course, workplace users (0.1%).

Traditional Media Use: There are no substantial differences in reading printed media. More than 80% of users in all four places of access report reading newspapers and magazines, not surprising given the orientation of this sample to the *National Geographic* magazine. However, public terminal users are the least likely to say they are frequent TV watchers (61%) as compared to school (64%), home (67%), and work (68%) users. Perhaps this is because a larger proportion of public terminals users are more mobile.

Newbies: The length of time that a person has used the Internet is associated with their ability to navigating the web effectively (Quan-Haase & Wellman, 2002). Thus, new users tend to have negative experiences, as compared to those with more Internet experiences (Kraut, et al. 2002). We define "newbies" as users with less than 1 year of Internet experience. Public terminal users are the second most likely group to be newbies (21%), slightly less likely than home users (23%), but substantively larger than workplace (21%) and school users (14% respectively). This finding suggests a pattern of Internet diffusion, whereby people first get Internet awareness, free access, and technological support at the workplace and school, then relatively inexpensive access and skills at public terminals. When they feel comfortable with the technology and the cost declines, they might acquire access at home. Hence, public terminals can serve as halfway houses between using the Internet at work and school and owning a home computer with Internet access.

Who Accesses the Internet in Which Place?

Profiling Users at Different Places of Internet Access: Multivariate analysis (Table 2) shows us the association of the characteristics of Internet users with different places of access. The regression coefficients are generally in accord with the simple descriptive statistics just presented (see Table 1 above).

>>> Table 2 about here: Who access Internet from Where<<<

Public Terminal Users: Public users are more likely to be women, in their earlier thirties, single, and university educated. Almost half of them have a full time job. They also tend to have less Internet experience. Public terminals provide disadvantaged groups –such as women, the unemployed, newbies, and those from developing countries –a place to be connected. Public terminal users tend to be young and single, possibly because older and married people are less mobile and have stronger economic motivation to invest in home Internet access. Multivariate regression reveals that employment status is the most strongly associated variable with Internet use in public places (Table 2). The unemployed are the most likely to use public terminal access. Newbies and singles are more likely to access the Internet from public places that web veterans.

Home Users: Both multivariate and simple descriptive statistics show that home users are more likely to be married, middle-aged or elderly, North American, male, and newbies.

Workplace Users: Users outside of North America are more likely to use the Internet at work. Moreover, singles, people aged 18 to 30, and web veterans are more likely to use the Internet at their workplaces. They are the most educated and the most Internet-experienced users. Although simple descriptives show that women are slightly more likely to access the Internet from work than are men, this is not borne out by multivariate regression controlling for other variables.

School Users: The great majority of school users are younger students, and most have not reached marital age. Yet they are Internet veterans: 86% have more than one year of experience. High school students are more likely to access the Internet from school than are college, undergraduates and graduate students.

Keeping in Touch: Does Place of Access Matter?

To understand the relationship of place of access to online social practices, we examine the amount of contact with friends and family by three kinds of media: personal visits, the telephone, and email. We use reported contact within and beyond 50 kilometers, as rough measures of "nearby" and "far-away".

Contact with Kin Within 50 Kilometers: Among all respondents, email (16%) is used less often than face-to-face (33%) and telephone contact (43%) to communicate with nearby kin (see Table 1 above). Public terminal users tend to communicate with nearby kin less through email (9%), than do home (16%), workplace (16%), or school users (11%).

The telephone is the most used medium for contact with nearby kin. The percentages of home and workplace Internet users who call nearby kin at least once a week are 44% and 43% respectively. Except for school Internet users (33%), public terminals users have the lowest percentage of phone conversation with nearby kin at least weekly (39%).

Face-to-face contact is the second most used medium. Similar to the use of telephone, the percentage of public terminal users who visit nearby relatives weekly (31%) is slightly lower than those who use the Internet from their homes (35%) and workplaces (32%), while only 25% of school Internet users visit nearby kin weekly. This might be explained by the lower percentages of public terminal and school Internet users who are single and do not yet have in-laws.

The use of different communication modes to contact nearby kin belies fears that high levels of email contact will replace face-to-face and telephone contact.. In fact, the frequency of email contact is positively correlated with the frequency of both face-to-face contact (r=.31) and telephone contact (r=.38).

The frequency of contacting nearby kin varies with where the Internet is accessed. Public terminal and school users are substantively less likely than home and workplace users to have weekly contact (or more) with nearby kin. This pattern is consistent, regardless of whether people are using email, the telephone, or face-to-face encounters. Hence relatively low contact with kin is a function of the kinds of the young and single people who tend to access the Internet from public and school terminals rather than a function of the public and school context itself.

Contact with Friends Within 50 Kilometers: A much higher percentage of respondents use email to contact nearby friends at least weekly (48%) than the percentage who use it to contact nearby kin (16%). As is the case for nearby relatives, public terminal users are the least likely to email nearby friends (39%). School Internet users report the highest percentage of exchanging weekly emails with nearby friends (56%), followed by workplace users (54%) and home users (45%).

Despite the relatively high percentage of respondents who email nearby friends at least weekly (48%), an even higher percentage (70%) phone at least weekly. Such weekly telephone contact with friends is slightly more common than email contact among public terminal users (74%) and school users (73%) than it is among workplace (71%) and home users (69%).

The percentage of people in at least weekly face-to-face contact with their friends is highest for school users (72%) and public terminal users (67%), and somewhat lower for workplace (60%) and home Internet users (60%).

