
Small Town in the Internet Society: Chapleau Is No Longer an Island

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Jessica L. Collins¹
and Barry Wellman¹

Abstract

This article analyzes the impact of new digital media on the residents of Chapleau, a remote rural town in Northern Ontario, Canada. As in urban situations, broadband e-mail in Chapleau facilitates communication with friends and relatives who live locally and far away. But unlike their use in urban situations, mobile phones are rarely used locally in Chapleau: They are for trips outside of town. Broadband use has aided health care, shopping, and information gathering. Indeed, it is the increased connectivity to the outside that stands out, making Chapleau much less of an “island.”

Keywords

high-speed Internet, connectivity, rural communities, social inclusion, geographic isolation, Internet diffusion

Social and geographical isolation are key challenges of life in rural and remote regions. Residents of such localities rarely see friends and family who live at a distance, and the availability of goods and services is more limited than in urban areas. Although small local populations may foster densely knit social relationships, they can limit the scale useful for diversified civic involvements.

Yet, the isolation of rural life is far from a static, foregone conclusion, and the Internet (and associated information and communication technologies [ICTs]) may help to mitigate the downsides of small rural populations and physical distance from other people and places. Some pundits have optimistically imagined that information and communication technologies such as the Internet will reduce—and possibly even eliminate—“the tyranny of space and distance” (Malecki, 2003, p. 201), neutralizing

¹NetLab, Department of Sociology, University of Toronto, Toronto, Canada

Corresponding Author:

Jessica L. Collins, Department of Sociology, University of Toronto, Toronto, Ontario, Canada M5S 2J4
Email: jess.collins@utoronto.ca

the difficulties of physical isolation and equalizing daily life for technology users and the communities they inhabit (Cairncross, 2001).

Does the Internet Mitigate Isolation in Rural Northern Ontario?

How accurate are these claims? In studying a remote rural community in Northern Ontario, Canada, we asked,

To what extent does the Internet and online communication with others—both locally and at a distance—mitigate social and geographic isolation and foster inclusion in a broader “Internet society”?

In what respects are the Internet associated with local communication and civic engagement? Is the Internet associated with the residents’ sense of community and connectedness?

To be sure, rural places were connected to the outside world before the Internet. Residents of nonurban areas have always had local and nonlocal connections with others, adapting existing modes of communication to suit their needs. In the 1930s, the telephone emerged as a tool to reduce social distance and isolation in rural communities. The telephone was arguably most beneficial for rural residents living at a distance from neighbors and other communities, given that residents of small towns could already enjoy a good deal of in-person communication (Fischer, 1992). In such instances, the greater the geographical isolation, the more that communication technologies should be anticipated and valued.

Variation among rural localities can also affect how, and with what benefits, new technologies are differentially used and embraced. As Louis Wirth (1956/1964) recognized, the false dichotomy between rural and urban fails to take into account nuanced differences among rural and urban places and between agricultural and nonagricultural rural places. For example, a rural agricultural region within hours of a major city is less remote than a northern logging or mining community: Residents of the former community can do their shopping and social visits with moderate driving, whereas more isolated individuals might benefit from online shopping and communication to meet these same needs.

Some observers have viewed rural use of high-speed Internet and ICTs as being analogous to Plato’s cave, believing that rural “people don’t understand how disadvantaged they are until they see what they’re missing. . . . That’s the opportunity for broadband, to confront social exclusion” (Welsh Minister for Rural Affairs Alun Michael, as cited in Brierley, 2005, p. 36). Moreover, the costs and benefits of the Internet for rural residents have been inadequately evaluated. Given that the North American population is predominantly urban and suburban, there has been less research focused on the Internet’s association with rural life.

The availability and quality of Internet access in rural contexts as compared to urban contexts is an essential starting point for rural analysis. Internet access in general

and high-speed Internet in particular (whether broadband or DSL [digital subscriber line]) are less often available in rural regions. According to the 2005 Canadian Internet Use Survey, 47% of Canadian communities did not have high-speed access (McKeown, Noce, & Czerny, 2007). The communities without were predominantly rural or remote. This availability plays out in rates of Internet use. In 2005, just 58% of rural adults used the Internet for personal (nonwork use), compared to 68% of adults in census metropolitan areas of populations between 100,000 to 249,999 and 73% of adult residents of such areas with populations of more than 1 million. A similar rural–urban discrepancy in access, including uneven distribution of high-speed Internet among rural regions, has been identified in the United States (Whitacre & Mills, 2007; see also Malecki, 2003).

Internet access is a necessary but insufficient condition for use. There are further differences in the quality of accessibility (in terms of speed and bandwidth) and user proficiency (Stern, Adams, & Elsasser, 2009). As Whitacre and Mills (2007) concluded from U.S. data between 2000 and 2003, digital Internet infrastructure explains less of rural–urban differences in high-speed divides than do education, income, and local network externalities (i.e., the concept that utility increases as more people join the network; see Boase, 2010 [this issue]). Yet, discrepancies in the diffusion of new technologies and high-speed Internet remain salient, given that they contribute to disparities in Internet proficiency and that less proficient users may miss out on valuable opportunities (Hargittai & Hinnant, 2008; Stern et al., 2009).

Whereas governments primarily justify the provision of high-speed Internet access to remote and rural communities as being necessary for economic participation (McKeown et al., 2007), the intangible social outcomes merit attention. Although difficult to measure with economic metrics, the use of ICTs may contribute to social and psychological well-being for rural and isolated residents (Malecki, 2003). For example, Internet use appears to have a positive influence on community group involvement (attendance, membership, and leadership). People who are already civically engaged use the Internet to mobilize and organize (Stern & Dillman, 2006).

Yet, remote and rural residents may be using ICTs differently from urbanites, in part as a function of macro- and social-level differences in context. For instance, in a comparison of users of MySpace by type of region, rural users generally signed up to the social network site later than did urban users, probably in part because of the slower diffusion of the high-speed Internet (Gilbert, Karahalios, & Sandvig, 2010 [this issue]). Rural users' socially close MySpace ties live physically closer (and more often in rural regions) than do urban users' socially close ties, yet the same percentage of urban and rural users communicate with friends and acquaintances on social network sites. Internet use may affect the ways in which relationships are maintained locally and at a distance. Rural MySpace users have fewer friends online than do urbanites, and these friends live closer to home. Stern and Dillman (2006) observed a negative relationship between rural Internet use and having three close friends or relatives living locally. However, they also found that people whose socially closest friends live outside the community are more likely to use the Internet; this effect increases the farther apart the friends live.

