PEW/INTERNET
PEW INTERNET & AMERICAN LIFE PROJECT

The Strength of Internet Ties

The internet and email aid users in maintaining their social networks and provide pathways to help when people face big decisions

January 25, 2006

Jeffrey Boase, University of Toronto

John B. Horrigan, Associate Director, Pew Internet Project

Barry Wellman, University of Toronto

Lee Rainie, Director, Pew Internet Project

The internet helps build social capital

This report confronts one of the great debates about the internet: What is it doing to the relationships and social capital that Americans have with friends, relatives, neighbors and workmates? Those on one side of the debate extol the internet's ability to expand relationships – socially and geographically. Those on the other side of the debate fear that the internet will alienate people from their richer, more authentic relations.

Once upon a time, the internet was seen as something special, available only to wizards and geeks. Now it has become part of everyday life. People routinely integrate it into the ways in which they communicate with each other, moving between phone, computer and in-person encounters.

Our evidence calls into question fears that social relationships – and community – are fading away in America. Instead of disappearing, people's communities are transforming: The traditional human orientation to neighborhood- and village-based groups is moving towards communities that are oriented around geographically-dispersed social networks. People communicate and maneuver in these networks rather than being bound up in one solidary community. Yet people's networks continue to have substantial numbers of relatives and neighbors – the traditional bases of community – as well as friends and workmates.

The internet and email play an important role in maintaining these dispersed social networks. Rather than conflicting with people's community ties, we find that the internet fits seamlessly with in-person and phone encounters. With the help of the internet, people are able to maintain active contact with sizable social networks, even though many of the people in those networks do not live nearby. Moreover, there is media multiplexity: The more that people see each other in-person and talk on the phone, the more they use the internet. The connectedness that the internet and other media foster within social networks has real payoffs: People use the internet to seek out others in their networks of contacts when they need help.

Because individuals – rather than households – are separately connected, the internet and the cell phone have transformed communication from house-to-house to person-to-

person. This creates a new basis for community that author Barry Wellman has called "*networked individualism":* Rather than relying on a single community for social capital, individuals often must actively seek out a variety of appropriate people and resources for different situations.

The internet plays socially beneficial roles in a world moving towards "networked individualism." Email allows people to get help from their social networks and the Web lets them gather information and find support and information as they face important decisions.

While traditional means of communications such as in-person visits and the landline telephone conversations are the primary ways by which people keep up with those in their social networks, our research shows that email helps people cultivate social networks. We find that email supplements, rather than replaces, the communication people have with people who are very close to them – as well as those with those not so close. Email is especially important to those who have large social networks.

In a social environment based on networked individualism, the internet's capacity to help maintain and cultivate social networks has real payoffs. Our work shows that internet use provides online Americans a path to resources, such as access to people who may have the right information to help deal with a health or medical issue or to confront a financial issue. Sometimes this assistance comes from a close friend or family member. Sometimes this assistance comes from a person more socially distant, but made close by email in a time of need. The result is that people not only socialize online, but they also incorporate the internet into seeking information, exchanging advice, and making decisions.

> The internet promotes "networked individualism" by allowing people to seek out a variety of appropriate people and resources.

The internet has fostered transformation in community from densely-knit villages and neighborhoods to more sparsely-knit social networks. Because individuals—rather than households—are separately connected, the internet and the cell phone have transformed communication from house to house to person to person. There is "networked individualism": Rather than relying on a single community for social capital, individuals often must actively seek out a variety of appropriate people and resources for different situations.

The internet supports social networks.

This report is built primarily around findings of a survey conducted in February 2004 that we call the Social Ties survey. It focused on the nature and scope of people's social networks, how they use their social networks to get help, and how they use information and communication technology.

The Social Ties survey asked about two types of connections people have in their social networks:

◼ *Core Ties:* These are the people in Americans' social networks with whom they have very close relationships – the people to whom Americans turn to discuss important matters, with whom they are in frequent contact, or from whom they seek help. This approach captures three key dimensions of relationship strength – emotional intimacy, contact, and the availability of social network capital.

◼ *Significant Ties:* These are the people outside that ring of "core ties" in Americans' social networks, who are somewhat closely connected. They are the ones with whom Americans to a lesser extent discuss important matters, are in less frequent contact, and are less apt to seek help. They may do some or all of these things, but to a lesser extent. Nevertheless, although significant ties are weaker than core ties, they are more than acquaintances, and they can become important players at times as people access their networks to get help or advice.

Americans connect with their core and significant ties in a variety of ways. They continue to use in-person encounters and landline telephones. Yet new communication technologies – email, cell phones and IM – now play important roles in connecting network members. The internet does not stand alone but as part of an overall communication system in which people use many means to communicate.

Email is more able than in-person or phone communication to maintain regular contact with large networks.

As the size of a person's social network increases, it becomes more difficult for people to contact a large percentage of network members. This makes intuitive sense. If you have 50 people in your social network, it will take a fair amount of effort to contact 25 of them regularly by using the telephone. If your social network is 20 people in size, it will take less effort to contact 15 of them regularly. Even though there are fewer people contacted, they are a greater percentage of your network.

This pattern – the percentage of one's social network contacted declining as network size grows – holds true for almost all forms of contact analyzed in the Social Ties survey. The one exception is email. As the size of people's social network increases, the percentage of one's social network contacted weekly by email does not decline but remains about the same at about 20% of core and significant ties.

Several qualities of email help make sense of these findings. Email enables people to maintain more relationships easily because of its convenience as a communication tool and the control it gives in managing communication. Email's asynchronous nature – the ability for people to carry on conversations at different times and at their leisure – makes it possible for a quick note to an associate, whether it is about important news or seeking advice on an important decision. Moreover, it is almost as easy to email a message to many people as it is to email to only one.

Email is a tool of "glocalization." It connects distant friends and relatives, yet it is also connects those who live nearby.

Email has been celebrated from the outset for its ability to connect with people around the world quickly and cheaply. This is no figment of global village hyperbole. Email is especially used for contacting distant friends and relatives. But the data also show that email is frequently used to contact those who live nearby.

Email does not seduce people away from in-person and phone contact.

Contrary to fears that email would reduce other forms of contact, there is "media multiplexity": The more contact by email, the more in-person and phone contact. As a result, Americans are probably more in contact with members of their communities and social networks than before the advent of the internet.

■ People who email the vast majority (80%-100%) of their core ties weekly are in phone contact with 25% more of their core ties than non-emailers. Moreover, those who email the vast majority of their significant ties weekly are in phone contact with twice as many of their significant ties than non-emailers.

