

Title

Community and Social Interaction in the Wireless City: Wi-Fi use in Public and Semi-Public Spaces.

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Abstract

A significant body of research has addressed whether fixed internet use increases, decreases or supplements the ways in which people engage in residential and workplace settings, but few studies have addressed how wireless internet use in public and semi-public spaces influences social life. Ubiquitous wi-fi adds a new dimension to the debate over how the internet may influence the structure of community. Will wireless internet use facilitate greater engagement with co-located others or encourage a form of ‘public privatism’? This article reports the findings of an exploratory ethnographic study of how wi-fi was used and influenced social interactions in four different settings: paid and free wi-fi cafes in Boston, MA and Seattle, WA. This study found contrasting uses for wireless internet and competing implications for community. Two types of practices, typified in the behaviors of ‘true mobiles’ and ‘placemakers’, offer divergent futures for how wireless internet use may influence social relationships.

Key Words

Social networks, Muni Wi-Fi, privatism, parochial realm, community informatics, mobile computing

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Community and Social Interaction in the Wireless City

Wi-Fi use in Public and Semi-Public Spaces.

Introduction

Recent years have seen rapid growth in the availability of wireless broadband internet access in public spaces. Providers and points of access take the form of municipal wi-fi networks (Muni wi-fi), such as those operating in Philadelphia and Toronto, community wireless networks, such as New York Wireless or Île Sans Fil in Montreal, advanced mobile phone networks (e.g. 3G), and wi-fi cafes, restaurants, bookstores and related spaces (hereafter abbreviated as 'wi-fi'). While there is a significant body of research addressing whether fixed internet use increases, decreases or supplements the ways in which people engage in residential (Hampton, 2007; Hampton and Wellman, 2003) and workplace settings (Quan-Haase and Wellman, 2006), few studies have addressed how the use of wireless broadband in public and semi-public spaces influences social life. Ubiquitous wi-fi adds a new dimension to the debate over how the internet may influence the structure of community – the network of supportive ties that exist between individuals. It is unclear whether wireless internet use in public spaces will facilitate greater engagement with people in public spaces or encourage a form of 'public privatism'. Will wi-fi use support public disengagement, with people withdrawing from the public realm in exchange for private spheres of influence, or will it facilitate new interactions and contribute to the development of a new public sphere?

This article reports the findings of an exploratory study which examined how wi-fi was used and influenced social interactions in a series of wi-fi coffee shops. Observations were drawn from four different settings: paid and free wi-fi cafes in Boston and Seattle. The goal of

this article is to provide an initial framework for understanding how wi-fi influences the interactions and structure of personal networks in a wireless city.

Privatism

In the past, the ‘wired’ nature of desktop computing limited the potential for Internet use to blend into urban public spaces. With few exceptions, such as libraries, Internet cafés, and community technology centers, Internet use was confined to the home and workplace. The connection between Internet use and home-centeredness generated concern that new media use increased privatism (Graham and Marvin, 1996). Indeed, personal networks have become increasingly privatized, consisting of densely-knit networks of interactions centered around the home, rather than diverse, loosely coupled interactions in more public settings. For example, a study of the size and composition of people’s core ‘discussion networks’ in 1985 and 2004 identified a shift from ties formed through voluntary associations, neighbors, and interactions in the public realm, toward networks increasingly dominated by kin and based around the home (McPherson, Smith-Lovin, and Brashears 2006). While the authors of that study did not directly link Internet use with changes in the structure of social networks, it is notable that the time period observed by McPherson et al. (2006) corresponds with the rise of the ‘network society’ (Castells, 1996). Their findings are also consistent with observations of other home-based media, including television and the telephone, that have been linked to increased privatism (Putnam, 2000, Fischer, 1992).

The concern with privatism is the sacrifice of ‘bridging social capital’ for ‘bonding social capital’ (Putnam, 2000). Bonding social capital is formed through the interaction of tightly-knit

networks of similar others, often close friends and kin. Personal communities high in this form of social capital tend to provide generalized social support and to be high in reciprocity (Wellman and Wortley, 1990), but they can also be repressive and tend to be racially, culturally, behaviorally, and ideologically homogeneous (McPherson et al., 2001). Bridging social capital exists through access to diverse, and relatively ‘weak’ social ties that provide specialized social support and access to novel information and resources (Burt, 1992, Granovetter, 1973). Individuals who have more bridging social capital, which can only come from participation in diverse social milieus, are more trusting, they demonstrate greater social tolerance, they cope with daily troubles and trauma more effectively, they tend to be physically healthier (Cohen et al., 2000), and have access to more diverse information and resources, which has been shown to assist in search processes (such as finding a job) (Granovetter, 1974).

The earliest evidence of the role Internet use plays in personal networks appeared to verify that the Internet amplifies the existing trend toward privatism. The work of Kraut et al. (1998) and Nie (2002) found that Internet use contributed to a decrease in the size of people’s social circles, a reduction in public participation, and an increase in home centeredness. However, as the Internet has become more ubiquitous, more recent research has found that the Internet has little influence on the size of social networks (Kraut et al., 2002), does not significantly influence the allocation of day-to-day activities (Robinson et al., 2002), and supplements rather than replaces traditional modes of communication (Quan Haase et al., 2002). Those who use the Internet to communicate with their closest and most significant social ties are also in frequent contact in-person and through other media (Baym et al., 2004, Boase et al., 2006). Similarly, email users tend to have more social ties than nonusers and email appears to be a particularly useful medium for maintaining contact with a larger number of relatively weak social ties (Zhao, 2006, Boase et

al., 2006). Face-to-face and telephone contact remain the dominant modes of connectivity when people communicate with their closest ties (Boase et al., 2006). The general conclusion, that Internet use increases overall communication and possibly leads to larger networks, suggests that it is a possible counter force to privatism. However, the evidence on frequency of communication and network size alone, does not directly address the underlying concern of privatism, that networks are increasingly home-centered and homogeneous as a result of new media.