In short, the contextual distinctions of the social and structural conditions of remote and rural life, coupled with the associated discrepancies in the availability and quality of Internet services and ICTs, raise questions about the use of these technologies in rural settings. To investigate how the Internet has changed life, communication, and community in a remote, rural locality, we analyzed quantitative and qualitative research findings from Chapleau, Northern Ontario, Canada (see also Collins, 2008).

Background

Chapleau Is Like an Island

“Chapleau is like an island: We’re two hours from Timmins, three hours from the Soo [Sault Ste. Marie] and five hours from Sudbury, with nothing in between” (female focus group participant).

Chapleau contains many of the challenges frequently associated with rural and isolated communities, thus making it a good choice to evaluate the potential affordances of high-speed Internet. Although Chapleau is predominantly surrounded by land (it is adjacent to a small lake), its remoteness from other towns makes it easy to comprehend why one of our focus group participants likened it to an island. Located in Northern Ontario, it is 404 kilometers (251 miles) away from the regional hub of Sudbury and 776 kilometers (482 miles) from the nearest major metropolitan center, Toronto. Although Chapleau has an airstrip for small planes, it is not served by any airline; the nearest major airport is in Timmins, 200 kilometers (124 miles) away. There is a small hospital, but a dearth of health care providers necessitates visiting medical specialists via a drive several hours outside of town, in Timmins, Sault Ste. Marie, or Sudbury. The 2-hour drive to Timmins is on a narrow two-lane highway, and residents must be alert to the danger of moose crossings. After heavy snowfalls, drivers must wait until the highway is plowed and, at times, must follow the snowplow out of town. There is no intercity or local public transit.

As of the 2006 census, Chapleau had a population of 2,355, of whom 50% were women (Statistics Canada, 2006). The median age of residents was 40 years old (Statistics Canada, 2006). Half the adults older than 15 were married (49%). The median annual household income for all families in 2005 was CAN\$72,981 (less than US\$60,000; Statistics Canada, 2006).

Chapleau’s population has been culturally and linguistically bicultural. In 2008, 60% of residents reported English as their native language and one third (33%), French. One half (49%) of the respondents reported that they were bilingual in English and French (Statistics Canada, 2006). Although First Nations reserves near Chapleau were not included in this census division, 11% of residents self-identified as being members of First Nations bands. Only 5% of the residents had immigrated to Canada (Statistics Canada, 2006).

Chapleau's population has declined substantially—from 3,077 residents in 1991 to 2,934 (1996), 2,832 (2001), and 2,354 (2006 [the most recent census]; Statistics Canada 1996, 2001, 2006). Its economy has historically rested on a combination of logging, lumber mills, a CN rail yard, and outdoor recreation (fishing, moose watching, etc.).

The decline of logging has decimated the area's population and economy, with a 17% population decline in 5 years, from 2001 to 2006. The continuing decline stems from two American phenomena: the U.S. government's violation of the North American Free Trade Agreement about softwood lumber (Parliament of Canada, 2006) and the crash in the American housing market. Focus group participants reported that the closure of two of the three local lumber mills has led to unemployment and that many individuals and families have left in search of work. In addition, there are no local postsecondary education opportunities (with the exception of online continuing education courses); as such, youth must leave Chapleau to attend college or university full-time. They are unlikely to return, lacking opportunities to advance careers—or even get jobs—in Chapleau. The out-migration of students, the unemployed, and their families means that the remaining Chapleau residents have many long-distance friends and relatives with whom they would like to keep in contact.

Data Collection

Data were collected in Chapleau between 2005 and 2007 as part of the Connected Lives North project. This project was timed to coincide with the implementation of a free high-speed wireless “mesh” network in Chapleau in November 2005, a joint demonstration project of Bell Canada and Nortel Networks. Until 2005, only dial-up Internet service was residentially available in Chapleau, although high-speed Internet was available at the hospital, town council offices, and the library. Within a year after the mesh network was implemented, Bell Canada ran a high-speed Internet DSL line into Chapleau. By the end of the mesh network project, many residents had switched to the DSL-wired network because of its reliability, even though it cost more than CAN\$40 per month. Once mesh had provided a taste of the high-speed Internet, many residents were eager to pay for continued access.

Survey data were collected in two waves: The first survey was administered between December 2005 and February 2006, and it focused on social interaction and community involvement within the town before high-speed Internet was widely available. The second survey, in October and November 2006, aimed to assess changes in communication and local engagement associated with the new technology in the later phase of the wireless mesh project.

Responses rates and sample sizes for the two surveys were, respectively, 41% ($n = 219$) and 31% ($n = 159$). We use only data from the second survey here, given our interest in how the established use of high-speed Internet affects communication and community (for details on the implementation of the high-speed service, as reported in the first survey, see Behrens, Glavin, & Wellman, 2007). In addition, between July 29

and August 1, 2006, we conducted in-depth, face-to-face interviews with 33 of the initial survey participants. We also conducted four focus groups in November 2007, almost 2 years after the introduction of wireless mesh service. Focus group participants were Chapleau residents ($n = 21$) representing a mix of citizens and community stakeholders (business and political leaders). Most citizen participants were selected from among individuals who had completed one of the surveys, whereas stakeholders were chosen from the town council and local businesses. We analyzed the survey data with SPSS (ver. 14), and we coded and analyzed the interviews and focus group discussions with NVivo (ver. 6).

To produce a reliable estimate, we calculated this network size from an average of two reports of total network size from the survey: (a) the sum of all *very close* and all *somewhat close* contacts and (b) the sum of various types of alters (e.g., immediate kin, neighbors, coworkers) across *very close* and *somewhat close* categories. Because there were few differences between *very close* and *somewhat close* ties, we combined the two categories into one measure of total network size.