In short, the telephone > face-to-face > email ordering holds for weekly contact with nearby friends and relatives in all four places of Internet access. Although public terminal users have relatively less frequent email contact with nearby friends, their relatively high frequency of face-to-face encounters means that they have about the same overall rate of contact with nearby friends as those who access the Internet from home, work, or school.

Contact with Kin Beyond 50 Kilometers: Respondents are more likely to email distant kin (more than 50 kilometers) than nearby kin (within 50 kilometers). Similar to the pattern for email contact with nearby kin, public terminal users have the

lowest percentage of emailing far-away kin at least weekly (30%). The percentage of home users having weekly contact with far-away kin is the highest among all users (38%), with the percentages of workplace and school users (35%) in between.

The telephone remains important for users of all four places of Internet access. Public terminal users have the lowest percentage using telephone to communicate with far-away kin (41%). The telephone is used slightly more by workplace Internet users (46%), home users (44%), and school users (43%).

By contrast, only a small percentage of respondents anywhere (3-5%) have weekly face-to-face visits with far-away kin. In short, while home, workplace, and school users have somewhat similar levels of overall contact with far-away kin, public terminal users tend to contact their nearby kin somewhat less often.

Contact with Friends Beyond 50 Kilometers: By contrast to the predominantly phone-based contact with far-away kin, contact with far-away friends is predominantly by email. Two-fifths of the respondents (39%) have at least weekly contact with far-away friends. Email is used much more than telephone (17%) or face-to-face interaction (4%). School Internet users are the most frequent communicators in all three communication modes: email, telephone, or face-to-face. Compared with users at other places, public terminal users are somewhat less likely to use email to contact far-away friends weekly.. However, the percentages of public terminal users who contact faraway friends by telephone or personal visits are similar to those of home and workplace Internet users.

Communicating by Multiple Means: The positive correlations between different types of media reveal that those who frequently use one means of communication also use the others frequently (see also Quan-Haase & Wellman 2002; Chen, Boase & Wellman, 2002; Katz & Aspden, 1997). More frequently connected people use multiple modes of communication to keep in touch with kin and friends, near and far. Thus, email adds substantially to a person's fund of communication: more contact with more people. However, the telephone continues to be the medium most used to contact friends and relatives, except for far-away friends where email contact predominates. Email is used less to contact kin than to friends, suggesting that kinship interaction is more apt than friendship to require the greater social presence of face-to-face or telephone conversation.

Users at different places of access do have significant differences in their frequencies of communication with social ties, especially in terms of email. Public terminal users have the lowest amount of email contact with kin and friends, near and far. This does not mean that public terminal users are cut off from their social networks because they balance this with a greater amount of telephone contact.

Instrumental and Recreational Use of the Internet in Different Places

How are places of accessing the Internet associated with the ways in which people use the Internet? In this section, we discuss two different kinds of Internet activities, drawing on questions from Survey 2000 that asked respondents how often they carry out different types of activity online. Exploratory factor analysis reveals two distinct sets of activities. The first (seven-item) set forms a scale indicating the extent to which respondents carry out different *instrumental activities* on the Internet to obtain information, goods and services. Based on these seven items, the mean amount of instrumental use for all respondents is 16 points, indicating an appreciable level of instrumental use. The second three-item set forms a scale indicating the extent of different *recreational activities* on the Internet.[3] Based on these three items, the mean amount of recreational use for all respondents is only 2 out of a possible 15 points, indicating that few respondents make much recreational use of the Internet (other than web-surfing and email socializing).

Instrumental Use: Public terminal users make the least instrumental use of the Internet. Their mean score for instrumental purposes (13) is lower than those using the Internet at workplaces (17), home (15), and school (15).

Users carry out significantly more instrumental activities at the workplace (scoring 3.9 points higher than public terminals) or at school (scoring 1.7 points higher than public terminals; Table 3, column 1). Home access also brings out more instrumental activities than public terminals access, although this difference is not statistically significant. Several phenomena are associated with instrumental use of the Internet:

- The more that people use the Internet recreationally, the more they use it instrumentally. Active users are active users.
- People who have been on the Internet for at least one year report nearly 4 points more instrumental use than newbies.
- Instrumental use increases with the level of educational attainment. Compared to those with a high school or less degree, those with a postgraduate degree report almost 2 points more instrumental use.
- Men tend to use the Internet more toward instrumental purposes than do women.
- North Americans report significantly more instrumental use than their counterparts from Other OECD and Non-OECD countries.
- There is little variation in these associations according to the place where the Internet is accessed.

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[3] We use principal axis factor analysis with quartimax orthogonal rotation. Each activity item is coded "0, never", "1, rarely" "2, about monthly" "3, about weekly", "4, a few times a week" to "5, daily". The *instrumental activity* items are: sending/ receiving email, participating in mailing lists, using online libraries and other sources of information, taking online courses, online shopping, surfing websites, and participating in Usenet newsgroups. Scores could range from 0 to a maximum of 35 (5x7). The *recreational activity* items are: chatting, collective role-playing ("MUDs," etc.), and playing multi-user online games. Scores could range from 0 to a maximum of 15 (5x3).

- Users at public terminals use the Internet less for instrumental matters than do users at home, workplace, or school.