In an attempt to more closely examine the circumstances under which the Internet does or does not encourage privatism, a series of studies have examined the role Internet use plays in the formation and maintenance of neighborhood ties (Hampton and Wellman, 2003, Hampton, 2007). Early Internet adopters were found to have smaller neighborhood networks, but experience using the Internet was also found to inoculate them from increased privatism. Over time, experienced Internet users increased the number of ties they had from the parochial realm. The neighborhood networks of non Internet users and those with less Internet experience lost ties over time, they become increasingly privatized (Hampton, 2007). These studies also found that the introduction of a neighborhood email list increased the number of weak social ties at the local level, and facilitated public participation (Hampton and Wellman, 2003, Mesch and Levanon, 2003, Hampton, 2007). The observation that Internet use affords both global and local connectivity, has been termed 'glocalization' (Hampton, 2001). While these studies provide some promising evidence that home-based Internet use does not encourage privatism, and may even help reverse the trend, they are not conclusive, especially in light of the findings of McPherson et al. (2006). What is conclusive, is that the Internet has become increasingly integrated into everyday life (Haythornthwaite and Wellman, 2002).

The Public

With the launch of Muni Wi-Fi, for the first time it will be possible to integrate intensive Internet use with the use of public space. Public spaces and public life play a unique role in the formation of social networks, opinions, and democracy. When referencing public space, urbanists typically refer to a 'city's street, its parks, its places of public accommodation' such that 'public space may be distinguished from private space in that access to the latter may be legally restricted' (Lofland, 1973: 19). Semi-public spaces, those spaces that are not completely 'a world of strangers' (Lofland, 1973), nor domesticated, are also recognized for the role they play in public life (these spaces are sometimes placed under the label of the 'parochial realm'). Habermas (1989) noted the role of such places, in the form of London coffee houses and French salons, in the development of a public sphere for cultural and political debate. While Habermas (1989) argued that the growth of capitalism diminished the public sphere, Ray Oldenburg (1989) suggested that while such 'third places' (differentiated from work and home) have declined, they continued to play an important role in the social life of Americans well into the 20th century. Oldenburg (1989) noted that these semi-public spaces

nourish relationships and a diversity of social ties, they help create a sense of place and community, they invoke a sense of civic pride, they provide numerous opportunities for serendipity, they promote companionship, they allow people to relax and unwind after a long day at work, they are socially binding, they encourage sociability instead of isolation, and they enrich public life and democracy.

Like the history of 'community' (Hampton and Wellman, 2003, Wellman, 1999), the 'public' has an extensive literature that documents its birth, transformation, death, and rebirth at the hands of societal (e.g., capitalism, industrialism, bureaucratization, etc.) and technological

change (e.g., electricity, telephone, automobile, etc.) (Habermas, 1989, Sennett, 1977, Marvin, 1988, Fischer, 1992). The dominant interpretation of the relationship between public space and social interaction suggests that the modern urban environment is responsible for increasing social segregation, isolation and noninvolvement. Public spaces are seen to afford bystander apathy (Latané and Darley, 1976), to generate stimulus overload (Milgram, 1970), and to be increasingly sanitized (Zukin, 1995, Hannigan, 1998). Yet, a considerable literature exists to suggest that street life is far from anonymous; it is full of symbolic interaction (Goffman, 1963, 1959, 1971), contains planned and fleeting encounters (Whyte, 1980, Coleman, 1962, Berkowitz, 1971, Lofland, 1973), it is a source of serendipity (Merton and Barber, 2004), and it is the setting for a range of informal interactions that contribute to social norms and public safety (Jacobs, 1961).

Public Privatism

It is unclear how the introduction of Muni Wi-Fi, that will penetrate public spaces as the Internet has already penetrated private spaces, will influence the structure of people's networks and social interactions. If people use Wi-Fi in the same way they use mobile phones, it is likely that Wi-Fi use will exasperate a trend toward 'public privatism.'

Mobile phones make community instantly accessible, social ties are reachable anywhere at any time; a form of community that Wellman et al. (2003) termed 'networked individualism.' Most people use mobile phones to call a small set of mostly strong ties (Ito and Okabe, 2006b, Ling and Yttri, 2006). Email or SMS is used when voice communication is perceived to be inappropriate (Ito and Okabe, 2006a), and to keep in touch with a larger more diverse set of contacts (Matsuda, 2005: 125-127). Whether used for voice or SMS, mobile phones create a private sphere of interaction within public spaces. When people engage with their mobile phone, they

create a private ‘cocoon’ that reduces the likelihood of serendipitous public encounters (Harris, 2003), contradicts common expectations for public behavior (Ling, 2004), and diverts attention away from co-present others (including existing social ties) (Humphries, 2005). The mobile phone has made it less necessary to rely on anyone other than those who are already highly familiar; ‘those who have come into our sphere of friendship are always available’ (Ling, 2000). As argued by Goldberger (2003):

The great offense of the cell phone in public is not the intrusion of its ring, although that can be infuriating when it interrupts a tranquil moment. It is the fact that even when the phone does not ring at all, and is being used quietly and discretely, it renders a public place less public. It turns the boulevardier into a figure of privacy. And suddenly the meaning of the street as a public place has been hugely diminished.

The ‘public privatism’ of interactions as a result of the mobile phone mirrors findings from studies of how fixed Internet access has been used in semi-public spaces; ‘Private uses in Public Spaces’ (Lee, 1999). The trend, of people socializing in small, intimate groups in private homes, rather than with large, diverse groups in public spaces, maybe augmented through the use of new mobile media by a tendency to socialize remotely with small, intimate groups in any space, at any time.