Demographics

Nearly two thirds (62%) of the survey sample were women. The mean age was 49 ($SD = 15.95$), and participants ranged in age from 18 to 91 years old. Our sample reflected the linguistic mix in Chapleau: 59% of participants spoke primarily English in the home; 17%, primarily French; and 23%, both French and English at home. Almost all survey participants (95%) were born in Canada, a much higher percentage than the 51% Canadian-born participants whom we found when studying the East York section of urban Toronto (Wellman et al., 2006).

About 60% of the survey participants worked for pay (whether full-time, part-time, or self-employed), comparable to the 62% of employed East Yorkers (Wellman et al., 2006). Nearly one quarter of the sample (23%) was retired; 9% reported being full-time homemakers (most of whom were women); and 4% were between jobs or unemployed. A further 1% were students and 3% were on disability or long-term leave.

More than two thirds (70%) of the survey sample were stably partnered (married or in common-law/long-term relationships), larger than the 62% of similarly categorized East Yorkers. The remaining participants were widowed (8%), divorced (8%), or single (14%). While 61% of East Yorkers had children, 76% of Chapleau participants were parents, 45% of whom had one or more children under the age of 18. Just over half of Chapleau participants (52%) had at least one child living at home at the time of the second survey.

Educational attainment was lower in Chapleau than in East York. While 43% of the East Yorkers had a university degree, only 11% of Chapleau participants had one, although an additional 23% had a community college/trade school diploma. Although just 27% of the East Yorkers had a high school education or less, 31% of the Chapleau participants had earned a high school diploma or equivalent, and 29% had completed

less than high school. These rural–urban demographic differences were consistent with the U.S. Current Population Survey findings that rural household heads tend to be older, married, less ethnically diverse, and of lower levels of education than their urban counterparts (Whitacre & Mills, 2007)—all factors associated with lower rural likelihood of residential Internet access and use (Bell, Reddy, & Rainie, 2004).

Four fifths (82%) of the Chapleau participants reported having used the Internet at some time, an appreciable increase from the 70% of survey participants who reported being Internet users in the first survey wave, when the broadband mesh network was first being introduced (Behrens et al., 2007). Similarly, 82% had home computers. Almost all such owners (88%) had Internet access at home. Among those with access, 50% used wireless mesh Internet at the time of the second survey, 41% had high-speed DSL, and 18% used slower-speed dial-up access. (Because some participants had more than one type of access, totals do not sum to 100%.) Those who had used the Internet were experienced: They had been using it for a mean of 8.1 years, ranging between less than 1 year and 26 years.

Findings

Local Social Interaction Off and Online

Despite the pervasive use of the Internet, face-to-face communication continues to be essential. In a small community, residents are apt to bump into one another at the lone grocery store, at the post office, or at one of the few shops in town. People recognize each other by face, if not by name. For example, Nancy and Suzanne¹ never exchanged personal details but recognized each other when they met in a focus group because Nancy paid her bills in person at the utility company where Suzanne worked. Residents talked to one another not only because the community was closely knit but because, according to Suzanne, “you don’t have a choice—everybody knows everyone around here!” Sometimes people knew too much information about one another, to the point where, in the words of Ben (an older focus group participant), “if there is no rumor before noon, we will start one.” Interactions were informal and assumed interpersonal familiarity. Sometimes, people “just pick up the phone,” Clarisse said, while David quipped, “I go out the door and yell out!” and Jean pointed out, “They all know me, if they want to find me.”

In-person communication was not always possible, given that cold weather, sparsely spaced homes, and time spent at workplaces prevented constant proximity with friends, family, and neighbors. Our survey findings show that the landline phone was the most frequently used communication medium for social activities, followed by in-person contact (Table 1). Participants largely kept in touch with friends by phone (76% did so at least weekly) and in-person (60%). While e-mail was frequently used (44%), instant messaging (IM; 19%) and mobile phones (12%) usage lagged behind. Keeping in touch with family members followed the same pattern: 87% used landline phones weekly, 49% kept in touch in person, 46% used e-mail, 18% used IM, and 12% used mobile phones.

Table 1. Usage of Different Modes of Communication for Weekly Communication Activities (in Percentages)

	Landline Phone	In Person	E-Mail	Instant Messaging	Mobile Phone
Keeping in touch with friends	75.6	60.5	44.2	18.6	12.3
Keeping in touch with family	87.2	48.7	45.5	17.9	11.5
Coordinating family schedules	44.2	41.0	11.5	3.2	8.3
Organizing social activities	49.4	35.3	16.0	3.2	5.8

Communication patterns were somewhat different among household members when they were out of the house. Landline phone (44%) and in-person (41%) communication remained the most widely used—although less frequently than for friends and relatives. E-mail was the third most frequently medium for coordinating family schedules (only 12% used it at least weekly), with mobile phones (8%) and IM (3%) used even less. The choice of communication media reflected contextual constraints. For instance, Harold, a focus group participant, would rather not call his wife during the workday because it is too public and disruptive. Instead, “we do a little bit through e-mail: if we are coordinating something, or if something changes, or you have to pick up somebody, or there is a doctor’s appointment. We e-mail for that instead of using the phone.” Harold exchanged such *communiqués* with his spouse a few times a week.

The availability of high-speed Internet also affected household dynamics—for better or worse. One middle-aged participant, Debbie, reported that Web surfing and online games had replaced family time with her husband and two teenage sons. The demand for computer time caused disputes, and they worried about not having enough bandwidth to accommodate online gaming after purchasing a second computer: “There is no more life in [my] house; that’s all the kids do.”

By contrast, Harold thought that the Internet had actually improved his family’s communication. Although his teenage daughters were sullen and monosyllabic in person, they were open and communicative when chatting with him via IM. However, the general consensus was that, if not controlled, Internet use could negatively affect family cohesion.

Local communication was changing within Chapleau. Some focus group participants believed that in-person interaction had declined because residents were at home using their computers. As Brigitte complained,

I have been walking [around Chapleau] for years and it used to be that it would take me two hours because you stop and chat, and now I am back within forty-five minutes. And the kids too, I find I don’t see them as much out as we did, even if they were playing on the streets. And it could be due to that chatting and games.