>>> Table 3 about here: Instrumental Internet Use <<<

Recreational Use: Users who is the Internet from school have the highest amount of recreational use (1.9) followed by home users (1.7), public terminal users (1.4), and workplace users (1.3; see Table 1 above). However, when controlling for socio-demographic characteristics, multiple regression reveals that public terminal users are like home users in have significantly more recreational Internet activities than users at the workplace and school (Table 4). Thus Several phenomena are associated with the recreational use of the Internet:

- Instrumental activity is the most strongly related variable to high recreational use. This again reveals the mutual reinforcement of recreational and instrumental use.
- The better educated the respondents, the less likely they are to use the Internet recreationally. For example, respondents with postgraduate degrees are the lowest recreational users of the Internet, scoring 1 point lower than those who have high school or less education. By contrast, better-educated respondents tend to have more instrumental use of the Internet.
- Younger respondents use the Internet more recreationally. For example, respondents younger than 30 years have the highest amounts of recreational use (0.7 points more compared with those over 65 years old).
- Men, North American users, and newbies have higher levels of recreational use.
- These associations do not vary with the place where the Internet is accessed. Instrumental use of the Internet and educational attainment are the two variables that are most strongly associated with using the Internet recreationally.
- Public terminal users are relatively *high* recreational users and relatively *low* instrumental users of the Internet.

>> Table 4 about here: Recreational Internet Use <<

Sense of Online Community and Connection with Kin

Is the place of using the Internet associated with a person's sense of online community? To answer this question we asked respondents to report if they agreed or disagreed with ten statements about the impact of the Internet on their social life (see Quan-Haase & Wellman, 2002). Exploratory factor analysis of these statements suggested two scales based on distinct sets of items: a six-item online community scale and a two-item online kinship scale. Each item in these scales has Likert-type scoring, with values ranging from 1 (for highly negative responses) to 7.[4]

[4] We use principal axis factor analysis with quartimax orthogonal rotation. Each activity item is coded "0, never", "1, rarely" "2, about monthly" "3, about weekly", "4, a few

Sense of Online Community: The sense of online community scale contains items such as "we feel a sense of community with the people we've met on the Internet" (see Chen, Boase and Wellman, 2002). Scores range from 6 to 42, with a mean of 22 indicating a moderate sense of online community. People who access the Internet at different places tend to have somewhat different sense of online community. Public terminal users have the lowest sense of online community (mean score =20), while home users report the highest sense of online community (23), followed by users who access the Internet at the workplace (22) and at school (21, see Table 1 above).

It is largely the kinds of people who access the Internet at different places – and not the nature of the place itself -- that is associated with different senses of community: Multiple regressions control for confounding effects remove significant differences in the sense of online community among workplace, school and public terminal users (Table 5). Fittingly enough, only home Internet users report a significantly higher sense of community – more than 0.6 points higher than users at other places.

Table 5 about here: Sense of Community Online

We also find that:

- The more frequently people use the Internet, the greater their sense of online community. For instance, a one point mean increase in *instrumental* use among home users is associated with almost a half-point mean increase in sense of online community. By contrast, a one point mean increase in home users' *recreational* use of the Internet is associated with nearly a one point mean increase in sense of online community.
- The sense of online community increases with age. Young adults aged between 18 and 30 years old have the lowest sense of online community.
- The higher the educational attainment, the lower the sense of online community. For example, people who have a high school education score almost 2 points higher on the sense of online community scale than those with a postgraduate degree. This suggests that the Internet can provide a sense of community identity to those with low socioeconomic status.
- Respondents from Non-OECD countries have the strongest sense of online community, followed by respondents from Other OECD countries, with North American respondents last. Non-OECD Internet users score 2.1 points and Other OECD users 1.8 points higher than North American users.

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times a week" to "5, daily". The *instrumental activity* items are: sending/ receiving email, participating in mailing lists, using online libraries and other sources of information, taking online courses, online shopping, surfing websites, and participating in Usenet newsgroups. Scores could range from 0 to a maximum of 35 (5x7). The *recreational activity* items are: chatting, collective role-playing ("MUDs," etc.), and playing multi-user online games. Scores could range from 0 to a maximum of 15 (5x3).

Unlike other findings in this paper, the variables that are associated with a sense of online community in the overall sample are substantially related to the places where people access the Internet. This is the case for gender, age, education, and regional groups. Age and education are not significant associated with a sense of online community for public terminal users. However, the gender gap and the socioeconomic development level of the country are reinforced among public terminal users. For example, male public terminal users report a sense of community that is 2 points higher than their female counterparts

The amount of Internet use is the only regression variable appreciably associated with having a sense of online community that does not vary according to place of access. Whether it is at home, work, school, or public, more Internet use is a associated with a stronger sense of community online, although the association is somewhat weaker among public terminal users.

Sense of Online Connection with Kin: As kinship ties are more apt to survive physical separation (Wellman, 1990; Wellman & Tindall, 1993), the Internet has a special potential for linking kin wherever they live. Our index of the Internet's effect on a sense of online kinship connection consists of two items, each using a 1-7 point Likert scale. The index of online kinship ranges from a minimum of 2 to a maximum of 14 points, with a mean of 8 (see Quan-Haase & Wellman, 2002).