Ubiquitous Wi-Fi

Public spaces play a unique role in shaping and maintaining personal networks. Unlike the close, homogeneous, densely connected nature of social relationships that are likely to dominate private spaces (McPherson et al., 2006, Putnam, 2000), of which the private home is the best ex-

ample, public and semi-public spaces are more likely to be the setting for diverse social interactions. It is unclear how the penetration of Muni Wi-Fi will influence interactions in these spaces or the broader structure of people's social networks. There may even be variation based on local culture, climate, the built environment, and how Wi-Fi is deployed (e.g., free vs. paid). At the most basic level, the introduction of Muni Wi-Fi suggests two competing, although not mutually exclusive possibilities:

1. The ubiquitous availability of wireless Internet access will encourage greater participation in public spaces, lead to increased public interactions, and possibly diversify the composition of people's social networks.
2. Public Wi-Fi use will consist of private cocoons of interaction that benefit existing close ties, distract from interactions with co-present others, and ultimately reinforce the existing trend toward privatism.

In the absence of Muni Wi-Fi projects that are fully operational, to uncover initial evidence of how Wi-Fi use will influence the structure of community interaction, we rely on observations from those examples where Wi-Fi has already penetrated public and semi-public spaces, Wi-Fi coffee shops. Our observations of Wi-Fi use are exploratory; we did not attempt to test specific hypotheses in advance of our observations. Instead, based on what we observed of how Wi-Fi was used in coffee shops, we provide a first in-depth view of public Wi-Fi use, and sketch a theoretical framework for how interactions and networks may be augmented in the context of Wi-Fi.

Methods

We limited our observations to four Wi-Fi cafés in two cities, Seattle and Boston. One café in each city offered paid Wi-Fi, the other offered free access. Our selection of cafés was not random, all four of our cafés were familiar to at least one of the authors in advance of the study. However, neither of the authors was a regular at these coffee houses. Gupta had previously lived and worked in Seattle and at the time of the study both Hampton and Gupta were residents of Cambridge, Massachusetts. Our cafés were selected to help control for variables that were exogenous to the influence of Wi-Fi. This included the potential for bias in our observations as a result of the culture of any one coffee house, the characteristics of surrounding neighborhoods, and the social qualities of different cities. We also recognized that the contrast between paid and free Wi-Fi might be a source of variation in users' experiences. Given the dominance of the Starbucks coffee chain (7,200 stores in 30 countries), its early adoption of Wi-Fi service (starting in 2001), and a deal with T-Mobile (Deutsche Telekom) to offer paid Wi-Fi in the majority of its cafés, Starbucks seemed like a natural choice for our observations in order to maximize the generalizability of our findings. Given that the T-Mobile / Starbucks partnership was for paid Wi-Fi use, this necessitated that we select independent coffee houses for our free Wi-Fi comparison.

We had initially hoped to observe Wi-Fi use in diverse urban environments, central business districts and suburbs. However, after spending many hours in suburban coffee houses we abandoned our plans after making very few observations of Wi-Fi use. Instead, we limited ourselves to commercial areas in or near the downtown core and the areas bordering the University of Washington and the Massachusetts Institute of Technology. Even in these limited contexts we experienced difficulty in finding appropriate field sites.

We wanted to insure that the café's we selected were not unusual in a way that would make us question if our observations were as mundane as we hoped. For example, we initially wanted

to make observations at Starbucks's first location, in Seattle's Pike Place Market, but it was quickly obvious that its role as a tourist destination made it atypical. In the end we spent time at eight different Seattle Starbucks locations before we settled on the Starbucks at 6th and Union as a 'typical' Starbucks setting; steady foot traffic, a small number of large, stuffed, comfortable purple chairs, and many less comfortable steel framed chairs with matching small tables. After a similar process, we selected a similarly pedestrian Starbucks located in Central Square (Cambridge/Boston), between Harvard and the Massachusetts Institute of Technology.

It was surprisingly difficult to find completely free Wi-Fi cafes. Many had hidden price tags in the form of required purchases or time limits on use. Others advertised Wi-Fi but in practice served up such unreliable service that there were few takers. In Seattle we settled on Chaco Canyon Café (47th and Brooklyn near the University of Washington). The owner was a local community activist. The café offered an extensive selection of raw foods, organic juices, and fair trade coffees. The store had an 'at home feeling' with ample tables made from golden oak. Wi-Fi access was installed and operated by the owner and his brother as an experiment to draw in new customers. In Boston we selected Trident Booksellers & Café (located on Newbury Street). Twenty years ago Trident's owner was an early pioneer of the bookstore-café combination that is now a standard configuration for the 'big book' chains. The café has an open look with large windows that open to a trendy commercial street. The store provides Wi-Fi as part of NewburyOpen.Net, a free community Wi-Fi provider.

Our methods of observation were primarily qualitative. A total of 120 hours were spent in our four cafés between December 2003 and March 2004. A total of 30 hours were spent on direct observations in each café. Observations were made in two hour time blocks systematically distri-

buted across hours of operation, roughly one third of the observations were made on weekends, the rest on weekdays.

Observations consisted of extended visits to each café with laptop in hand. The time in each coffee house was spent making detailed notes of how patrons with mobile devices interacted with each other and café staff. Careful notes documented each interaction, including the gender and approximate age of those involved, how the exchange was initiated, and the duration of the exchange. In addition to unobtrusive observations, we created a short Web-based survey with questions on basic demographics, social networks, technology, and prior experiences in Wi-Fi cafés. As subjects left the café, every fifth person who had used a laptop was given the Web address to our online survey and a letter explaining the study. However, a low response rate lead us to abandon our survey. As it turned out, when we approached people with our survey, many of our subjects spontaneously stopped to talk about their experiences. In total 20 unstructured exit interviews were completed, this represents about 8% of the total number of people we observed using laptops. Most interviews were conducted on the spot, when necessary they where scheduled for a later time, and on rare occasion they were completed through email correspondence.