In sum, Chapleau residents did not rely on the Internet for most of their local interaction. They were still using a great deal of landline phone and in-person communication, with some local e-mail added to their communication habits. Rather, much of their online communication was with people outside of Chapleau or for instrumental activities.

Civic Engagement and Sense of Community

For this Northern Ontario community, local e-mail communication was more instrumental than interpersonal. Chapleau residents frequently used e-mail to plan and organize voluntary organizational activities, more so than for socializing locally. As Cécile, a focus group participant, reported, “I do a lot of volunteering. We communicate by e-mail. Be it the Rotary Club or other organizations, it’s all by e-mail and it is constant.” Similarly, David, a leader of such an organization, explained the rationale, finding that e-mail

just helps us to do the things that we normally do. I’m thinking transmitting information more quickly to all the membership. . . . I don’t have to wait for somebody to answer or I would get the answering machine. Now I just e-mail them. Normally the people I contact are checking their e-mails often enough that you get a reply.

Many residents were civically engaged within Chapleau. Half the survey participants (52%) reported being active members in at least one voluntary organization, whereas a quarter (27%) said that they were nonactive members: They did not attend meetings or contribute money.

In addition to participating in organizational involvements, Chapleau participants frequently socialized with one another. As with getting involved in organizations, socializing creates networks of trust and understanding that help to build and maintain civic involvement (see also Putnam, 2000). Although Chapleau residents’ frequency of contact varied, on average, they talked with their neighbors several times a week ($M = 6.6$ days per month), hung out with friends at a regular location (e.g., pub, coffee shop) more than once a week ($M = 5.0$ days per month), and enjoyed outdoor recreation with friends almost weekly ($M = 3.8$ days per month; Table 2). They dropped by each others’ homes unannounced a few times a month ($M = 2.2$ days per month) and attended regularly scheduled meetings somewhat less often ($M = 1.7$ days per month). In contrast to more than half the sample who engaged in each one of these face-to-face social activities, few (16.7%) respondents from the total survey sample ever socialized by chatting in online chat rooms—specifically, less than 1 day per month ($M = 0.96$).

Chapleau residents felt positively about their community. We calculated participants’ psychological sense of community using the Buckner Community Cohesion Scale, an 18-item index of questions assessing participants’ affective ties to

Table 2. Frequency of Social Activities: Days per Month

	M	SD
Talk with neighbors	6.65	8.83
Hang out with friends at a regular location	5.02	7.58
Outdoor recreation with friends	3.85	6.30
Drop by others' homes unannounced	2.22	3.31
Attend regularly scheduled meetings	1.70	2.32
Chat in online chat rooms	0.96	3.65

their community and fellow residents. As in the work of Wilkinson (2010 [this issue]), community cohesion scores were squared to compensate for the skewness of values. Within a possible range from 1 to 25 (with high values representing a high degree of community cohesion), the mean was 13.7 ($SD = 4.0$) amid a range of 2.4 to 25.0, roughly similar to Wilkinson's findings.

Of course, participants varied in their attachment to Chapleau. Those who were more involved in voluntary organizations and socialized more locally felt more positive about living in Chapleau. When controlling for the number of years living in Chapleau (a positive significant contributor itself), ordinary least squares regression suggested that a key predictor of having a sense of community was the frequency with which one chatted with neighbors; each additional monthly occurrence of chatting with neighbors contributed a significant coefficient of .14. The number of memberships in voluntary organizations and the frequency of engaging in outdoor activities with friends were also significant predictors. Cumulatively, the duration of Chapleau residence, the frequency of chatting with neighbors, the number of voluntary organization memberships, and the frequency of outdoor recreation explained about 25% of the variance among community cohesion scores. Unsurprisingly, because chatting online (usually via e-mail) was conducted largely with contacts at a distance, it had no significant effect on having a sense of community. Gender, language (English compared to French), and level of educational attainment were also tested but were not significant (although level of educational attainment was likely indirectly important, given that it was associated with significant differences in the number of memberships in active voluntary organizations).

High-Speed Internet, Civic Engagement, and Sense of Community

Using high-speed Internet did not appear to significantly change the residents' civic engagement and sense of community. Based on analysis of the survey data, the number of hours that one spent online from home or work was not correlated with the residents' sense of community, the number of voluntary organizations in which they were active members, and local socialization activities, such as going to a regular hangout or talking with neighbors. This is true for overall use and for the specific online activities

in which they engaged, including using the Internet for general information; shopping; communicating with friends, family, or others; seeking health information; or performing work-related tasks online. This lack of association is consistent with Quan-Haase, Wellman, Witte, and Hampton's U.S. finding (2002) that Internet use and sense of community are not significantly associated.

Several focus group participants reported a general feeling that residents were isolating themselves, replacing in-person communication with indoor screen time. This has been a widely shared myth among the North American media and public (Wang & Wellman, 2010). But in this case, the data showed the opposite to be true: The number of hours spent each week communicating with friends ($r = .33$), family ($r = .27$), and others ($r = .38$) were each positively correlated with the frequency of participating in outdoor recreational activities with friends. There was no correlation between type of Internet connection (dial-up, wireless mesh, or high speed) and any indicators of social and civic engagement, suggesting again that introducing high-speed Internet service may not fundamentally change local socializing and voluntary participation. Chapleau may not be an exception: A national U.S. survey showed similar results (Wang & Wellman, 2010).

The more Chapleau residents communicated online and offline, the more socially active they were with friends and relatives, the more civically involved they were, and the greater their overall sense of community. This is most likely a positive feedback process: It is equally accurate to say that the more socially and civically involved people are, the more they communicate offline and online. Participants who organize social activities face-to-face on a weekly basis or coordinate social activities by e-mail also frequently drop by others' homes unannounced; attend regular meetings at churches, social clubs, and community activities; and engage in outdoor recreation with friends, such as fishing, moose hunting, and riding all-terrain vehicles in the nearby wilderness.