■ The patterns are somewhat different for in-person contact. Those who email the vast majority of their core ties weekly see the same percentage of their core ties weekly as do non-emailers. However, those who email the vast majority of their significant ties weekly do see 50% more of their significant ties weekly than non-emailers.

People use the internet to put their social networks into motion when they need help with important issues in their lives.

The February 2004 Social Ties survey asked respondents whether they have sought help from people in their social networks pertaining to eight specific key issues in their lives. The eight issues are:

■ Caring for someone with a major illness or medical condition

■ Looking for information about a major illness or medical condition

■ Making a major investment or financial decision

■ Finding a new place to live

■ Changing jobs

■ Buying a personal computer

■ Putting up drywall in your house

■ Deciding who to vote for in an election.

Most Americans (81%) have asked for help with one of these issues from at least one of their core ties, while nearly half (46%) have asked for help with one of these issues from at least one of their significant ties.

Internet users are more likely than non-users to receive help from core network members: 85% of online users have received help with at least one of the eight issues as compared with 72% of non-users. The average internet user received help on 3.1 of the eight issues from people in their core networks, compared with non-users getting help for 2.0 topics.

There is a similar pattern of internet users getting more support from significant ties, although a smaller percentage of significant ties are likely to be supportive: 49% of internet users have received help from their significant ties on at least one of the eight issues, compared with 40% of internet non-users. Significant ties are also more specialized than core ties in their support. Internet users have received help on 1.2 out of the eight issues from their significant ties as compared to 0.9 for the non-users.

The internet's role is important in explaining the greater likelihood of online users getting help as compared to non-users.

One could easily imagine some other traits of internet users -- such as, their higher income which makes it easier to afford access, their higher levels of education, their more sizable social networks, or their more robust professional networks – that would explain why they are more likely to get help. It could be that these characteristics, not their internet use, account for the differences in getting help relative to non-users. However, statistical regression analysis that disentangles these various effects shows that internet and email use each are independent factors in explaining the levels and likelihood of getting help.

Americans' use of a range of information technologies smoothes their paths to getting help.

The 2004 Social Ties survey also asked about whether respondents had used a number of different information technologies in the past month, namely email, instant messaging, a personal digital assistant (PDA), a cell phone, text messaging, and a wireless internet connection. Relatively heavy use of these information technologies is associated with greater access to help. This suggests that those who are "media multiplexers," and not just email users, are able to mobilize their social networks through technology when they need help.

Those with many significant ties and access to people a variety of different occupations are more likely to get help from their networks.

Network size matters when it comes to getting help. However, the number of people's significant ties is more important than the number of their core ties. It is better to have a

larger network of significant ties than a large network of core ties—at least when it comes to getting help of the sort asked about in the 2004 Social Ties survey. An important exception involves health care. Having a large number of core ties is a predictor of getting information and help with health care—two of the issues about which we asked respondents.

Knowing people across a range of different occupations is the strongest predictor of getting help. Respondents were asked if they are acquainted with people in the following occupations: lawyer, truck driver, sales/marketing manager, pharmacist, janitor/caretaker, engineer, cashier, waiter/waitress, computer programmer, or carpenter. The wider the range of occupational acquaintances people have, the greater amount of help they can access.

Internet users have somewhat larger social networks than non-users. The median size of an American's network of core and significant ties is 35. For internet users the median network size is 37; for non-users it is 30.

The 2004 Social Ties survey asked about the size of their social networks, how many people in their networks are *"very close"* – what we call their *"core ties"* or *"somewhat close"* – what we call their *"significant ties."* The survey's approach was distinct in that it is among the first national surveys to measure the size of people's social networks and distinguish between respondents' "core" and "significant" ties. In terms of their social networks:

■ Respondents reported that they have on average a mean of 23 core ties and 27 significant ties. These mean averages are influenced by a small number of people reporting a very large number of ties.

■ The median number of core ties is 15. In other words, one-half of Americans have 15 or more ties. The median number of significant ties is 16. The median total number of ties (core + significant) is 35, somewhat larger than just adding together the separate medians.

■ The number of core ties is about the same, regardless of whether one goes online or not. However, internet users have a slightly larger number of significant ties than non-users.

■ As to connection speed, those internet users with high-speed connections at home have a slightly larger number of significant ties in comparison to dial-up users. Here, too, the number of core ties is about the same for internet users with either high-speed or dial-up connections at home.

When asked about their own assessment of the internet's impact on the size of their social networks, internet users responded this way:

■ 31% said it increased the number of their significant ties and 2% said it decreased them.

■ 30% said it increased the number of their casual acquaintances and 2% said it decreased them.

■ 28% said it increased the number of their core ties and 1% said it decreased them.

About 60 million Americans say the internet has played an important or crucial role in helping them deal with at least one major life decision in the past two years.

When the Social Ties Survey showed that people use the internet to activate their social networks when they need help, we followed up in a survey in March 2005 that we call the Major Moments survey. In it we asked Americans if they had faced any of eight different decisions or milestones in their lives in the previous two years. Nearly a third (29%) of American adults said the internet had played a crucial or important role in helping them sort through their options for at least one of the decisions – and some had gone through several of them. Overall, that represents about 60 million adults. The eight major decisions queried in the survey were (* marks the five events that were queried in both the Social Ties and Major Moments surveys):

■ Getting additional training for your career: About 21 million said the internet had played a crucial or important role in this.

■ Helping another person with a major illness or medical condition: About 17 million said the internet had played a crucial or important role in this.*

■ Choosing a school for yourself or a child: About 17 million said the internet had played a crucial or important role in this.

■ Buying a car: About 16 million said the internet had played a crucial or important role in this.

■ Making a major investment or financial decision: About 16 million said the internet had played a crucial or important role in this.*

■ Finding a new place to live: About 10 million said the internet had played a crucial or important role in this.*

■ Changing jobs: About 8 million said the internet had played a crucial or important role in this. *

■ Dealing oneself with a major illness or health condition: About 7 million said the internet had played a crucial or important role in this.*

The number of Americans relying on the internet for major life decisions has increased by one third since 2002.

When the Pew Internet Project conducted a survey in January 2002 on the same eight life decision points, 45 million adult Americans said then that the internet had played a crucial or important role in at least one of the decisions.

At major moments, some people say the internet helps them connect with other people and experts who help them make choices. Others say that the web helps them get information and compare options as they face decisions.

The internet is important in a variety of ways as people make major decisions and the most frequently cited benefit was in helping people tap into social networks. Respondents who said the internet was important to them were asked follow-up questions for five of the major life decisions to explore the primary benefit they got from their internet use.[1] The five were: buying a car, making a major investment, getting additional career training, choosing a school, and helping someone deal with an illness or health condition.