A sense of online connection with kin only varies slightly by place of access. Public terminal users have the lowest sense of online connection with kin (mean = 7), while home users have the strongest sense of connection with kin (8), followed by workplace (8) and school users (7; see Table 6). Compared with public terminal users, those accessing the Internet from home score 0.6 points higher in the online kinship connectivity index, and school Internet users 0.5 points higher. Regardless of place of access:

- The more *instrumental the use* of the Internet, the more positive the sense of online kinship connectivity. A one-point increase in the instrumental use index means a 0.2 point increase in the online kinship index.
- *Older* respondents report a higher sense of online kinship connectivity than younger adults. Respondents older than 65 score 1.4 points higher in the online kinship index than those younger than 30.
- *Women,* historically a family's kin-keepers (Wellman, 1992), report a stronger sense of online kinship connectivity. Women score 0.9 point higher than men in having a positive sense of online kinship.
- North Americans report a 1 point higher sense of online kinship connectivity than respondents from Other OECD countries.
- Higher educational attainment is associated with a stronger sense of online kinship connectivity. For example, those who have a university degree score 0.7 points higher than those with high school or less.

Table 6 about here: Sense of Online Kinship Connectivity

Somewhat different dynamics operate at each place of Internet access. Instrumental use of the Internet, regional location, and gender are significantly associated at all places of access with a sense of online connection to kin. However, age is associated with a sense of kinship connectivity only for home users, and educational attainment only for home and workplace users. Put another way, age and educational attainment have no significant association with a sense of online kinship connectivity among public terminal users and school Internet users.

Summary

Users: 1. Survey 2000 users of public terminals differ from those using the Internet in different places. Public terminal users are somewhat more likely to be women, in their earlier thirties, single, newbies and university educated. Only half of them are employed in full time jobs.

2. Public Internet access disproportionately provides a place for disadvantaged groups to access the Internet. Although the different percentages are not large, to some extent public terminals give disadvantaged groups, such as women, the unemployed, newbies, and those from developing countries, a place to be. Not surprisingly, the variable most strongly associated with the use of public terminals is employment status: The unemployed are most likely to use public terminals. This suggests that public terminal users are not disproportionately high-income road warriors or young gamers. However, there is no indication that those with lower education are more likely to use public terminals, as compared to those with higher levels of education

3. Public terminals help eliminate the gender gap among users since the percentage of women using them is slightly higher than in other places of access.

4. Newbies are more likely to access the Internet from public terminals than are web veterans. Public terminals serve as transitional places that allow non-users to accumulate necessary awareness and navigation skills before they can afford Internet access at home.

5. The places where the Internet is accessed are rooted in the socioeconomic context. Although people in all regional groups have similar overall levels of access to public terminals, North American users are more likely to access the Internet from home, and users from the rest of the world are more likely to access the Internet at workplaces.

Uses: *6.* The place of Internet access is not associated with the general mixture of communication modes. People keep in contact with their relatives and friends at many places through many ways. Wherever they access the Internet, sociable people also use the phone and face-to-face contact to communicate. The general pattern is telephone > email > personal visit. The only exception is the predominant use of email for contacting faraway friends.

7. Users at different places have significantly different frequencies of communication with friends and relatives, especially when using email. Public terminal users have less frequent email contact with kin and friends, near and far, but they close this contact gap through more use of telephone and personal visits. The lower rate of social contact via

public terminals is likely a result of inconveniences encountered in traveling to them and (sometimes) paying to use them.

8. Users who access the Internet at public terminals make less instrumental use than people in other places. In all places of access, higher levels of instrumental use are positively related to higher levels of recreational use, the length of experience using the Internet, and the regional groups. Age and educational attainment are significantly related to instrumental use for all but people who access the Internet from public terminals.

9. By contrast to the public terminal users' lower instrumental use, they are more involved in recreational activities on the Internet than work and school users. However, instrumental use of the Internet and educational attainment are the two phenomena persistently associated with using the Internet recreationally. Recreational use increases with the instrumental use but decreases with educational attainment.

10. Home users have a higher sense of community than those accessing the Internet from other places. The more Internet use, both instrumental and recreational, the greater the sense of online community. The positive association of Internet use with a sense of online community is weaker among public terminal users than users at other places. Moreover, public terminal users differ from other users in the variables that are associated with having a sense of community: Men and North American users have a greater sense of community, while age and education are not associated.

11. Similarly, public terminal users have the lowest sense of online connectivity with kin. Three phenomena are associated with an online sense of connectivity with kin: more instrumental use of the Internet, being a woman, and living in North America. In addition, being older and more educated are associated with the sense of online kinship connectivity among home, work, and school users – but not among public terminal users.

Regional Variations: 12. The levels of instrumental use of the Internet reflect a center-periphery order. North American users have the highest amount of instrumental use, while users from Other OECD countries take second place, and Non-OECD users come last. North American users also have the highest levels of recreational use among all three regional groups. This center-periphery order is true regardless of whether people access the net from home, work, school, or a public terminal. However, users from Non-OECD countries use the Internet less instrumentally and more recreationally when using public terminals.

13. North American users tend to have the lowest sense of online community, while other OECD users tend to have the lowest sense of online connection with kin Hence, it seems that the impact of the place of Internet use and sense of community are affected by broader socioeconomic contexts.

Is There a Place in Cyberspace?

The physical side of Cyberplace – where people access the Internet – varies considerably. Some of the differences are obvious: workers predominate in workplace access; students predominate in school access. But, there is also a clear difference for the users of public terminals. They are disproportionately young, single, less educated, and

newbies. Although this fits the picture of young adults crowding into cybercafes, we caution that this is a statistical difference. Most users of public terminals are *not* young and single, and half are women.

The uses of the Internet vary less by place than the users. However, public terminals stand out for their higher recreational use and lower use for contacting friends and relatives. However, these are not solely party places, for public terminals are the scenes of relatively high instrumental use.