These prosocial activities are positively associated. The more social plans people made, the more voluntary organizations they belonged to, and the greater their sense of community. In particular, those who see friends and family in person on a regular basis also tended to be more involved in their communities. Moreover, those who coordinated their family schedules in person tended to be members of more voluntary organizations. Seeing friends in-person correlated with more frequent attendance at civic meetings; indeed, attending these meetings was often a way of seeing friends. E-mail use was also associated with civic involvement. The more that residents used e-mail for keeping in touch with family, the more frequently they attended the meetings of organizations. Moreover, those who used e-mail to organize social meetings were also active members of more organizations.

Not all high rates of communications are associated with more in-person social activity and local civic engagement. For example, organizing social activities by e-mail or landline phone was negatively associated with the frequency of going to a regular hangout. Perhaps because of the informal, drop-in nature of regular hangouts such as pubs and coffee shops, this kind of social activity did not require advance planning to the same extent as that of scheduled meetings or voluntary organization

participation (Hogan, 2008). People could drop by a familiar hangout with the same ease as the characters of the television show *Cheers*. In addition, the low usage rates of mobile phones and IM likely contributed to the dearth of associations between their use and local social and civic engagement. By contrast, making plans using a landline phone was associated with a greater sense of community and a higher number of active memberships in voluntary organizations.

Sense of Community and Residential Stability

Chapleau residents' communication with one another—in person, by landline phone, or through civic involvement—played a key role in their everyday lives. Their strong orientation toward community helped to keep them residentially tethered: Despite the difficult economic situation, three quarters of the residents surveyed (76%) said that they were not likely to move away from Chapleau within the next year. Those having a higher sense of community were less likely to want to leave within a year ($r = -.25$). In part, this finding should be anticipated when considering that some of the measures in the sense of community scale address intentions to remain in the community. Notably, it is the local communication that binds, given the positive correlation between stated intentions of moving away and frequency of online chatting (an activity engaged in with distant contacts). In spite of the challenges of their location, participants were inclined to remain in Chapleau. Granted, there were selection factors in the characteristics of remaining residents—that is, those who had employment or educational opportunities elsewhere may have already left, leaving an older, largely stable population who, by choice and circumstances, were attached to life in this community. Ben, who first moved to Chapleau in 1943, told us that although he had lived elsewhere for periods of time, he kept coming back because he “can't see any other life, other than being close-knit.” To the question of whether they feel isolated in Chapleau, Josée and Jack quickly replied,

Josée: Oh yeah, there's no question about that.

Jack: Obviously it's not Toronto! And that's why we live here—because it's not Toronto! [*laughing*]

Josée: It's not even Sudbury.

Jack: But we are here because we want to be here.

Jack's final statement represents long term residents' beliefs. As Suzanne explained, “I was born here, and Chapleau always has been called the friendliest little town in the north. And it's true: it is. Everybody tends to help each other if they are in need.”

Social Networks and Long-Distance Communication

The out-migration of residents was a key social dimension of life in Chapleau, and the composition of the residents' social networks—whether local or distant—affected their communication habits. Largely because of the declining local economy and

Table 3. Geographic Distribution of Socially Close Ties

	Local		Distant		Total	
	<i>M</i> (<i>SD</i>)	<i>Mdn</i>	<i>M</i> (<i>SD</i>)	<i>Mdn</i>	<i>M</i> (<i>SD</i>)	<i>Mdn</i>
No. of alters ^a	24.5 (26.88)	15.0	8.94 (12.55)	4.0	29.0 (27.12)	21.0
Percentage of total	67.27 (31.06)	75.0	32.95 (31.49)	24.88		

^aImmediate kin, neighbors, coworkers.

Table 4. Number of Socially Close Ties by Internet Use/Nonuse

	Number of Ties		Number of Local Ties		Number of Distant Ties	
	<i>Mdn</i>	<i>M</i> (<i>SD</i>)	<i>Mdn</i>	<i>M</i> (<i>SD</i>)	<i>Mdn</i>	<i>M</i> (<i>SD</i>)
Users	21.0	28.66 (24.72)	14.5	22.54 (24.3)	4.0	9.34 (13.11)
Nonusers	17.0	28.19 ^a (32.77)	17.0	31.27 ^a (32.9)	4.0	8.14 ^a (10.93)

^aMean differences are not significant in a two-tailed *t* test.

subsequent layoffs (especially at the lumber mills), nearly one quarter (23%) of Chapleau residents had left the community since 1991. Yet despite this diaspora, Chapleau networks were still locally based. Of a mean network size of 29 close ties (*Mdn* = 21, *SD* = 27), 83% lived in Chapleau (*M* = 25, *Mdn* = 15; Table 3).

The other ties lived at an appreciable distance: more than an hour's drive from Chapleau, usually much further (*M* = 9, *SD* = 13, *Mdn* = 4). Most were part of a family and friendship diaspora, leaving Chapleau for other opportunities. Most resided in Canada; just 2% of all ties crossed an international border. The disparity between the higher mean and the median shows that a minority of residents had many ties living far away.

Compared to Anglophones, French-speaking participants had somewhat larger locally centered networks, 73% compared to 64%. Francophones also had a lower percentage of their networks living at a distance, 26% compared to 37%. Age was significantly correlated with a larger percentage of one's network living locally ($r = .28$). However, the differences were not significant (perhaps a function of the small number of Francophones in the sample).

Participants who used the Internet had larger median social networks than that of nonusers—the former had a median of 21 network ties (*M* = 29, *SD* = 25) whereas nonusers had a median of 17 ties (comparably, *M* = 28, *SD* = 33; Table 4). This distinction by Internet use was consistent with the situation in urban East York (Wellman et al., 2006) and with a U.S. national study that found that Internet users had a median of 37 contacts, compared to 30 for nonusers (Boase, Horrigan, Wellman, & Rainie, 2006; see also Wang & Wellman, 2010). Although the mean differences were not significant, the median number of local ties was lower for

Internet users: 15 local ties for users, compared to 17 for nonusers. Internet users and nonusers both had a median of 4 ties outside of Chapleau; this difference may have reflected the residents' diminished need of the Internet to keep in touch with ties if they were predominantly local.

Compared to Anglophones, Francophones were significantly more likely to connect in person with their family members at least weekly ($r = .30$). More generally, the geographic location of alters and, in some instances, their relational closeness, often reflected or affected how communications were used. The less likely residents were to keep in touch with friends weekly by mobile phone, the higher their percentage of ties who lived in Chapleau ($r = -.20$). Conversely, the more network members that lived at a distance, the more likely residents were to use mobile phones to keep in weekly contact with friends ($r = .19$).