Findings

The selection of four field sites was intended as a source of differentiation with the expectation that we would observe variation based on city, individual location, and free vs. paid Wi-Fi services. However, our observations did not support even this simple expectation. We observed the most significant distinctions in social interactions based on different practices of Wi-Fi use. The settings we observed attracted users with two distinct activities. We present these practices as a typology with two ideal types: true mobiles and place makers. It is important to recognize that

while we present these activities as ideal types (Weber, 1946), there was some variation in the practices we observed, and we note such variation where appropriate.

True Mobiles

For ‘true mobiles,’ Wi-Fi coffee shops functioned as a backdrop for activities focused on the completion of ‘work’ (studying, paid work, etc.). True mobiles identified the café as a ‘space of productivity.’ They would typically suggest that the store offered a change of setting that helped them focus, or provided a source of creativity. One subject offered ‘It is nice to get out of the office, if I don't have a specific reason to be there. The change of pace seems to be good for my productivity.’ While another noted that ‘background noise helps me focus, and I know other people who think so too.’ The limited number of true mobiles that did not directly refer to the coffee shop as a productive space, told us that the café provided an ‘escape’ that would in turn aid productivity when they returned to their place of work.

I do a lot more writing at home, actually, but sitting in a coffee house is a temporary break. At home, this usually means that I walk a mile down to town, work there a while, and then walk back, so it's a matter of changing the dynamic.

Early in our observations, our initial assumption was that semi-public spaces were not ideal for work productivity, and that the people we interviewed were offering a cover to justify ‘having no purpose’ (Goffman, 1963: 58), possibly as an excuse for disengaging from a space that had a norm of social involvement, or as a reason for taking a break where there was a norm of work –possibly resulting from the presence of Wi-Fi. However, direct observations were ultimately inconsistent with our initial assumption, true mobiles were not providing a cover for disengagement, true mobiles were truly in the café with the sole purpose of work.

Whether a true mobile described their visit to the Wi-Fi café as an ‘escape’ or a ‘space of productivity,’ there were no actual observable differences in their activities. All true mobiles spent their time almost completely engrossed in Wi-Fi and laptop use. Observations and interviews indicated that they were primarily engaged in sending e-mail and surfing the Web. Their laptops were not mere props, they were a means to a specific ends: productivity. Despite their own internal differentiation, there were no observable clues that those on an ‘escape’ were immediately more or less ‘productive’ in semi-public spaces than those specifically seeking efficiency.

True mobiles included all the ‘mobile workers’ that we observed (those who were currently traveling ‘out of town’ as part of their occupation), but did not specifically exclude those who did not travel or were not currently traveling for paid employment. True mobiles who were mobile workers often sought out Wi-Fi coffee shops to serve as primary, although temporary locations for employment activities. This contrasted with the majority of true mobiles that we observed, most true mobiles lived or work within a short distance of the cafés we studied. They tended to report a need to work from a fixed office location for most of their day, they used the café as a secondary, occasional extensions of local workplaces. It was not uncommon for true mobiles to report that they scheduled a specific day each week to spend at the café: ‘I work Monday to Thursday at the office and every Friday from Starbucks.’

Locally based true mobiles identified with the Wi-Fi café as a space of productivity, but they were also likely to cite the coffee houses as the location for another type of ‘escape;’ an escape from the physical presence of their coworkers. This included home-based employees who by choice or other arrangement worked from home on specific days of the week, but sought the Wi-Fi café as a refuge from distractions at home –escape from spouse, children and television.

When compared to true mobiles of the more local variety, mobile workers differed only in whether they designated the Wi-Fi coffee shop as their primary workplaces, not in task: using Wi-Fi and their laptops to check email and surf the Web.

Like most of the café customers that we observed, true mobiles participated in a minimal level of overt interaction with co-present others (both patrons and coffee shop employees). Much of their interaction was subtle and non-verbal. Their base level of engagement could be characterized by what Goffman (1963: 84) called ‘civil inattention:’

One gives to another enough visual notice to demonstrate that one appreciates that the other is present (and admits openly to have seen him), while the next moment withdrawing one’s attention from him so as to express that he does not constitute a target of special curiosity or design.

The majority of true mobile’s interactions were observed in the form of near constant keyboard use, and when interviewed, the communication they reported in the form of email and instant messages with colleagues, friends, and other existing members of their social network. The activities and interactions of the coffee shop were peripheral.

True mobiles both reported and were repeatedly observed avoiding the gaze of staff and other store inhabitants. Like the majority of other coffee shop patrons, true mobiles employed ‘portable involvement shields’ (Goffman, 1966). Goffman described portable shields as fans, masks, and the use of people’s hands to conceal facial expressions; used to literally shield oneself from others and to signal unavailability for more overt interactions. When seated at a table, the technology ‘have nots’ used portable shields in the form of newspapers, magazines and books, and the ‘haves’ – true mobiles – used laptops. Cell phones were too small to make for good shields, but they did play a unique role for café patrons of all types. After ordering coffee at

the counter, but before being seated and before coffee was poured, there was a particularly strong tendency for those with cell phones to use their mobile phones as a ‘legitimate momentary diversion’ (Goffman, 1963: 59). Customers would take out their phone, stare at the screen, possibly move a dial or push a few buttons – presumably reviewing some text based content – but almost never initiated a new phone call. This was most frequent at our two Starbucks locations, where there was a norm that customers wait next to the counter for their coffee to be poured before taking a seat.