In short, there *is* a place for place in cyberspace, both as available Internet bases and as contexts for Internet use. Different places have different sorts of users, and these users vary somewhat in how they use the Internet. Public terminals stand out as where newbies often start: As they gain resources and jobs, they may well move on to use the Internet from home, school and work.

Context matters, as does differential attraction. There may be different *zeitgeists* happening among public terminal users as compared with those using the Internet at school, the workplace or home. This, in turn, can increase the differential attraction (or repulsion) of public terminals for Internet use. A room filled with gamers and transients is not an inviting place to calculate income taxes or write complex love letters. Nevertheless, where there is a will, there can be a way, and the data suggest that the users of public terminals will find a way to accomplish their instrumental, recreational and sociable needs.

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Table 1: Social Profile of Internet Users by the Place of Internet Access (%)

	All	Public Place	Home	Workplace	School
Women	46.2	50.5	46.6	44.6	48.6
Age (Mean)	37.1979	34.4695	39.1114	35.5463	24.3778
Single	39.3	58.4	34.1	41.1	82.2
English Not Spoken at Home	25.5	25.7	22.9	29.8	34.4
Education					
High School or Less	11.2	14.0	12.8	4.6	27.8
Some College	30.9	27.5	34.4	21.9	41.3
Undergraduate	31.9	32.2	30.2	37.9	17.2
Graduate School	26.0	26.4	22.6	35.6	13.7
Employment					
Full-Time	59.8	51.1	53.2	85.1	4.2
Part-Time	6.2	6.4	8.2	2.6	1.2
Unemployment	7.6	14.0	11.2	.1	.8
Retired	4.7	3.2	7.2	.0	.1
Student	21.8	25.2	20.2	12.2	93.8
Traditional Media Use					
Frequent Print Media User (newspaper, magazine)	87.6	87.1	88.1	87.3	83.3
Frequent TV Watcher	67.0	60.6	66.9	68.4	63.6
Newbies (< 1 year Internet Experience)	19.0	21.1	22.7	11.6	13.9
Internet Activity					
Number of Internet Activities (Mean)	5.8671	5.1334	5.8706	5.9518	5.7877
Instrumental Internet Use Scale (Mean)	15.7371	12.5675	15.3645	17.0787	14.6826
Recreational Internet Use Scale (Mean)	1.5903	1.3682	1.7246	1.2704	1.8685
Sense of Online Community	22.2449	20.0498	22.6978	21.7166	20.9309
Sense of Online Kinship	8.0489	7.1174	8.3108	7.6953	7.3564
Weekly+ Contact with Kin Within 50 Km					
Personal Visit	33.2	30.7	34.6	31.8	24.9
Telephone	43.2	38.4	44.3	43.0	32.9
Email	15.5	9.0	16.0	15.7	11.3
Weekly+ Contact with Friends Within 50 Km					
Personal Visit	60.6	67.0	59.4	60.4	72.2
Telephone	69.8	74.3	68.6	71.4	72.8
Email	47.8	39.1	45.0	53.5	56.4
Weekly+ Contact with Kin Beyond 50 Km					
Personal Visit	3.6	3.1	3.7	3.2	5.1
Telephone	44.3	40.5	43.7	46.3	42.6
Email	36.9	29.7	38.1	35.3	35.2
Weekly+ Contact with Friends Beyond 50 Km					
Personal Visit	3.8	3.7	3.8	3.7	6.1
Telephone	17.1	18.8	16.5	17.2	23.1
Email	39.1	36.5	37.9	40.0	51.1
National Groups					
U.S. & Canada	76.9	75.9	79.8	71.7	71.3
Other OECD Countries	15.2	15.9	12.8	19.1	21.4
Non-OECD Countries	7.9	8.2	7.4	9.2	7.3
Number of Survey Respondents	20282	622	12801	5832	1027

Table 2: Who Accesses Internet From Public Places, Home, Work and School? (Logistic Regression)