Having a high percentage of distant ties was significantly and positively associated with keeping in touch by e-mail with friends ($r = .22$) and family ($r = .18$). However, the higher the percentage of local ties, the less likely participants were to keep in touch with friends by e-mail each week ($r = -.19$). The geographical distribution of one's ties did not affect the likelihood of their keeping in touch with friends or family, organizing social activities, or coordinating family schedules by either landline phone or IM.

Beyond the characteristics of participants' networks, demographic factors also affected communication patterns. Francophones were more likely to keep in touch with family using IM at least weekly. Women were more likely than men to organize social activities weekly by using landline phone ($r = .20$). Older individuals were less likely to keep in touch with friends and family on a weekly basis using IM, mobile phone, or e-mail, as well as organize social activities by e-mail. Moreover, older age was negatively associated with in-person organization of social activities, coordination of family schedules, and keeping in touch with family.

The one mode of communication unaffected by age continued to be that age-old stalwart, the landline phone. However, although many of the focus group participants reported that they continued to use the landline phone, their children (and grandchildren) preferred to rely on IM and Facebook. Given the minimum age for inclusion in our sample (18 years), our findings of minimal IM use do not reflect the high use by youth. Moreover, our survey did not include any reference to Facebook, which at the time was not widely embraced outside the college-age population.

Mobile Phones Used Only for Travel and Emergencies

Unlike the mobile phone habits of urbanites, the mobile phone usage of Chapleau residents was not deeply embedded into their communication patterns. Mobile phones had been available in Chapleau for only about 1 year by the time of our second wave of surveys, in 2006, and only 2 years at the time of the focus groups, in late 2007. Even at the time of writing (in mid 2009), not all mobile phone companies operated within town.

Focus group participants reported that they mainly used mobile phones outside of Chapleau, such as when they traveled to Timmins or Sudbury. Although nearly half of survey participants (48%) reported having one or more mobile phones in their households, they used them inconsistently and typically just in case of emergencies: Only one quarter of mobile phone owners (12% of the entire sample) used them at least weekly. Cécile reported, “I will leave it on if I am away, out of town. Half the time I don’t hear it because I am not accustomed to it, but that’s okay.” Except for Robert, a business owner who described himself as being “hooked” on his Black-Berry (which he always kept on silent mode), focus group participants saw little need for using mobile phones in town. Albert told us, “Mine is turned off, and it’s in my lunchbox. If you need to find me, I’m at the shop, or I’m at work or I’m sleeping. And if you call me when I am sleeping, you’re not going to like my answer.” Similarly, Josée did not see the use of mobile phones “because there’s nowhere that you can’t get a hold of me in Chapleau. If you want me, you will find me!” In-person, landline telephone, and e-mail were still the predominant ways in which residents communicated with one another.

Almost all Chapleau residents chose among modes of communication as appropriate, available, and affordable. For example, one female participant used e-mail and phone (landline and mobile) to contact family and friends outside of Chapleau. Although domestic long-distance calls were becoming increasingly affordable, Josée said, “I can’t afford to call [my sister in] Switzerland.” Instead, she e-mailed her almost daily. Karen, whose daughter attended Queen’s University, in Kingston, Ontario, accessed her daughter’s Facebook page to keep in touch with her. A few parents had their own Facebook pages or IM accounts to bridge the distance to their kids while away at university. Although few Chapleau participants used Facebook or MySpace at the time of our data collection, there were Facebook groups in which ex-Chapleau residents could maintain ties with this diaspora of formerly local family and friends.

Creating a Feeling of Copresence: “It’s Like Being There”

Perhaps the greatest perceived affordance of high-speed Internet was Chapleau residents’ connectivity to family and friends living elsewhere. The always-on connectivity facilitated by high-speed Internet (in comparison to dial-up) allowed Chapleau residents to access, and be accessible to, family and friends in a way that afforded them a sense of copresence akin to being there. This alleviated some of the psychological, if not physical, isolation of life in Northern Ontario. In the words of one participant, Chapleau was “like an island,” but the addition of the high-speed Internet to the residents’ existing communication routines had added and enlarged bridges to the outside world. These bridges connected residents with already-familiar family members, relatives, friends, and places. Although most Internet use was with existing relationships—especially, children who had left home and kin who had moved away—half the survey participants (50%) reported that the Internet made it easier to meet new people.

High-speed Internet connectivity created a higher level of sharing that went beyond that afforded by voice (phone) and text (postal mail). For example, some Chapleau participants enthusiastically used digital photos to keep in touch. Keith said,

To use high speed in the cities was easy, but sending those to me who had a dial up—oh my God. It would clog up my computer for I don't know how long. If they send me a picture at a time, it would still take forever. And now it doesn't matter what they send me. And the quality is there too and it's kind of nice because you can print them and you have up to date pictures of the grandkids or whoever.

Clarisse concurred. Although she would see her grandchildren only once a month, receiving photos via the Internet helped her remain aware of what was happening in their lives. It was simpler for her than using an Internet phone or Web cam: "It's nice that you get a weekly 'Guess what they did'" (through e-mailed photos). Many residents were taking advantage of this newer possibility, with 60% of surveyed participants owning digital cameras—the third-most-popular technological gadget after DVD players (79%) and desktop computers (62%). Joséé used computers in the long-term care wing at the hospital to show her bedridden mom the photos that her sister had taken of home renovations, plus "her great grandkids, Thailand photos and such. It was really nice. That's what the Internet has done for the seniors. They're able to use it there." Thus, communicating online (as well as game playing) was a major social boost for those with limited mobility—for instance, making the later years of Keith's 95-year-old father's life "worth living."