- 34% of respondents who were asked follow-up questions about five decision topics said the internet helped them find advice and support from other people.

- 28% said the internet helped connect them to expert or professional services, further underscoring the role the internet plays in connecting people to other people in the course of decision-making.

- 30% said the internet provided information that allowed them to compare options. Those who said they bought a car in the past two years were the most likely to say the internet helped them compare options.

---

[1] The follow-up questions were directed only at respondents in five topic area in order have enough cases in each topic area to do comparative analysis; this is discussed further in the body of the report.

Report Title: Summary of Findings at a Glance
The internet helps build social capital
The internet plays two important roles in a world moving towards "networked individualism". Email helps people get help from their social networks and the web helps people gather information and find support as they face important decisions.
The internet supports social networks.
Email is more able than in-person or phone communication to maintain regular contact with large networks.
Email is a tool of "glocalization". It connects distant friends and relatives, yet it is also used to connect those who live nearby.
Email does not seduce people away from in-person and phone contact.
People use the internet to put their social networks into motion when they need help with important issues in their lives.
The internet's role is important in explaining the greater likelihood of online users getting help as compared to non-users.
Americans' use of a range of information technologies smoothes their paths to getting help.
Those with many significant ties and access to people in lots of different occupations are more likely to get help from their networks.
Internet users have somewhat larger social networks than non-users. The median size of an American's network of core ties and significant is 35. For internet users the median network size is 37; for non-users it is 30.
About 60 million Americans say the internet has played an important or crucial role in helping them deal with at least one major life decision in the past two years.
The number of Americans relying on the internet for major life decisions has increased by one third since 2002.
At major moments, some people say the internet helps them connect with other people and experts who help them make choices. Others say that the web helps them get information and compare options as they face decisions.
Source: Jeffrey Boase, Horrigan, John B., Wellman, Barry, and Rainie, Lee. *The Strength of Internet Ties.* Washington, DC: Pew Internet & American Life Project, January, 2006.

Contents

Acknowledgments

About the Pew Internet & American Life Project: The Pew Internet Project is a nonprofit, nonpartisan think tank that explores the impact of the internet on children, families, communities, the work place, schools, health care, and civic/political life. The Project aims to be an authoritative source for timely information on the internet's growth and societal impact. Support for the project is provided by The Pew Charitable Trusts. The project's website: www.pewinternet.org

Barry Wellman studies networks -- computer, communication and social. He learned to keypunch as a Harvard graduate student in 1964 and has played with computers ever since. Now Professor of Sociology and Director of NetLab at the University of Toronto, Wellman has written more than 200 articles, including "Physical Place and Cyber Place: The Rise of Networked Individualism" and "The Community Question". He's edited three books: Social Structures: A Network Approach, Networks in the Global Village, and The Internet in Everyday Life. He's currently directing the Connected Lives project and the Transnational Immigrant Entrepreneurs project.

Jeffrey Boase is currently a doctoral student in the department of sociology at the University of Toronto, an active member of NetLab, and a fellow at the University of Toronto's Knowledge Media & Design Institute. While working on his doctoral thesis he spent a year at Harvard University as a fellow at the National Center for Digital Government. His dissertation research examines the role of the Internet in maintaining relationships and accessing resources. In addition to his collaboration with Pew Internet & American Life Project, Mr. Boase helped design NetLab's Connected Lives study. He has also collaborated with researchers at the University of Tokyo and Meiji Gakuin University to study the social implications of mobile phone based text messaging in Japan.

Part 1.

What Is the Internet Doing to Relationships?

Does the internet degrade friendship, kinship, civic involvement, and social capital?

One of the great debates about the internet is what it is doing to the relationships that Americans have with friends, relatives, neighbors, and workmates.

On the one hand, many extol the internet's abilities to extend our relationships—we can contact people across the ocean at the click of a mouse; we can communicate kind thoughts at two in the morning and not wake up our friends. Back in the early years of the internet, some prophets felt that the internet would create a global village, transcending the boundaries of time and space. As John Perry Barlow, a leader of the Electric Frontier Foundation wrote in 1995:

> With the development of the internet, …we are in the middle of the most transforming technological event since the capture of fire. I used to think that it was just the biggest thing since Gutenberg, but now I think you have to go back farther (p. 36).… I want to be able to completely interact with the consciousness that's trying to communicate with mine. Rapidly… [w]e are now creating a space in which the people of the planet can have that kind of communication relationship. (p. 40)

On the other hand, others fear that the internet causes a multitude of social and psychological problems. Several psychologists have claimed to treat people with "internet addiction." For example, in 1999, David Greenfield adapted a diagnostic tool from a gambling addiction questionnaire, substituting "internet" for gambling. This approach ignores the positive benefits of being involved with the internet: Compare a statement such as "I am gambling too much" with one such as "I am communicating on the internet too much."

Does the time people spend online damage their social connections?

In February 2004, a reporter asked one author (Wellman) to comment on the deaths of four supposed "cyber-addicts" who spent much time online in virtual reality environments. The reporter lost interest when Wellman pointed out that other causes might be involved, that "addicts" were a low percentage of users, and that no one worries about "neighboring addicts" who chat daily in their front yards.

Part 1. What Is the Internet Doing to Relationships?

A more pervasive concern has been that the internet sucks people away from in-person contact, fostering alienation and real-world disconnection. For example, Texas broadcaster Jim Hightower worried that:

> while all this razzle-dazzle connects us electronically, it disconnects us from each other, having us "interfacing" more with computers and TV screens than looking in the face of our fellow human beings. (quoted in Fox, 1995, p. 12)

Similarly, when the "Homenet" study in Pittsburgh found that internet newcomers were somewhat more stressed, it was front page news. The media paid much less attention to the follow-up report that found much of the stress does not continue as people become used to the internet.[2]

The assumption underlying fear about what the internet is doing to relationships is that the internet seduces people into spending time online at the expense of time spent with friends and family. As a result, Americans may be sitting at their computer screens at home and not going out to talk to our neighbors across the street or visiting relatives. There are worries that relationships that exist in text—or even screen-to-screen on flickering webcams—are less satisfying than those in which people can really see, hear, smell, and touch each other.

There are four key aspects to the question of the internet's impact on relationships.