Independent Variables	Public Places			Home			Workplace			School		
	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E.	Exp (B)	B	S.E.	Exp (B)
Gender (male =1)	-0.027	0.085	0.974	0.157***	0.033	1.17	-0.212***	0.036	0.809	0.065	0.074	1.067
Age (reference = older than 65)												
18-29	0.406	0.375	1.501	-0.78***	0.233	0.459	0.659**	0.306	1.934	1.095	0.764	2.989
30-39	-0.127	0.376	0.881	-0.369	0.232	0.691	0.473	0.306	1.605	0.322	0.769	1.38
40-49	-0.181	0.379	0.834	-0.013	0.233	0.987	0.114	0.307	1.121	-0.083	0.779	0.92
50-65	0.021	0.363	1.021	0.011	0.232	1.012	0.024	0.308	1.024	0.017	0.788	1.017
English not Spoken at Home	-0.088	0.112	0.916	-0.078*	0.042	0.925	0.134**	0.045	1.144	-0.13	0.091	0.878
Education (reference = High School or Less)												
Some College	-0.219	0.138	0.803	-0.23***	0.059	0.794	0.621***	0.076	1.86	-0.193**	0.096	0.824
Undergraduate Degree	-0.077	0.139	0.926	-0.596***	0.059	0.551	1.092***	0.075	2.979	-0.433***	0.117	0.649
Postgraduate	0.112	0.147	1.119	-0.926***	0.062	0.396	1.311***	0.076	3.709	0.166	0.132	1.18
Single	0.661***	0.095	1.936	-0.35***	0.036	0.705	0.066*	0.039	1.068	0.825***	0.099	2.282
Household Size	-0.084**	0.032	0.92	0.008	0.01	1.008	-0.054***	0.013	0.947	0.076***	0.02	1.079
Employment Status (reference = Retired)												
Working Full-time	0.148	0.283	1.159	-2.965***	0.227	0.052	5.243***	0.681	189.291	0.597	1.034	1.817
Working Part-time	0.42	0.316	1.522	-1.613***	0.238	0.199	3.669***	0.686	39.216	1.689	1.059	5.417
Unemployment	1.08***	0.299	2.944	-0.62**	0.249	0.538	0.169	0.792	1.184	1.02	1.082	2.775
Student	0.118	0.298	1.125	-2.596***	0.23	0.075	3.879***	0.682	48.38	4.329***	1.026	75.896
Traditional Media Use												
Heavy Print Media Use	0.079	0.123	1.083	0.11**	0.047	1.116	-0.132**	0.052	0.877	-0.085	0.099	0.918
Heavy TV Watcher	-0.288***	0.085	0.75	-0.015	0.034	0.985	0.082**	0.037	1.086	-0.062	0.076	0.939
Newbies	0.226**	0.104	1.254	0.467***	0.044	1.595	-0.605***	0.05	0.546	0.047	0.107	1.048
National Groups (reference = North America)												
Other OECD	-0.027	0.127	0.973	-0.328***	0.048	0.72	0.366***	0.051	1.442	0.072	0.105	1.075
Non-OECD	-0.033	0.169	0.967	-0.014	0.063	0.986	0.187**	0.069	1.206	-0.669***	0.15	0.512
Constant	-3.733***	0.375	0.024	4.009***	0.267	55.09	-6.643***	0.706	0.001	-7.026***	1.108	0.001
Cox & Snell R^2	.01			.148			.185			.139		

* p <.10 ** p <0.05 *** p < 0.001

Table 3: Demographic Variables and Instrumental Internet Usage by Place of Access (Multiple Regression)

Independent Variables	Public Place as a Dummy Variable		Public Places		Home		Workplace		School	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Gender (Male =1)	1.26***	.107	0.715	0.056	1.209***	0.105	1.264***	0.115	0.645**	0.055
Age (reference = Older > 65)										
18-29	0.476	.038	0.089	0.007	-0.348	-0.027	-2	-0.173	3.76	0.23
30-39	0.996***	.076	1.515	0.096	0.642**	0.049	-2.223*	-0.187	3.904	0.19
40-49	1.113***	.078	0.174	0.01	0.784**	0.058	-2.044*	-0.147	2.525	0.08
50-65	0.91***	.056	2.4	0.129	0.762**	0.051	-3.027**	-0.175	3.115	0.07
English not Spoken at Home	.390***	.029	1.473**	0.1	0.382**	0.028	0.252	0.021	1.095**	0.08
Education (reference = High School or Less)										
Some College	1.047***	.083	0.133	0.009	1.062***	0.087	1.028**	0.077	0.451	0.03
Undergraduate Degree	1.363***	.109	2.499***	0.182	1.099***	0.087	1.44***	0.126	2.129***	0.13
Postgraduate	1.927***	.145	2.293**	0.157	1.759***	0.126	1.908***	0.164	3.968***	0.23
Single	-0.041	-.003	-0.391	-0.03	0.139	0.011	-0.269*	-0.024	0.222	0.01
Household Size	-.215***	-.061	0.021	0.005	-0.236***	-0.065	-0.202***	-0.054	-0.13**	-0.06
Employment Status (reference = Retired)										
Working Full-time	-0.085	-.007	2.289	0.178	0.209	0.018	-5.599	-0.359	7.168	0.24
Working Part-time	-0.439*	-.018	1.552	0.059	-0.06	-0.003	-6.968**	-0.198	8.117	0.1
Unemployment	-0.0 13	-.001	1.192	0.064	0.353	0.019	-9.174**	-0.053	4.696	0.07
Student	0.548**	.039	3.455**	0.234	.928***	.064	-4.977	-0.294	8.568	0.35
Traditional Media Use										
Heavy Print Media Use	0.995***	.056	1.363**	0.071	1.206***	0.067	0.754***	0.045	0.657	0.04
Heavy TV Watcher	0.040	.003	0.466	0.035	-0.025	-0.002	0.159	0.013	-0.078	-0.00
Newbies	-3.74***	-.251	-4.171***	-0.265	-3.476***	-0.25	-4.829***	-0.278	-3.532***	-0.2
Internet Recreational Use	0.861***	.346	1.11***	0.372	0.85***	0.36	0.864***	0.316	0.871***	0.36
National Groups (reference = North America)										
Other OECD	-1.089***	-.067	-1.941**	-0.111	-1.102***	-0.063	-0.881***	-0.062	-1.582***	-0.11
Non-OECD	-0.923***	-.043	-1.697*	-0.073	-1.073***	-0.048	-0.774**	-0.04	0.722	0.03
Place of Access (reference = Public Place)										
Home	2.474	2.04								
Workplace	3.990***	.309								
School	1.653***	.062								
(Constant)	9.353***		5.874**		11.915***		22.177***		-0.401	
Adjusted R^2	.266		.249		.242		.274		.280	

* p <.10 ** p <0.05 *** p < 0.001

Table 4: Demographic Variables and Recreational Internet Usage (Multiple Regression)