Internet phone services such as Skype were also a convenient way for some to maintain low-cost visual and immediate communication. Albert explained, "I was using my computer to call a friend. It was great; it was something new for me: Internet phone. It was free—the provider would give you a month for free if you bought the thing afterwards." Exchanging home videos via the Web was more widely embraced by participants. David even bought video cameras for all his family members as Christmas gifts. Anna, originally from South America, talked with her aging mother back home, who was becoming adept with computers. Anna used Skype to keep in touch with her geographically dispersed family:

It's a conference call, doesn't cost a cent, and I do the same with my nieces and nephews. I saw the one that was born six months ago because they connected the Web cam. My mom was crying because she could actually see me. My mom is 81, and she has the computers. So the fact that she can see her great granddaughter and then Anna, the crazy one that is up north with the polar bears, [is wonderful]. My mom is crying, and I was thinking, "Oh my God, this is not good; she's going to have a heart attack or something." It was too emotional. I have been here 22 years and I have only gone [back to visit] three times, I think. She has come to Canada, but now it is hard for her leave, so [Skype] was really so clear, and using the language and my jokes and my gestures, she was touched.

Another participant, Wendy, reported, “[I] saw my niece’s newborn little baby boy when he woke up. She phoned me, said, ‘He’s up,’ so I got on my computer with our Web cam.” Wendy explained that despite these relatives being located in the American Midwest, it was “just like being there.”

The way that Chapleau residents were using the Internet to experience immediate and personal interactions with their family members is akin to AT&T’s former slogan “Reach out and touch someone.” Using Web cams and sharing photographs provided residents with a nearly tangible, physical connection to a degree that they had never quite achieved using the telephone: Anna’s mother was emotionally affected; Wendy felt as though she was actually copresent.

Connecting With Distant Institutions

The coming of the high-speed Internet had eased the ways in which Chapleau residents dealt with important issues in their lives: managing their money, maintaining their health, shopping, and obtaining information. The limited choices of banks and hours of service in Chapleau had constrained options for managing money. Those who had started using high-speed Internet for this task reported that it made banking much (61%) or somewhat (25%) easier. Others used financial services to invest in the stock market. Some had used the older, slower dial-up Internet before, but as one focus group participant told us, banking Web pages had taken upward of 4 minutes just to load.

The interplay of two new inventions—broadband and speedy courier delivery—meant that residents now shopped online to order a more diverse range of products and have them delivered. Owing to the limited shopping choices in Chapleau, participants had always shopped hundreds of miles away: in Timmins, Sault Ste. Marie, Sudbury, or even Toronto. Although some welcomed the occasional trip outside, the need to travel was burdensome. They now used the Web to arm themselves before they left home: comparing products in advance and checking out prices to take advantage of retail stores’ guarantee to match competitors’ prices. The largest local store had decided to use the Internet rather than ignore it: The store had become the depot for the Sears department store chain and a major electronics chain. The owner went online to update prices every morning. That way, customers could come in and receive help in the selection, ordering, and delivery. The availability of delivered products was especially useful to seniors, who might not have otherwise been able to access the products they wished to purchase (see Stern & Adams, 2010 [this issue]).

High-speed Internet telehealth access had also improved the quality of life. Telehealth services had reduced both the time (at least 2 hours’ drive) and the expense of traveling for health care. A Web cam link within the Chapleau hospital allowed residents to consult with specialists across the province or country. The telehealth services also allowed participants to get medical test results more quickly via telemetry, without having to drive for hours for a brief follow-up appointment. There was no more danger of a collision with a moose in order to have a 5-minute consultation about blood pressure or X-rays. A number of residents also checked health Web sites to learn

more information about their own medical conditions or a family member's, helping them prepare for consultations with physicians and nurse practitioners. Although Hale, Cotten, Drentea, and Goldner (2010 [this issue]) showed that rural Americans use the Internet for health information less than those living in urban areas, the situation is quite different in Chapleau, whose residents strongly rely on telehealth. The reason, we believe, is the isolation of this rural community. Telehealth is not a convenience for Chapleau residents; it is a necessity.

The high-speed Web's vastly greater access to information has benefited all ages. Anna, a teacher in Chapleau, found that her students used the Internet for discussions and went to Web sites that provided help with their homework, such as SOS Homework and SOS Devoir. Harold, a parent, called the high-speed Internet "integral" to his children's education, facilitating school projects and access to current information. His daughter used it to research about global warming: She got ideas and help in organizing her paper. Although a few adults were taking online continuing education courses, undergraduates had to travel far for full-time postsecondary education. In the words of Cécile, "our students cannot leave here and go to university and say that they were lacking something in their hometown, because they certainly are very well connected and can compete. It has leveled the playing field in that respect."

The Internet in Everyday Rural life: Transformation and Continuity

Chapleau Joins the World

Spurred by a demonstration project, Chapleau moved quickly from the phone and dial-up era to the high-speed broadband era. The Internet rapidly became incorporated into the residents' everyday lives. The most important transformations were social and perceptual. The impact in this rural area, quite different from that of the urban experience, was more so on the long-distance relationships to people and institutions than on the local linkages. Where the Internet is a convenience for local use, it is transformative for long-distance use. People use it extensively to keep up with friends and relatives in the Chapleau diaspora and to engage with a variety of services and institutions. They no longer live on an island, an isolated one where icy winter roads make driving hazardous.

Now that they have high-speed Internet, Chapleau participants are reluctant to give it up. More than half of survey participants (56%) would miss the Internet very much if they could not use it anymore; more than a quarter (27%) would miss it somewhat; and only 17% would not miss it at all. Many eagerly paid to subscribe once they got a taste of high-speed broadband. Indeed, when the demonstration mesh project had start-up problems, residents nevertheless "got a taste of the Internet" and wanted high speed. Those participants who did stay with the free wireless network were increasingly satisfied with it. Of the termination of the wireless service at the end of the yearlong project, Clarisse told us that residents "knew [the end] was coming. We knew it was too good to be true."

Residents believed that having high-speed Internet “extended our life” as a community, according to Robert. As Albert reported, broadband was “the best thing that ever happened here.” They thought that having high-speed Internet put their community on a level playing field—socially and economically—with other cities in the province and country. As Josée put it, “the Internet kind of puts us out there.” Although having high-speed access has not yet led to the hoped-for economic boom—bringing only modest increases in job opportunities using high-speed Internet (such as call centers for pizza delivery)—it has changed the residents’ outlook on Chapleau in relation to the world. They believed that it increased their opportunities for health care, education, and shopping and allowed them to be more informed about the outside world. Most important, the easier accessibility to friends and family made them feel less isolated and more socially connected with physically distant loved ones. Internet users had more communication, more civic involvement, and a greater sense of community. The process was reciprocal and not just one way: It was the more involved and community-minded people who had especially taken to the Internet.