The debate about the impact of the internet on social relations is important for four reasons:

- There is the direct question of whether relationships continue to flourish in the internet age. Are there the same kinds of ties—in both quantity and quality—that flourished in pre-internet times? Do people have more or fewer relationships? Do they have more or less contact with friends and relatives? Does the ability of the internet to connect instantly around the world mean that far-flung ties now predominate over neighborly relations? More broadly, does internet contact take away from people's in-person contacts or add to them?

- There is the associated question of whether the internet is splitting people into two separate worlds: online and offline. Originally, both those who worshipped the internet and those who feared it thought that people's online relationships would be so separate from their existing relationships that people's "life on the screen," as Sherry Turkle put it in 1995, would be different from their "real life." Is this the case? Or is the internet now an integral part of the many ways people relate to friends, relatives, and even neighbors in real life? Can online relationships be meaningful, perhaps even as meaningful as in-person relationships?

---

[2] The initial research is reported in Kraut, et al. (1998). The follow-up study is reported in Kraut, et al. (2002). The influential *New York Times* front page story was by Amy Harmon.

Part 1. What Is the Internet Doing to Relationships?

■ Do people's relationships (on- and offline) provide usable help? In other words, do they add to what social scientists now call interpersonal social capital? Such help could take the form of giving information or emotional support, lending a cup of sugar, or providing long-term health care. It is easy enough to give information on the internet. And while it is impossible to change bedpans online, it is easy to use the internet to arrange for people to visit and help. Robert Putnam's influential *Bowling Alone* (2000) provided a fair amount of evidence that American social capital declined from the mid-1960s to the mid-1990s. However, some scholars dispute his evidence. For example, Claude Fischer (2005) argued that the ferment of the 1960s was an unnatural high point of social involvement. Moreover, if people are not going to churches, the Lions Club, or scouting groups as much, has civic involvement died? Or, are they finding such group activity online, through chat rooms, listservs, and group email? And is the quality the same when people pray online rather than in churches (see Campbell, 2005)? In the 1990s, instead of nostalgia for the small-town community of *Pleasantville,* people dreamed of traveling to *Cheers,* the pub "where everybody knows your name." Where do they find community now?

■ To what extent is the internet associated with a transformation of American society from groups to networks? Myth has it that in the old days (à la Pleasantville)*,* the average American had two parents, a single boss, and lived in a friendly village or neighborhood where everyone knew their names. Yet a variety of evidence suggests that many North Americans no longer are bound up in a single neighborhood, friendship, or kinship group. Rather, they maneuver in social networks. The difference is that a person's network often consists of multiple and separate clusters. It could well be that most of a person's friends do not know each other, and even more likely that neighbors do not know a person's friends or relatives. Moreover, rather than neighborhood communities like Pleasantville or its urban equivalents, most of a person's relationships are spread widely across cities, states, and even continents. And instead of a single community that provides a wide spectrum of help, it appears that most relationships are specialized, for example, with parents providing financial aid and friends providing emotional support. The internet supports both sparsely connected, far-flung networks and densely connected, local groups. The environment of one-to-one ties through email and instant messaging can transform groups to networks because the internet easily supports groups through one-to-many emails, listservs, chatrooms, blogs, and the like, Yet are such groups single all-encompassing Pleasantvilles, or is it more likely that they are just pieces of complex social networks?

Research points to the positive social networking effects of connectivity.

As these questions continue to be debated, research is showing that the internet is not destroying relationships or causing people to be anti-social.[3] To the contrary: the internet is enabling people to maintain existing ties, often to strengthen them, and at times to

---

[3] For a review of the research done in this area, see Boase and Wellman (2005), and Katz and Rice (2002).

forge new ties. The time that most people spend online reduces the time they spend on the relatively unsocial activities of watching TV and sleeping. Moreover, the relationships maintained through online communication only rarely are with an entirely new set of individuals who live far away. Instead, a large amount of the communication that takes place online is with the same set of friends and family who are also contacted in person and by phone. This is especially true for socially close relationships—the more close friends and family are seen in person, the more they are contacted by email.

> Much of the communication that takes place online is with the same set of friends and family who are also contacted in person and by phone.

If Americans do not live in a single community group, but in fragmented networks, we need to understand this phenomenon. Do people now operate as part of tiny, simple networks or large, complex ones? Do they rarely see their friends? Are they enjoying or being overloaded by an abundance of communication? Are the new, internet-enhanced social networks providing social capital to help us get things done, to make decisions, and to help us cope?

It is to these questions about the nature of today's social networks that we now turn.

Part 2.

Social Networks in America

Some evidence about relationships has been alarming.

Robert Putnam argued in 2000 that people are seeing friends and relatives much less than they were in the mid-1960s. For example, family picnics decreased by 60% between 1975 and 1999, and card playing went down from an average of 16 times per year in 1981, to 8 times per year in 1999.

Yet evidence from the Social Ties survey show that the situation is not so dire. For one thing, we did not ask about picnics; we asked directly about social relations. This leads to a focus on social networks, whomever they include and wherever they are located. For example, friends and relatives are now spatially dispersed rather than concentrated in neighborhoods. The difficulty of traveling to get together may explain why picnics have declined as a way for friends and relatives to meet. Yet other ways of interacting have flourished, on- and offline.

Americans have an average of more than 200 relationships with friends, relatives, and acquaintances. The Social Ties survey could not gather information about all these relationships, but it was able to get information about a large number of Americans' important ties—all of those relationships that are more than just acquaintances. Specifically, the Social Ties survey asked about two types of ties:

- *Core Ties:* These are the people in Americans' social networks with whom they have very close relationships – the people to whom Americans turn to discuss important matters, with whom they are in frequent contact, or from whom they seek help. This approach captures three key dimensions of relationship strength – emotional intimacy, contact, and the availability of social network capital.

- *Significant Ties:* These are the people outside that ring of "core ties" in Americans' social networks, who are somewhat closely connected. They are the ones with whom Americans discuss important matters to a lesser extent, are in less frequent contact, and are less apt to seek help. They may do some or all of these things, but not as extensively. Nevertheless, although significant ties are weaker than core ties, they are more than acquaintances and they can become important players at times as people access their networks to get help or advice.

By probing these two types of relationships, the Social Ties survey provides novel information about the social networks of a sizable proportion of Americans. This information helps us develop a snapshot of what these networks look like.

Social networks are flourishing in America.

Despite concerns that Americans are living lonely and isolated lives, results from the Social Ties survey show that Americans maintain a sizable number of relationships with people who are more than just acquaintances. These relationships include both very close core ties and somewhat close significant ties.

- If each American were sorted in rank order according to the number of their core ties, the American in the middle would know about 15 people. This statistical median reveals that half of all Americans have at least 15 very close core ties. The mean number (average) is 23 core ties.[4]

- Americans have a median of 16 somewhat close significant ties in their social networks. The mean number is 27 significant ties.