In the use of involvement shields what differentiated true mobiles from other patrons was their persistence in their use of shields as barriers to interaction. Activities related to ‘work’ were paramount, the extent that true mobiles could be distracted from these activities depended on the tempo and atmosphere in the café. When other patrons ignored the subtle (or not so subtle) signals of a shield and attempted to initiate verbal communication with a true mobile, they were unlikely to be met with eye contact, and were more likely to be met with no response (completely ignoring the other), or an abrupt 1-2 word retort, than what we observed when verbal contact was initiated with non Wi-Fi users. For example, we observed one Wi-Fi user approach a true mobile at a neighboring table, he asked ‘Do you know how to get this working on my machine?’ Without looking up, the true mobile replied, ‘No’ and continued surfing the Web. In another situation that was often repeated, a customer would enter a café and ask ‘Is this seat taken?’ true mobiles were unlikely to do more than shake their heads, other patrons would at least make fleeting eye contact and provide a verbal response. When we pressed true mobiles about these encounters, they offered an explanation consistent with their attempt to remain focused on activities associated with work. At the same time, we would routinely observe the same true mobiles interacting with online contacts through email and instant messaging, although it was unclear from our

advantage point if the exchanges were completely work related. The few times that true mobiles were observed in more extended unplanned in-person interactions were exchanges that involved meeting clients or other true mobiles. True mobiles who participated in extended co-present interactions were usually interacting with coworkers who arrived together, but on one occasion we did observe a true mobile talking to another patron who had the same new model of laptop.

Place Makers

In contrast to true mobiles, the primary activity of ‘place makers’ was ‘not to engage in paid work.’ They came to Wi-Fi coffee shops to ‘hang-out.’ The coffee house was not intended as a direct or indirect place of productivity. For the place maker, the café was center stage, not peripheral. They were drawn by what one subject described as the ‘inherently casual sociability’ of the physical setting. Place makers used their laptops as a premise to enter and engage in the ‘social hubbub’ of the space. This could mean direct co-present participation with existing members of their social network, unplanned encounters, or the pleasure Lofland (1998) ascribes to ‘public solitude’ and ‘people watching.’ Like true mobiles, place makers were regularly observed using wireless connectivity for email, Web surfing, and instant messaging. However, the laptop was never their primary focus, the availability or potential for co-present sociability was their primary activity.

While place makers were more likely than true mobiles to engage in unplanned interactions, place makers were also more likely than true mobiles to enter a café alone. True mobiles occasional arrived in pairs and settled in to complete some sort of ‘business,’ such as meeting with a client, but place makers almost never arrived in pairs or larger groups.

A typical place maker arrived alone, bought a coffee, and took a seat at a table for two next to a window. They would pull out their laptop, set it on the table, and become masters of the ‘momentary diversion’ (Goffman, 1963). A great deal of time would be spent gazing out the window, looking around the café, adjusting personal belongings, slowly sipping coffee, searching for a power outlet, powering up, and then casually surfing the Web and checking email, with prolonged intermittent pauses to glance around and outside the café.

In stark contrast to true mobiles, place makers did not actively avoid the gaze of other patrons within the shared space. While place makers participated in the rituals of civil inattention, a casual glance from another customer was more likely to be met with a fleeting smile than a quick look away. Once mutual awareness had been established, there was a higher probability that additional encounters would take place with a place maker than with a true mobile. As one place maker described his experience over the previous week:

Met people face to face. Spoken to people several times. People ask me about laptops frequently, and about wireless services. Helped several people learn what they need to buy. Also, while in line about to order, meet people sometimes. Religious people sometimes use [the café] to make connections and invite me to their church.

While place makers resembled true mobiles in their use of laptops and other devices as portable interaction shields, with true mobiles these same props were also the most likely observable sources for new interactions. For example, it was common if not routine for coffee shop patrons to glance at Wi-Fi users’ computer screens. True mobiles would typically ignore such a glance or reposition their device to indicate unavailability; this behavior contrasted with place makers who were less likely to signal unavailability. With surprising regularity, glances towards

place makers developed into discussions based on shared interest. We observed people engaged over products on an auction website, a site devoted to a local art show, and an online news site. This behavior also worked in reverse, Wi-Fi users were observed glancing at books and activities of other patrons, they engaged when there was shared affinity and on occasion used their laptops to find and share information. We witnessed serendipitous interactions that were as brief as a few seconds to those that extended more than 20 minutes. When interviewed, place makers described many encounters of this nature, as often with coffee shop employees as with customers.

Overall, the total number of observed conversations between previously unknown customers was small, in each hour maybe a couple of interactions that were more than the most fleeting; requesting a chair, moving a bag, passing a condiment. However, more serendipitous verbal interactions were recorded between place makers and other patrons than between patrons in general. When interviewed, almost 50% of place makers reported meeting someone new at a Wi-Fi café, very few true mobiles reported an unscheduled meeting. When true mobiles did report a serendipitous encounter, they tended to be instrumental, such as a commonly observed exchange associated with negotiating access to a power plug for a laptop, and they were more fleeting, such as a glance or small gesture exchanged with other ‘Wi-Fi regulars’ –which we observed most frequently with a group of true mobiles who shared a morning routine Starbucks, email, and a latte.

While place makers almost always arrived alone, and more often than not left alone, both place makers and true mobiles experienced scheduled and unplanned encounters with existing social ties. About a third of place makers, but only a small fraction of true mobiles would at some point be met by an acquaintance. In all the situations we observed the arriving party would not engage in their own private Wi-Fi use. Instead, the laptop was likely to become a shared fo-

cus of attention. For example, one person would read off the screen to another, or two people would watch a video together.

Unlike true mobiles, it was unusual to find a place maker who was not local. Place makers were almost always regular customers at the same café and they lived or worked in close proximity. Place makers were more frequent visitors to Wi-Fi cafés than true mobiles. Most true mobiles reported 1-2 visits per week, place makers visited almost daily. All Wi-Fi users spent in excess of 30 minutes in the coffee shop on a single visit, and three in ten stayed more than 4-5 hours.

While our observations were of a continuum that ranged from true mobiles to place makers, not an absolute dichotomy, for the most part the distinctions were obvious, users did not move back and forth between types within the same setting. Place makers did not immerse themselves in shielded, private cocoons of interaction with the goal of completing work. Place makers were open if not actively interested in communicating with co-located others, it was their primary activity.