Independent Variables	Public Place as a Dummy Variable		Public Places		Home		Workplace		School	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Gender (Male=1)	0.167***	0.035	0.31**	0.072	0.056	0.011	0.274***	0.068	0.768***	0.155
Age (reference = Older > 65)										
18-29	0.74***	0.149	-1.994**	-0.464	0.907***	0.164	1.041**	0.246	1.395	0.202
30-39	0.313**	0.059	-2.128**	-0.403	0.477***	0.085	0.543	0.125	0.99	0.116
40-49	0.021	0.004	-2.172**	-0.363	0.12	0.021	0.363	0.072	1.493	0.114
50-65	-0.064	-0.01	-2.554***	-0.41	-0.007	-0.001	0.419	0.066	1.032	0.058
English not Spoken at Home	0.14***	0.026	0.152	0.031	0.146**	0.025	0.151**	0.034	-0.079	-0.015
Education (reference = High School or Less)										
Some College	-0.4***	-0.079	-0.375	-0.078	-0.446***	-0.086	-0.484***	-0.099	0.021	-0.004
Undergraduate Degree	-0.999***	-0.198	-1.128***	-0.245	-1.044***	-0.195	-0.953***	-0.228	-1.006***	-0.154
Postgraduate	-1.126***	-0.21	-1.072***	-0.22	-1.191***	-0.202	-1.09***	-0.257	-1.26***	-0.176
Single	0.315***	0.065	0.246	0.057	0.335***	0.064	0.276***	0.067	0.297	0.046
Household Size	0.051***	0.036	0.068	0.048	0.059***	0.032	0.059***	0.043	0.034	0.037
Employment Status (reference = Retired)										
Working Full-time	0.005	0.001	0.156	0.036	-0.079	-0.016	1.207	0.212	-2.012	-0.163
Working Part-time	0.11	0.011	0.706	0.081	-0.028	-0.003	1.445	0.112	-2.348	-0.102
Unemployment	0.134	0.015	0.325	0.052	-0.001	0	1.56	0.025	-1.806	-0.064
Student	0.020	0.004	-0.001	0	-0.094	-0.015	1.23	0.199	-2.289	-0.224
Traditional Media Use										
Heavy Print Media Use	-0.215***	-0.03	-0.411*	-0.064	-0.275***	-0.036	-0.082	-0.014	-0.237	-0.036
Heavy TV Watcher	0.143***	0.029	0.119	0.027	0.154***	0.029	0.094*	0.022	0.361**	0.07
Newbies	0.123**	0.021	0.145	0.027	0.136**	0.023	0.078	0.012	0.094	0.013
Instrumental Internet Use	0.15***	0.373	0.132***	0.393	0.161***	0.379	0.125***	0.342	0.167***	0.395
National Groups (reference = North America)										
Other OECD	-0.219***	-0.033	-0.024	-0.004	-0.227***	-0.031	-0.176**	-0.034	-0.375*	-0.062
Non-OECD	-0.031	-0.004	1.031***	0.132	-0.033	-0.003	-0.047	-0.007	-0.562*	-0.059
Place of Access (reference = Public Place)										
Home	0.087	.018								
Workplace	-.513***	-.099								
School	-.400***	-.037								
(Constant)	-.560***		2.049**		-0.521***		-2.326*		0.040	
Adjusted R^2	.208		.239		.211		.179		.222	

** p <.10 ** p <0.05 *** p < 0.001*

Table 5 : Demographic Variables, Internet Use and Online Sense of Community (Multiple Regression)

Independent Variables	Public Place as a Dummy Variable		Public Places		Home		Workplace		School	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Gender (Male =1)	0.123	0.007	1.954**	0.12	-0.397**	-0.022	0.539**	0.031	1.531**	0.086
Age (reference = Older > 65)										
18-29	-1.792***	-0.093	-1.6	-0.098	-2.087***	-0.101	-1.863	-0.1	-13.429*	-0.54
30-39	-1.102**	-0.054	-1.411	-0.07	-1.431***	-0.068	-1.239	-0.065	-11.697	-0.381
40-49	-0.74	-0.033	-1.354	-0.06	-1.109**	-0.051	-0.689	-0.031	-11.812	-0.251
50-65	-0.102	-0.004	-0.486	-0.021	-0.258	-0.011	-0.521	-0.019	-12.44	-0.193
English not Spoken at Home	0.401**	0.019	0.56	0.03	0.362*	0.016	0.231	0.012	1.583**	0.084
Education (reference = High School or Less)										
Some College	-0.383**	-0.019	0.282	0.015	-0.359	-0.018	.030	0.001	-1.464**	-0.081
Undergraduate Degree	-1.491***	-0.076	-0.291	-0.017	-1.612***	-0.08	-0.825	-0.045	-1.726**	-0.073
Postgraduate	-1.806***	-0.087	-1.678	-0.091	-1.802***	-0.081	-1.229**	-0.066	-2.905**	-0.112
Single	0.811***	0.043	0.955	0.058	1.206***	0.062	0.1	0.006	0.233	0.01
Household Size	-.045	-0.008	-0.677**	-0.127	-0.040	-0.007	-0.046	-0.008	0.042	0.013
Employment Status (reference = Retired)										
Working Full-time	-0.629*	-0.034	0.084	0.005	-0.482	-0.026	-7.939	-0.318	17.692	0.398
Working Part-time	0.24	0.006	0.958	0.029	0.362	0.011	-7.922	-0.14	19.2*	0.232
Unemployment	1.197***	0.035	1.971	0.084	1.151**	0.039	-8.943	-0.032	21.709*	0.214
Student	-1.644***	-0.074	0.809	0.043	-1.891***	-0.082	-8.464	-0.312	16.86	0.458
Traditional Media Use										
Heavy Print Media Use	-1.033***	-0.037	-0.143	-0.006	-1.184***	-0.041	-0.879**	-0.033	-0.905	-0.038
Heavy TV Watcher	0.070	0.004	-0.715	-0.043	-0.0281	-0.001	0.324	0.017	0.26	0.014
Newbies	0.279*	0.012	1.575**	0.079	0.176	0.008	0.199	0.007	1.095	0.043
Number of Internet Activities	0.404***	0.0866	0.38	0.098	0.424***	0.09	0.446***	0.095	0.093	0.021
Instrumental Internet Use	0.452***	0.29	0.243***	0.191	0.473***	0.298	0.452***	0.282	0.322***	0.211
Recreational Internet Use	1.005***	0.259	0.703***	0.185	1.009***	0.269	0.951***	0.217	1.211***	0.336
National Groups (reference = North America)										
Other OECD	1.797***	0.071	1.335	0.06	1.997***	0.072	1.67***	0.074	0.876	0.04
Non-OECD	2.111***	0.062	3.772**	0.127	1.767***	0.05	2.796***	0.091	1.106	0.032
Place of Access (reference = public places)										
Home	.664**	.035								
Workplace	-.201	-.010								
School	-.106	-.003								
Constant	13.573***		15.063***		14.423***		19.794***		9.423	
Adjusted R^2	.288		.197		.309		.254		.258	