- Americans have a median of 35 core and significant ties in their networks that represent people who are more than just acquaintances. (The mean is 50 total ties.)

There are important statistical considerations when examining these survey results.

The differences between the median and mean values indicate that a sizable number of Americans report having large networks. For statistical reasons, these "outliers" have a disproportionate influence on the analysis that follows. To deal with this issue, we divide core and significant ties into thirds: small, medium, and large.

- Core ties are divided into *small* (0 to 10 ties), *medium* (11 to 22 ties), and *large* (more than 22 ties).

- Significant ties also are divided into *small* (0 to 10 ties), *medium* (11 to 26 ties), and *large* (more than 26 ties).

The Pew Social Ties survey also shows much different numbers of core ties than the much smaller mean of 2.1 core ties found by McPherson, Smith-Lovin and Brashears in the U.S. General Social Survey of 2004, which itself was a reduction from the 2.9 found by Marsden in the 1985 General Social Survey.[5] The reason is that these other studies used only one criterion for identifying core ties: confidants with whom important matters are discussed.

Yet, there is more to being "very close" to a person than being a confidant discussing important matters. Having frequent intimate contact—whether in person or online—and

---

[4] The much larger means are because some Americans report extraordinarily high numbers of core (and significant) ties. By contrast, the medians are not susceptible to a few extraordinarily high (or low) reports.

[5] Marsden's results were published in 1987. McPherson, Smith-Lovin and Brashears' results will be published in 2006.

providing help to each other clearly play roles. Hence, we used "people you are very close to" as the key question, and prompted survey respondents to tell us about people very close to them, those with whom they are in frequent contact or from whom they get substantial help as well as those with whom they discuss important matters. The discrepancy is also due to the fact that we asked only about close ties outside of the home while the other surveys allowed people to include people inside the home, such as spouses.

The substantial numbers of core and significant ties show that most Americans are not isolated. But are these results accurate, given that they are estimates given during phone interviews? We are reassured that two earlier North American studies showed similar results—Claude Fischer's study in northern California that took place in the late 1970s, and Wellman and Wortley's research in southern Ontario that took place about a decade later. Moreover, similar numbers show up in three recent studies in France, Germany, and Iran.[6]

Larger social networks include proportionally more friends than immediate family.

Survey respondents told us the number of their ties that are immediate family—parents, adult children, brothers and sisters, and the corresponding in-laws—as well as about other family members, workmates, neighbors, and friends. These numbers were then added together to give the total number core ties and significant ties for each respondent.

Overall, among core ties, a mean of 35% are immediate family, 19% are other family, 12% are workmates, 9% are neighbors, and 24% are friends. Significant ties include a smaller percentage of immediate family and a higher percentage of workmates and neighbors: a mean of 21% are immediate family, 18% are other family, 19% are workmates, 12% are neighbors, and 24% are friends.

We found that as the number of core ties grows, the percentage of these ties that represents immediate family members—parents, adult children, brothers, and sisters, and inlaws—becomes smaller. At the same time, the percentage that represents friends and other family members become larger. (See Figure 1) For example, people with small numbers of core ties report that 41% of their core ties are immediate family members, while people with large numbers of core ties report that about 24% of their core ties are with immediate family members. By contrast, people with small numbers of core ties report that 16% of their core ties are other family members and 24% are friends, while people with large numbers of core ties report that 25% of their core ties are other family members and 29% are with friends.

---

[6] See Fischer (1982), and Wellman and Wortley (1990). France (Grossetti, 2006); Germany (Hennig, 2006); Iran (Bastani, 2006).

As the number of significant ties becomes larger, the percentage of these ties that are immediate family members becomes smaller. At the same time, the percentage that are friends becomes larger. (See Figures 2) People with small numbers of significant ties report that 28% of these ties are immediate family, while people with large numbers of significant ties report that about 16% of these ties are immediate family. By contrast, people with small numbers of significant ties report that 18% of these ties are friends, while people with large numbers of significant ties report that 35% of these ties are friends.