Conclusion

The Future of Community

In our observations of the semi-public space offered by Wi-Fi cafés, we found contrasting uses for wireless Internet and competing implications for community. Two types of practices, typified in the behaviors of ‘true mobiles’ and ‘place makers,’ that offer divergent futures for how the deployment of ubiquitous Muni Wi-Fi may influence the structure of social networks and social relationships in public spaces.

A shift in Internet use away from the home and workplace and into the semi-public environment of a café is by definition a shift away from privatism. True mobiles advanced this trend in their use of Wi-Fi spaces as an ‘escape,’ but in this case the substitution of private for public space did not address the underlying implications of privatism. While true mobiles escaped the confines of private space they did not embrace new opportunities for public interaction, at least not unplanned, serendipities encounters with co-present others. Instead, true mobiles actively resisted the public, they attempted to erect barriers, physically in the form of interaction shields, and sociologically through their avoidance of gaze and verbal contact. True mobiles used public space for very private activities, those activities they associated with the productivity of work, and likely for computer mediated maintenance of their existing social network. As with mobile phone users, true mobiles embraced wireless connectivity for ‘public privatism.’ True mobiles used wireless Internet access to help them transform the network structure of work and community to enable connections to people-in-any-place rather than to people-in-place; ‘networked individualism’ (Wellman et al., 2003). In addition, true mobiles who also spent part of their time doing paid work from home consciously used Wi-Fi enabled spaces as an escape from home based ties –spouse and children. It is not clear if this escape from the nuclear family is a reaction to home centric personal networks, an escape from the psychological overload of intensive kinship relations, or an additional trend toward individualism and social isolation which has the potential to further narrow the size and composition of social networks.

In contrast to true mobiles, place makers embraced the wireless Internet precisely for its ability to connect to the activities afforded by public space. The primary activity of place makers was ‘not work,’ it was: interactions with co-present social ties, serendipitous exchanges, and availability for interactions with strangers. Place makers used the public setting of wireless Inter-

net connectivity as a means for local, place-based interactions, what Hampton and Wellman (2003) previously referred to as ‘glocalization.’ This is not to say that place makers did not use the environment of Wi-Fi cafés to maintain their existing networks, as with true mobiles many of their Wi-Fi enabled activities were likely computer mediated exchanges with established social ties, but consistent with the traditional activities of coffee shops, place makers also had many planned and unplanned face-to-face encounters. What fundamentally differentiated place makers from true mobiles was their use of public space for interactions that were not private.

‘Community’ is not a normative concept. It is the structure of supportive relations that exists between individuals. Large scale social change can affect how individuals structure their networks, and in turn constrain behavior, influence how information is channeled, and affect the allocation of resources. The underlying question that this paper attempts to address is whether or not the introduction of ubiquitous wireless Internet connectivity into the urban environment will alter the prevailing trend in how personal networks are structured: the tendency toward privatism. The answer is that it is too early to tell, but that there are signs leading in divergent directions.

Networked individualism and glocalization are parallel paths, each involves a transformation to the structure of community that is a result of the affordances of the Internet. It is possible that the tendency toward networked individualism or glocalization will vary by individual, and possibly vary for that individual at different stages in the life cycle (Hampton, 2007), but it is not only a matter of personal choice. In a situation where the activities of ‘public privatism’ dominate within even a marginal segment of public spaces, a ‘neighborhood effect’ may be the result. Neighborhood effects are typically used to explain the role of community level characteristics in social tie formation in the context of neighborhood communities (Sampson et al., 2002). Specifi-

cally, individuals who are highly motivated to form social ties, but who live in a neighborhood where few others are available or interested in forming relationships, are structurally disadvantaged relative to similarly motivated – or even lesser motivated persons – in a neighborhood where people are open to tie formation. The network constraints are very different. The same effect applies to the likelihood of serendipity and other encounters in public spaces; it takes at least two for interaction and if no one else is interested or available you will ultimately remain alone. The higher the number of people engrossed in public privatism within any space, the less opportunity for new tie formation.

The Future of Wireless Internet in Urban Public Spaces

The deployment of wireless Internet use in public spaces will initiate a path dependence that will ultimately lead to the domination of either a new public privatism, or increased public participation that will help counter the existing trend of privatism. However, Muni Wi-Fi is not in and of itself deterministic, but decisions related to the deployment of the technology afford different types of social interactions. Although we have not stated it until now, it is true that we found more true mobiles in our paid Wi-Fi Starbucks locations, and a greater number of place makers where free Wi-Fi could be found. However, we did not observe a simple one-to-one relationship, where the presence of free Wi-Fi simply created public interactions. The environment of paid Wi-Fi was simply more conducive to the activities of true mobiles and less so to place makers.

As one user described:

[People] go to Starbucks because people don't want to experiment with their coffee. They usually like to get coffee they like, and Starbucks promises them exactly that. Similarly, people who are looking for Wi-Fi connections will go to places

where they know they will get a good connection, and where they can sit for some time and work.

Even in those environments that were more favorable to place makers, coffee houses often adjusted their environment to limit their presence. Free Wi-Fi cafés employed strategies to discourage people from gathering or feeling overly welcome. For example, when interviewing at Trident Café we learned that management had recently removed all power outlets from customer areas. While visiting other free cafés, we observed that this was a common practice, along with actively limiting Wi-Fi access during peak hours, reducing table space, and established rules controlling access to toilet facilities. Employees would use the guise of customer service to ask patrons if they needed anything, but when we questioned, many admitted it was a strategy to encourage ‘wireless squatters’ to buy something or leave. The perception of free Wi-Fi providers was that their customers had a tendency to loiter and stay around socializing for long periods of time, taking space away from ‘legitimate’ customers. Even in situations where Wi-Fi cafés had the potential to afford the broad community interactions of a ‘third place’ (Oldenburg, 1989), private control over semi-public spaces actively worked to reduce the potential for wireless Internet to afford social interactions.