The implementation of high-speed access has been a significant turning point for Chapleau. Although Chapleau is still geographically distant from anywhere else, the Internet has allowed residents to participate, through this now-open window, with the rest of the world.

Rural Internet Use: Digital Difference, Not Digital Divide

Chapleau represents a specific type of rural context, with economic, geographic, sociopolitical, and cultural–linguistic characteristics not found in all rural regions. Nonetheless, as a remote region that had limited experience with high-speed Internet, it offered a window into the process of a community’s joining the so-called Internet Society. Despite the possibilities and benefits presented by high-speed Internet, the implementation of high-speed Internet in rural and isolated regions is unlikely to alleviate all social, economic, and political challenges of rural life. These regions will not become like their urban counterparts. New technologies are cyclically celebrated as a key to erasing rural–urban discrepancies in lifestyle. We continue to find echoes of this argument in each era. Indeed, Wirth’s observation in 1956 is as central to the present discourse about technology and rural life as it was half a century ago:

The recent profound changes in the technology of living, especially in the United States and to some extent all over the world, have made such notions as we have about rural and urban likenesses and differences obsolete. . . . The radio and, more lately, television, promise to produce a virtual revolution. The time has come for a re-examination of the meaning of the concepts “urban” and “rural.” (Wirth, 1956/1964, pp. 221-222)

Rural–urban differences persist despite the emergence of television and now broadband Internet. The obstacle of distance and isolation is mitigated by the delivery

of services, goods, ideas, and information directly to residents where they live, rather than the requirement travel to satisfy their needs. However, the claim that all Internet users and places can be the same is not well founded. From the perspectives of participants, they do not want their community to adopt what they see as the unenviable characteristics of urban life: anonymity, a lack of face-to-face communication, and less dense social networks. Chapleau's residents use the Internet to stay put and to travel virtually to friends, goods, and services. Residents use the Internet to reinforce or establish ties to other organizations and towns through participation in institutions such as the international Rotary Club. The Internet helps them to maintain their collective local sense of identity by "putting themselves on the map" with Web sites. Several pointed with pride to a local pilot's "Flying With Rick" YouTube video tour of the area (Korpela & Korpela, 2007). The Chapleau experience did not reflect rural Internet users' becoming the same as urban and suburban Internet users. Rather, it showed how the Internet can further rural residents' personal interests and social relationships in a way that reflects their different social, geographical, economic, and cultural contexts. In this respect, the Internet and online communication clearly mitigate the challenges of social and geographic isolation.

Too often, analysts, and even residents, see rural Internet use as a type of digital divide: never quite catching up to urban use, even with the arrival of broadband. Yet, Chapleau residents are not deprived; they have eagerly seized on broadband. Their experiences show that physically isolated rural residents have a different set of needs and opportunities: Their Internet use is different from urbanites, not inferior. Indeed, in terms of connectivity to the outer world, the Internet is more important to Chapleau than it is the urban Torontonians whom we have studied (Wellman et al., 2006).

However, opportunities for economic, social, and political engagement are based on skill as well as access (Hargittai & Hinnant, 2008; Stern et al., 2009). This is key because the mere presence of the high-speed Internet access in a locality does not guarantee equal inclusion. One female focus group participant, still on dial-up, explained that because she and her husband were not avid Internet users, they just did not bother to try the high-speed wireless Internet. Such people are unlikely to capitalize on the advantages offered by faster and reliable Internet service. Those who do not develop Internet skills risk being further excluded as important information, social services, and government resources become increasingly—and exclusively—accessible online. Focus group participants complained, for instance, that when telephoning the provincial government's information telephone line, a prerecorded device redirects them to the government's Web site.

For those living within the small towns that now find themselves included in the Internet society, the reluctance to go online can be overcome. Suzanne's husband "was so afraid of touching a computer, like it was a real sickness for him to go on, because he had never used a computer before in his life"; yet, now he shops for used vehicles online. A basic minimum of personal resources is required: having friends or training courses to show the basics, having the leisure time to learn, and having the financial ability to buy a computer and pay a monthly Internet access fee.

The Internet is unlikely to save rural and remote areas from declining economies and out-migration. A remote community is going to stay remote. However, as much as people use the Internet, they still must satisfy many of their material and social needs physically and locally. Yet, the experiences of Chapleau residents show that high-speed Internet can extend the life of a community by improving the quality of life for residents. If they can “be there” with their families across the continent or world, they may be more inclined to stay where they are, irrespective of geographic isolation. Chapleau residents perceived that their social and economic world had expanded. In reality, the world is the same size, and this digital connection has not completely revolutionized rural life. Distant online communication has not replaced local community and connectedness. Instead of being an isolated island unto itself, Chapleau has become more like a well-attached island with many Internet bridges to the outside. Those living there feel as though they have at last joined the world. The communication, entertainment, information, and other utilities available online have embedded the Internet as an essential aspect of residents’ lives, one they have embraced. As Debbie joked to us, “the Internet is like sex. Once you have it, you don’t want to give it up. But then there is no more sex.”

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Note

1. All names used in the text are pseudonyms.

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Bios

Jessica L. Collins is a doctoral student in the Department of Sociology at the University of Toronto. She holds a Master's from the University of Toronto and a Bachelor's from the University of Western Ontario. At Western Ontario, she coauthored "I'm There, but I Might Not Want to Talk to You," with Anabel Quan-Haase (*Information, Communication & Society*), investigating university students' use of instant messaging. Collins is a fellow of the Social Sciences and Humanities Research Council of Canada. Her research interests include social network analysis, sociology of culture, and urban sociology.

Barry Wellman directs NetLab at the University of Toronto, which studies the intersection of social networks, computer networks, and communication networks. He has coauthored more than 200 articles and coedited multiple books. A fellow of the Royal Society of Canada, he has won career achievement awards in information and communication technologies, social network analysis, Canadian sociology, and community studies.