Figure 1

Network Composition - Core Ties

Figure 2

Network Composition - Significant Ties
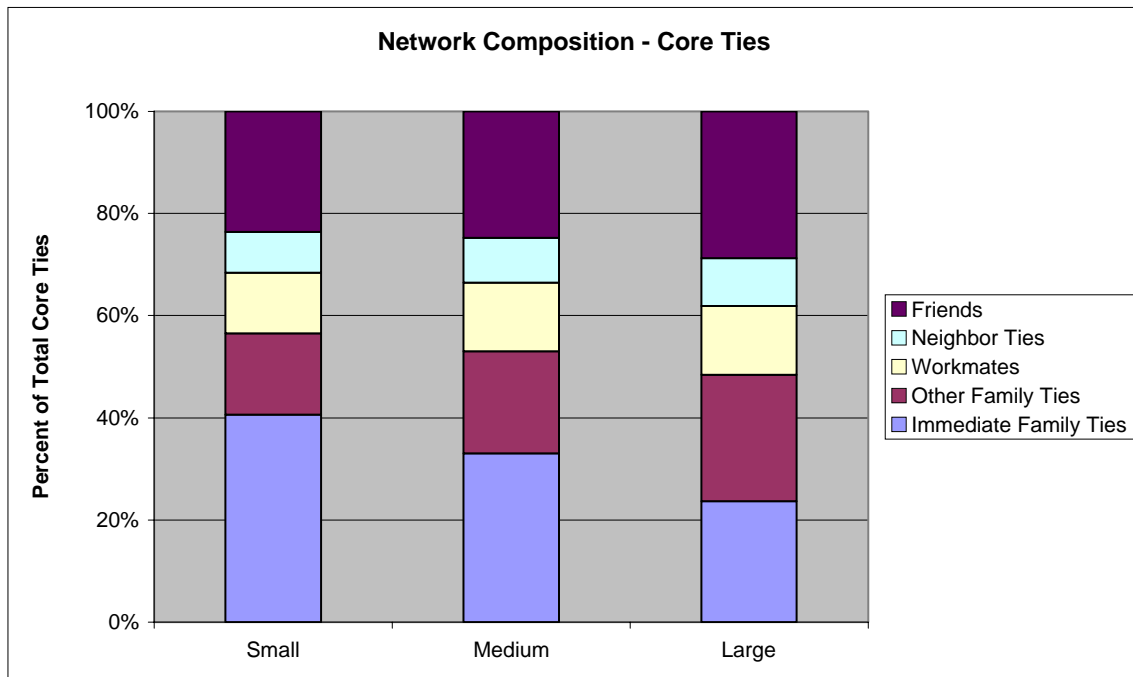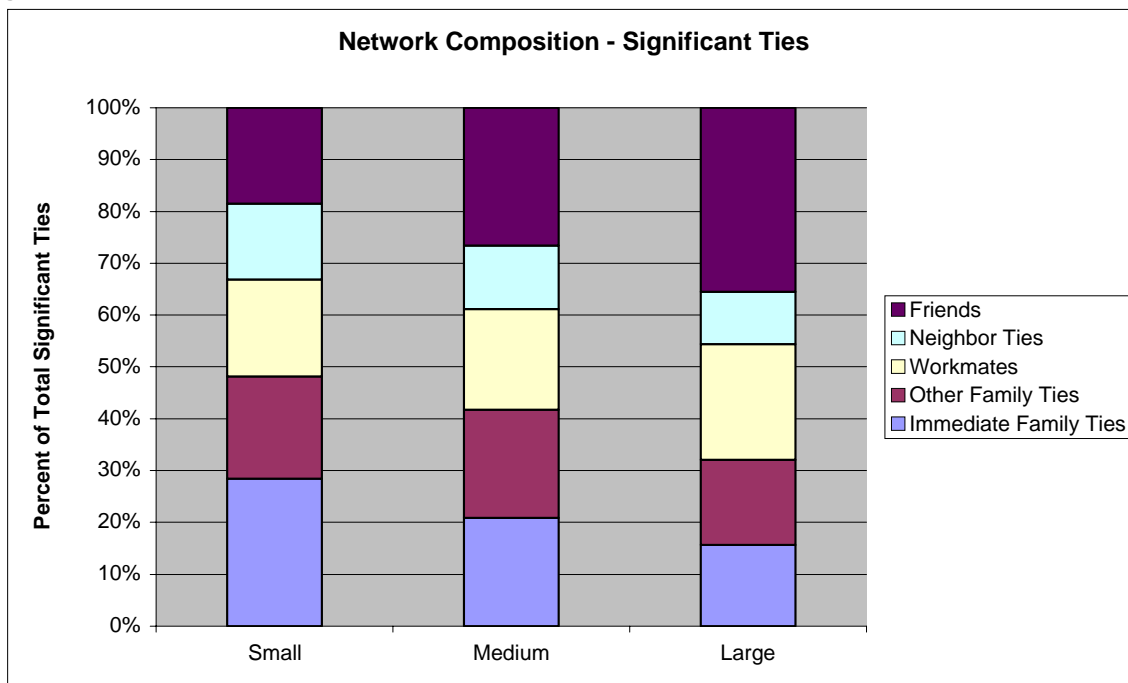
Internet users have more significant ties than non-users.

Internet users have about the same number of core ties as internet non-users, a median of 15.[7] However, internet users have larger numbers of significant ties. Where non-users have a median of 15 significant ties, internet users have a median of 18 significant ties. Moreover, as described in Part 5, internet users communicate with more of their core ties as well as their significant ties—not only by email but in person and by phone.

There are few significant demographic differences among those with different size networks.

People with many core ties tend to be female, older, and better educated. People with many significant ties tend to be better educated and to work in professional occupations. More information is presented in the Methodology section at the end of this report.

---

[7] "Internet users" include both broadband users and dial-up users. These two kinds of users were grouped together for analysis, as they tend to have about the same number of core and significant ties.

Part 3.

Keeping in Contact with Core and Significant Ties

There has been an explosion in the modes and reach of remote communication.

When Wellman conducted his early studies of social ties in 1968 and 1979,[8] the results were relatively straightforward. Americans either telephoned (using traditional "landline" phones of course)[9] or saw each other in person—traveling by foot, car, mass transit, or airplane. Although the travel options have remained largely the same (except that airplane travel has become much cheaper and more routine), communication options have proliferated. Since the mid-1980s, cell phones have joined landline phones—so much so that some people no longer even have a landline telephone at home. During the 1990s, large proportions of the world's population have joined the relatively small number of scholars and researchers who were the original internet users. The tools for electronic communication tools have expanded beyond the original email and Usenet messages to include instant messaging, group messaging on email lists, conversing in chat rooms, posting blogs, internet telephoning, and webcams.

Not only have the means of communication proliferated, but the reach of communication has increased. It is as cheap to email someone across the ocean as it is to email them across the street. With transoceanic visits still relatively expensive and rare, and with transoceanic phone calls entailing careful time-zone juggling, the asynchronous (store-and-retrieve) nature of email makes communication across time zones much more achievable. While phone calls remain largely between two persons (or at most, between two households on extension phones), email and instant messaging (IM) make it easy for many people to communicate at once.

Furthermore, the cost of communication itself has gone down—whether people use the telephone or the internet. Once Americans have invested in the cost of computing equipment and flat-rate monthly communication charges, they can communicate almost for free.

---

[8] See Wellman 1979 and Wellman & Wortley 1990.

[9] There is no popular term for traditional telephones where the signal comes into the home by wire. Until the cell phone boom, there were only (wired) "phones." Now, telephone companies use the terms "landline" and "wireline" to distinguish traditional phones from cell phones even though many landline phones have cordless handsets. The relevant distinction is that landline phones usually connect by wire to the whole household while cell phones connect to an individual. Cell phones are person-to-person, where traditional phones are place-to-place. To further complicate matters, new forms of voice communication are proliferating. Internet phones are starting to be used by more than the technorati, and such person-to-person phones provide a host of new features and complications.

Part 3. Keeping in Contact with Core and Significant Tieswith Core and Significant Ties

Despite the increased options, people still communicate largely by traditional means—in person and by landline phone lines.

The Social Ties survey sheds new light on the extent to which the new communication media aid in the maintenance of social ties among friends, relatives, workmates, and acquaintances. The survey shows that even with the flourishing of the internet, people still most commonly communicate with their social ties in traditional ways—in person and by landline phone. However, many also use email, cell phone, and IM for social communications.

People tend to use different ensembles of media to communicate with their core and significant ties. There is an identical order for both core and significant ties for how often each communication medium is used. In-person encounters are most widely used, followed by landline phone, cell phone, email, and IM.

> People communicate weekly with a greater percentage of their core ties than their significant ties.