As Mini Wi-Fi blossoms, it is reasonable to assume that the strategies employed by the owners of semi-public spaces to limit the activities of true mobiles will be carried over by governments and private organizations (such as business improvement districts and Internet service providers) in their attempt to regulate public spaces to make them most welcoming to paying consumers. Yet, commercial interests that drive away place makers may find themselves driving away the majority of public Wi-Fi uses. Even true mobiles are drawn to public Wi-Fi by social characteristics of the setting, and as William Whyte (1980) noted in *The Social Life of Small Ur-*

ban Spaces, what attracts people the most is other people. As cities plan for the deployment of Muni Wi-Fi – whether purely public initiatives, partnerships with private service providers, or driven solely by private investment – if public spaces are to support diverse opportunities for social interaction, and the benefits to democracy and public safety such interactions afford, local governments must reevaluate existing policy on access and design of public space. Conventional considerations related to the design of public space to maximize for social uses (Whyte, 1980) must be reconsidered in light of the unique requirements of new media use, such as the provision of power outlets, flat surfaces for laptops, and shade to view digital displays. It is also important to encourage additional research on Wi-Fi use, in public settings like parks and plazas. Observations of these spaces will help us understand how the built environment can be used to help Wi-Fi users balance privacy, mutual surveillance, public safety, the opportunity for serendipitous encounters, and other social behaviors. In addition, observation of Wi-Fi use must be coupled with longitudinal studies of wireless users to clarify what ethnographic studies likely cannot, the extent to which the networks of place makers and true mobiles are otherwise home-centered, the overall diversity of their social ties, and whether they are actually exchanging time that otherwise would have spent in sanctity of the private sphere for a new public life.

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References

- Baym, N., Zhang, Y. B. and Lin, M.-C. (2004) 'Social Interactions Across Media: Interpersonal Communication on the Internet, Telephone and Face-to-Face', *New Media & Society*, vol. 6, no. 3, pp. 299-318.
- Berkowitz, S. D. (1971) 'A cross-national comparison of some social patterns of urban pedestrians', *Journal of Cross-Cultural Psychology*, vol. 2, no. pp. 129-144.
- Boase, J., Horrigan, J., Wellman, B. and Rainie, L. (2006) 'The Strength of Internet Ties', Pew Internet & American Life Project, Washington, DC.
- Burt, R. (1992) *Structural Holes*, University of Chicago Press, Chicago.
- Castells, M. (1996) *The Rise of the Network Society*, Blackwell, Oxford.
- Cohen, S., Brissette, I., Doyle, W. and Skoner, D. (2000) 'Social Integration and Health: The Case of the Common Cold', *Journal of Social Structure*, vol. 1, no. 3, pp. 1-7.
- Coleman, J. S. (1962) 'Comment on Harrison White, 'chance models of systems of casual groups.', *Sociometry*, vol. 25, no. pp. 172-176.
- Fischer, C. (1992) *America Calling: A Social History of the Telephone to 1940*, University of California Press, Berkeley.
- Goffman, E. (1959) *The Presentation of Self in Everyday Life*, Penguin, London.
- Goffman, E. (1963) *Behavior in Public Places: Notes on the Social Order of Gatherings*, Free Press, New York.

- Goffman, E. (1966) *Behavior in Public Places* Free Press.
- Goffman, E. (1971) *Relations in Public: Micro-Studies of the Public Order*, Basic Books, New York.
- Goldberger, P. (2003) 'Disconnected Urbanism: The Cell Phone Has Changed Our Sense of Place More Than Faxes, Computers, and E-Mail', *Metropolis Magazine*, November, viewed 27 March 2007, <<http://www.metropolismag.com/cda/story.php?artid=254>>.
- Graham, S. and Marvin, S. (1996) *Telecommunications and The City: Electronic Spaces, Urban Places*, Routledge, London.
- Granovetter, M. (1973) 'The Strength of Weak Ties', *American Journal of Sociology*, vol. 78, no. 6, pp. 1360-80.
- Granovetter, M. (1974) *Getting a Job*, Harvard University Press, Cambridge, MA.
- Habermas, J. (1989) *The Structural Transformation of the Public Sphere*, MIT Press, Cambridge, MA.
- Hampton, K. (2001) *Living the Wired Life in the Wired Suburb: Netville, Glocalization and Civic Society*, Ph.D. dissertation, Department of Sociology, University of Toronto.
- Hampton, K. (2007) 'Neighborhoods in the Network Society: The e-Neighbors Study', *Information, Communication and Society*, vol. 10, no. 5.
- Hampton, K. and Wellman, B. (2003) 'Neighboring in Netville: How the Internet Supports Community and Social Capital in a Wired Suburb', *City and Community*, vol. 2, no. 3, pp. 277-311.
- Hannigan, J. (1998) *Fantasy City: Pleasure and Profit in the Postmodern Metropolis*, Routledge, New York.

- Harris, K. (2003) 'Keep Your Distance: Remote Connection', *Journal of Community Work and Development*, vol. 4, no.
- Haythornthwaite, C. and Wellman, B. (2002) 'The Internet in Everyday Life: An Introduction', in *The Internet in Everyday Life*, eds. Wellman, B. and Haythornthwaite, C. Blackwell, Oxford, pp. 3-44.
- Humphries, L. (2005) 'Cellphones in public: social interactions in a wireless era', *New Media & Society*, vol. 7, no. 6, pp. 810-833.
- Ito, M. and Okabe, D. (2006a) 'Intimate Connections', in *Computers, Phones, and the Internet: Domesticating Information Technology* eds. Kraut, R., Brynin, M. and Kiesler, S. Oxford University Press, New York, pp. 235-247.
- Ito, M. and Okabe, D. (2006b) 'Intimate Connections', in *Computers, Phones, and the Internet: Domesticating Information Technology*, eds. Kraut, R., Brynin, M. and Kiesler, S. Oxford University Press, New York, pp. 235-247.
- Jacobs, J. (1961) *The Death and Life of Great American Cities*, Random House, New York.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V. and Crawford, A. (2002) 'Internet Paradox Revisited', *Journal of Social Issues*, vol. 58, no. 1, pp. 49-74.
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukhopadhyay, T. and Scherlis, W. (1998) 'Internet Paradox: A Social Technology that Reduces Social Involvement and Psychological Well-Being?' *American Psychologist*, vol. 53, no. 9, pp. 1017-1031.
- Latané, B. and Darley, J. (1976) *Help in a Crisis: Bystander Response to an Emergency*, General Learning Press, Morristown, NJ.
- Lee, S. (1999) 'Private uses in public spaces: A study of internet cafe', *New Media & Society*, vol. 1, no. 3, pp. 331-350.