** p <.10 ** p <0.05 *** p < 0.001*

Table 6: Demographic Variables, Internet Use and Sense of Online Connection with Kin (Multiple Regression)

Independent Variables	Public Place as a Dummy Variable		Public Places		Home		Workplace		School	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Gender (Male =1)	-0.88***	-0.11	-0.832**	-0.102	-0.912***	-0.117	-0.809***	-0.102	-0.492**	-0.062
Age (reference = Older > 65)										
18-29	-.156***	-0.137	0.176	0.021	-1.387***	-0.157	-0.15	-0.018	-2.909	-0.264
30-39	-.169***	-0.13	0.761	0.076	-1.237***	-0.138	-0.395	-0.046	-3.187	-0.234
40-49	-.116***	-0.116	0.606	0.053	-1.137***	-0.124	-0.45	-0.045	-3.561	-0.17
50-65	-0.54**	-0.049	0.46	0.039	-0.499**	-0.049	-0.002	0	-2.316	-0.081
English not Spoken at Home	-0.131*	-0.014	0.010	0.001	-0.136	-0.015	-0.139	-0.016	0.101	0.012
Education (reference = High School or Less)										
Some College	0.267**	0.031	0.385	0.042	0.369***	0.045	0.279	0.029	-0.352	-0.044
Undergraduate Degree	0.658***	0.077	0.813	0.093	0.673***	0.079	0.786**	0.095	0.486	0.046
Postgraduate	0.496***	0.055	0.255	0.027	0.49***	0.052	0.738**	0.088	0.217	0.019
Single	-0.561***	-0.069	-0.325	-0.039	-0.63***	-0.076	-0.505***	-0.062	0.186	0.018
Household Size	-0.068***	-0.028	-0.084	-0.031	-0.075***	-0.031	-0.071**	-0.026	-0.050	-0.034
Employment Status (reference = Retired)										
Working Full-time	-0.393**	-0.048	-1.511	-0.184	-0.274*	-0.035	-1.939	-0.173	6.667	0.338
Working Part-time	-0.256	-0.015	-1.64	-0.098	-0.214	-0.015	-1.52	-0.06	7.167	0.195
Unemployment	0.010	0.001	-1.128	-0.095	0.104	0.008	0.104	0.001	5.702	0.127
Student	-0.562***	-0.058	-0.624	-0.066	-0.425**	-0.043	-2.113	-0.173	5.745	0.352
Traditional Media Use										
Heavy Print Media Use	.069	0.006	0.198	0.016	0.067	0.005	0.135	0.011	-0.268	-0.025
Heavy TV Watcher	-0.101*	-0.012	0.297	0.035	-0.114	-0.014	-0.081	-0.009	-0.186	-0.023
Newbies	-0.27***	-0.027	-0.264	-0.026	-0.273***	-0.029	-0.373**	-0.03	-0.147	-0.013
Number of Internet Activities	0.107***	0.065	0.207	0.106	0.097**	0.048	0.211***	0.1	0.062	0.032
Instrumental Internet Use	0.031**	0.157	0.141***	0.221	0.098***	0.145	0.107***	0.149	0.161***	0.238
Recreational Internet Use	0.031**	0.018	-0.115	-0.06	0.055**	0.034	0.001	0	-0.003	-0.002
National Groups (reference = North America)										
Other OECD	-1.073***	-0.097	-0.849*	-0.076	-1.048***	-0.089	-1.192***	-0.117	-1.278***	-0.133
Non-OECD	0.023	0.002	0.001	0	0.080	0.005	0.013	0.001	-1.046**	-0.069
Place of Access (reference = public places)										
Home	.624***	.076								
Workplace	-0.017	-.002								
School	.574**	.032								
Constant	7.238***		5.45***			8.17***	7.293**		2.751	
Adjusted R^2	.097		.132			0.092	.094		.114	

* p <.10 ** p <0.05 *** p < 0.001