Even though people have a larger number of significant ties in their networks, they are in at least weekly contact with more of their core ties than with their significant ties. This is true for every communication medium. For example, they are 1.3 times more likely to have an in-person contact with a core tie at least weekly than with a significant tie; 1.8 times more likely to have a landline phone call, 2.2 times more likely to have a cell phone call, 1.6 times more likely to use email, and 1.8 times more likely to use IM.[10] These ratios indicate that cell phones and IM are mostly for contacts with core ties, while in-person encounters are widely used for contact with significant as well as core ties.

> Cell phones and IM are used mostly to communicate with core ties.

Communicating with core ties

Americans rely heavily on in-person encounters and telephones—both cell phones and landline phones—to connect with core ties (Figure 3). They see slightly less than half (43%) of their core ties in person at least weekly, and they are also in weekly landline telephone contact with slightly less than half (42%) of their core ties.

Yet, new communication technologies—cell phones, email, and IM—play important roles in connecting people with their core ties. Those with cell phones use them to call more than one-third (36%) of their core ties at least weekly. Email users send messages

---

[10] The calculations regarding cell phone, email, and IM, include only respondents that use these technologies.

Part 3. Keeping in Contact with Core and Significant Tieswith Core and Significant Ties

weekly to a quarter (25%) of their core ties, while instant message users exchange IMs weekly with 14% of their core ties.

Communicating with significant ties

In-person meetings are the most widespread way in which significant ties are contacted weekly. Landline phones, cell phones, IM, or email are not used as much to connect with significant ties as they are to connect with core ties.

By contrast, people are much less likely to phone their significant ties than their core ties. Rather, they usually connect with their significant ties in person. One-third (33%) of all significant ties are seen in-person at least weekly, while about one-quarter (23%) are contacted by landline phone. Lower percentages are in weekly contact by cell phone, email, and even more rarely, IM.

Landline phones

Landline phone contact is more common for connecting with core ties than it is for connecting with significant ties. Landline phones are the second most widespread way of connecting with both core and significant ties. However, landline phones have a more important role in connecting people with their core ties than their significant ties. While an almost equal percentage (43%) of core ties are contacted in person and by landline phone, a lower percentage of significant ties are contacted weekly by landline phone (23%) than in-person (33%). People are 1.8 times more likely to connect with significant ties in person than by landline phone. They are also almost twice as likely to use landline phones to connect weekly with their core ties than with their significant ties.

Why are fewer significant ties phoned weekly? Research by Wellman and Tindall (1993) shows that people often feel obliged to contact their core ties by phone when they are not able to see them in person. By contrast, they feel less obliged to contact their significant ties by phone when in-person contact is not possible. It is easy to see in person the large number of significant ties who are physically proximate neighbors and workmates.

Cell phones

Cell phones are used to make weekly contact with a greater percentage of core ties than either email or IM. However, cell phones and email are used about equally for connecting with significant ties. People contact a quarter of their core ties weekly by cell phone (26%) but only 12% of their significant ties. Similarly, they are more apt to use email to contact their core ties weekly (15%) than their significant ties (11%).

These are the percentages for all of the Americans surveyed. Yet, not all Americans have cell phones or internet access: only 74% of the people we surveyed are cell phone users,

Part 3. Keeping in Contact with Core and Significant Tieswith Core and Significant Ties

and even smaller percentages are email users (63%) and IM users (27%). However, even those who have cell phones and use the internet are more apt to contact core and significant ties in person or by landline phone than by cell phone, email, or IM.

It is clear that Americans use landline phones more than cell phones, and they are more likely to use cell phones for contacting core ties than for contacting significant ties. Cell phone use may play a greater role in connecting core ties because it is a personal communication medium that can be intrusive by ringing anywhere and anytime. People may not have the cell phone numbers of significant ties and, if they do, they may be more hesitant to call at potentially inopportune moments. Moreover, cell phones aid in the "on-the-fly" decision-making that often happens with close friends and family in daily life, such as deciding what groceries to buy or arranging to pick up a child from soccer practice. This may be a worldwide phenomena as heavy use of cell phones to contact core ties has also been found in Japan and Europe.[11]

Email

Even for those with internet access, email is used less often than in-person encounters or telephoning for connecting with core ties. However, email is used equally as often as cell phones for connecting with significant ties. Although IM is rarely used by most adult Americans for contacting their core and significant ties, when it is used, it is especially used to contact core ties.

When people have internet access, email is important for maintaining contact with both core and significant ties. Email users contact one-quarter (25%) of their core ties at least weekly as well as 15% of their significant ties. Far from being a medium that connects weaker ties in superficial ways—one of the fears of the turn towards internet communication—email is actually used more for maintaining core than significant relationships.

IM

By contrast, IM is used much less widely. As in the way phones are used, IM is especially a medium for contact with core ties (14%) than with significant ties (8%). Yet recent studies by the Pew Internet & American Life Project show that IM is widely used among teens.[12] There is reason to wonder. Adult work life produces fragmented and focused demands that often can better be handled by email than IM. Further, there is a strong possibility that "texting," exchanging messages by cell phone, will continue to grow and become as important as IM in America, just as it has become in Europe and Asia.

---

[11] See the books about the social nature of cell phone use edited by Ito, Matsuda, and Daisuke (2005) and Ling and Pedersen (2005).
[12] Lenhart (2002); Shiu and Lenhart (2004).

Part 3. Keeping in Contact with Core and Significant Tieswith Core and Significant Ties

From percentages to numbers

What do the percentages in this section mean in terms of numbers? They show that Americans on average are in at least weekly in-person contact with a median of 5 core ties and 4 significant ties. They are also in weekly landline phone contact with 5 core ties but only 2 significant ties. They are in weekly cell phone contact with 2 core ties but no significant ties, and do not have any weekly email or IM contact with any core or significant ties.

So for this section, the numbers refer to all Americans, including those who do not use cell phones or emails. For those Americans who do use these media, the numbers rise substantially. Cell phone users are in weekly cell phone contact with 4 core ties and 1 significant tie, while email users are in weekly email contact with 2 core ties and 1 significant tie. IM users are in weekly contact with 1 core tie and no significant ties. These data in Figure 3 also show that cell phone and email users contact in-person and by phone the same number of core and significant ties as non-users. However, email has clearly aided contact.