- Ling, R. (2000) 'Direct and Mediated Interaction in the Maintenance of Social Relationships', in *Home Informatics and Telematics: Information, Technology and Society*, eds. Sloane, A. and van Rijn, F. Kluwer, Boston, pp. 61-86.
- Ling, R. (2004) *The Mobile Connection*, Morgan Kaufmann, San Francisco, CA.
- Ling, R. and Yttri, B. (2006) 'Control, Emancipation, and Status', in *Computers, Phones, and the Internet: Domesticating Information Technology*, eds. Kraut, R., Brynin, M. and Keisler, S. Oxford University press, New York, pp. 219-234.
- Lofland, L. (1973) *A World of Strangers*, Basic, New York.
- Lofland, L. H. (1998) *The Public Realm: Exploring the City's Quintessential Social Territory*, Aldine de Gruyter, New York.
- Marvin, C. (1988) *When Old Technologies Were New: Thinking about Electric Communication in the Late Nineteenth Century*, Oxford University Press, New York.
- Matsuda, M. (2005) 'Mobile Communications and Selective Sociality', in *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life*, eds. Ito, M., Okabe, M. and Matsuda, M. MIT press, Cambridge, MA, pp. 123-142.
- McPherson, M., Smith-Lovin, L. and Brashears, M. E. (2006) 'Social Isolation in America: Changes in Core Discussion Networks over Two decades', *American Sociological Review*, vol. 71, no. 3, pp. 353-375.
- McPherson, M., Smith-Lovin, L. and Cook, J. M. (2001) 'Birds of a Feather: Homophily in Social Networks', *Annual Review of Sociology*, vol. 27, no. pp. 415-444.
- Merton, R. K. and Barber, E. (2004) *The Travels and Adventures of Serendipity: A Study in Sociological Semantics and the Sociology of Science*, Princeton University Press, Princeton, NJ.

- Mesch, G. S. and Levanon, Y. (2003) 'Community Networking and Locally-Based Social Ties in Two Suburban Localities', *City & Community*, vol. 2, no. 4, pp. 335-351.
- Milgram, S. (1970) 'The Experience of Living in Cities', *Science*, March, viewed.
- Nie, N., Hillygus, S. and Erbring, L. (2002) 'Internet Use, Interpersonal Relations and Sociability: A Time Diary Study', in *The Internet in Everyday Life*, eds. Wellman, B. and Haythornthwaite, C. Blackwell, Oxford, pp. 215-243.
- Oldenburg, R. (1989) *The Great Good Place: Cafes, Coffee Shops, Community Centers, Beauty Parlors, General Stores, Bars, Hangout, and How They Get You Through the Day*, Paragon House, New York.
- Putnam, R. (2000) *Bowling Alone*, Simon & Schuster, New York.
- Quan-Haase, A. and Wellman, B. (2006) 'Hyperconnected Net Work', in *The Firm as a Collaborative Community: Reconstructing Trust in the Knowledge Economy*, eds. Heckscher, C. and Adler, P. Oxford University Press, New York, pp. 281-333.
- Quan Haase, A., Wellman, B., Hampton, K. and Witte, J. (2002) 'Internet , Social Capital, and Information Seeking', in *The Internet in Everyday Life*, eds. Wellman, B. and Haythornthwaite, C. Blackwell, Oxford, pp. 291-324.
- Robinson, J. P., Kestnbaum, M., Neustadl, A. and Alvarez, A. (2002) 'The Internet and Other Uses of Time', in *The Internet in Everyday Life*, eds. Wellman, B. and Haythornthwaite, C. Blackwell, Oxford, pp. 244-262.
- Sampson, R., Morenoff, J. and Gannon-Rowley, T. (2002) 'Assessing "Neighborhood Effects": Social Processes and New Directions in Research', *Annual Review of Sociology*, vol. 28, no. pp. 443-78.
- Sennett, R. (1977) *The Fall of Public Man*, Knopf, New York.

- Weber, M. (1946) *From Max Weber: Essays in Sociology*, Oxford University Press, New York.
- Wellman, B. (1999) 'The Network Community: An Introduction', in *Networks in the Global Village*, ed. Wellman, B. Westview, Boulder, CO, pp. 1-47.
- Wellman, B., Quan-Haase, A., Boase, J., Chen, W., Hampton, K., de Diaz, I. I. and Miyata, K. (2003) 'The Social Affordances of the Internet for Networked Individualism', *Journal of Computer-Mediated Communication* vol. 8, no. 3.
- Wellman, B. and Wortley, S. (1990) 'Different Strokes From Different Folks: Community Ties and Social Support', *American Journal of Sociology*, vol. 96, no. pp. 558-88.
- Whyte, W. H. (1980) 'The Social Life of Small Urban Spaces', Conservation Foundation, Washington, DC.
- Zhao, S. (2006) 'Do Internet Users Have More Social Ties? A Call for Differentiated Analyses of Internet Use', *Journal of Computer Mediated Communication*, vol. 11, no. 3, pp. article 8.
- Zukin, S. (1995) *The Cultures of Cities*, Blackwell Publishers, Cambridge, MA.