Figure 3
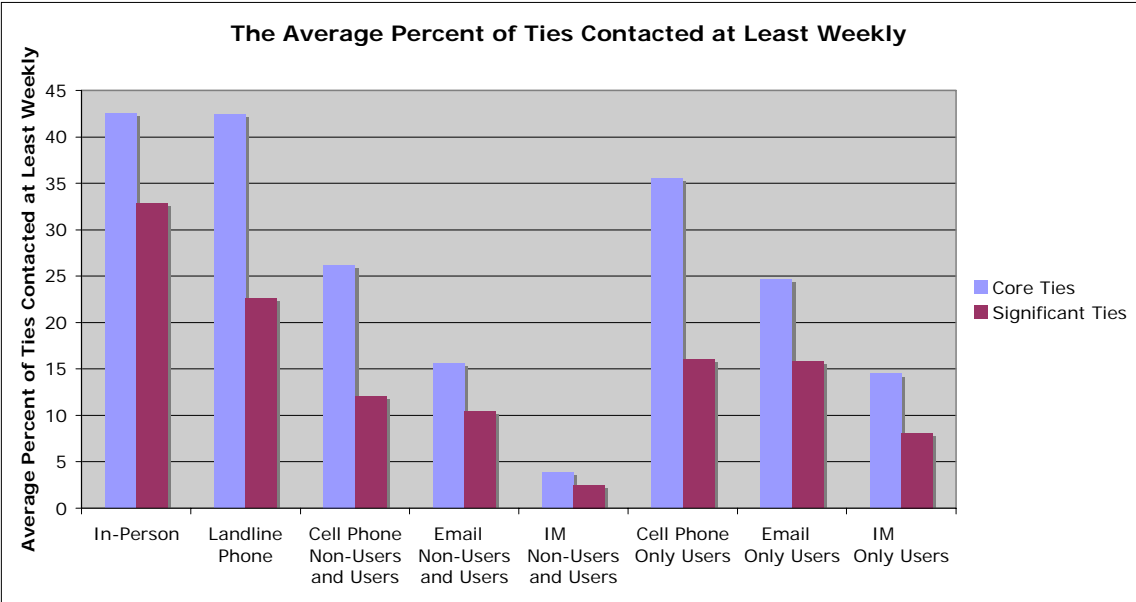
The Average Percent of Ties Contacted at Least Weekly

Part 3. Keeping in Contact with Core and Significant Tieswith Core and Significant Ties

Part 4.

Email and Network Size

Large social networks provide opportunities and burdens.

The opportunities that large social networks provide are obvious. There are more people to socialize with and to provide social capital. There is the possibility for more diversity in larger networks, and that expands the kinds of experiences people share within a network and the kinds of resources they contribute.

Yet large networks can also be a burden. It takes time and energy to maintain a large network, especially when it comprises not a single solidary group but a fragmented group with many discrete clusters and relationships. More ties can also mean more requests for social capital. Increased opportunity for socializing may bring the burden of too-frequent conviviality.

How does people's email use correlate with the size of their social networks? On the one hand, email allows for flexible interaction because it is asynchronous—messages sit there until they are read—and provides the user more control over the length of time invested in each interaction than either in-person or phone contact. But the accessibility of email may also be burdensome. People are more willing to contact each other by email than by knocking on doors or making telephone calls. It scarcely costs them any more time to send an email message to many people instead of just one. Hence, email can support the growth of communication, especially as it adds on to—rather than replaces—in-person and even phone contact.

Email is resilient to the demands of larger social networks.

There are only 24 hours in a day, and so it is not surprising that the amount of time people spend on in-person and phone contact with their core and significant ties, on a percent basis, decreases when they have large networks.[13] Figure 4 shows that as the number of core ties increases from small to large, there is a 12 percentage point drop overall for in-person contact, an 18 point drop for cell phone contact, a 15 point drop for landline phone contact, and a 9 point drop for IM contact. Likewise, as the number of significant ties increase from small to large, there is a 5 point drop for in-person contact, an 8 point drop for cell phone contact, and a 15 point drop for landline phone contact (Figure 5).

---

[13] As elsewhere in this report, network size is divided into thirds:
Core ties: small = 1-10 ties, medium = 11-22 ties, and large = more than 22 ties.
Significant ties: small = 1-10 ties, medium = 11-26 ties, and large = more than 26 ties.

It is a different story for email: People contact the same percentage of core and significant ties at least once per week regardless of whether their networks are large, medium, or small. This means that a greater number of social ties are contacted by email in large networks. For example, two people contact 50% of their network ties, but Person A contacts only 5 people in his small network of 10 people whereas Person B contacts 15 people in her large network of 30 people.

> People use email to contact about the same percentage of those in their social networks, regardless of whether they are small or large.
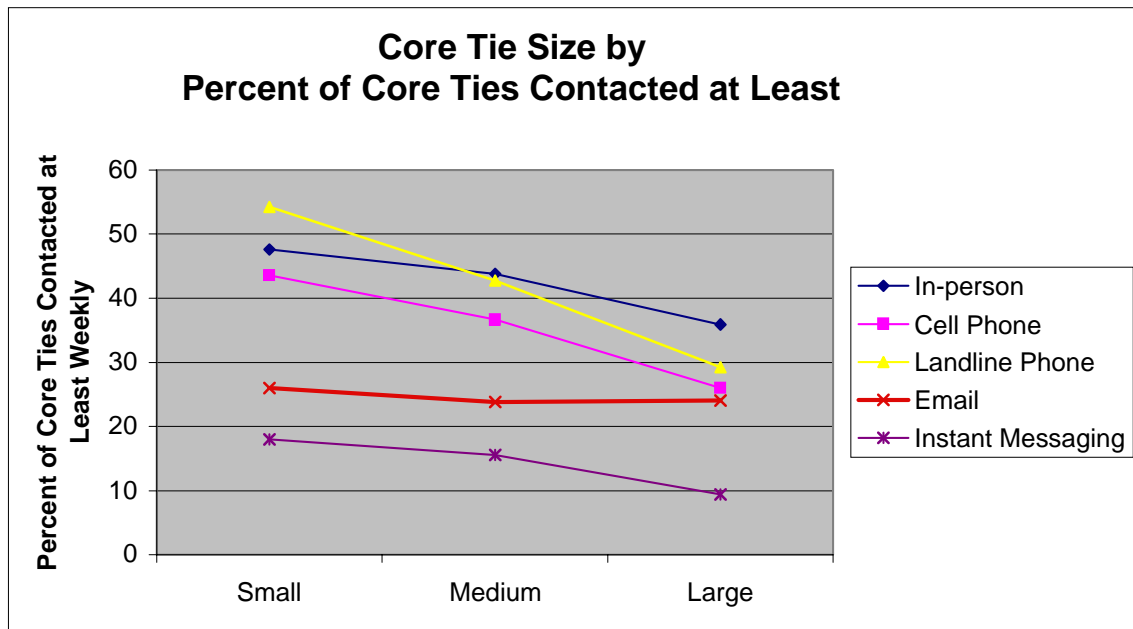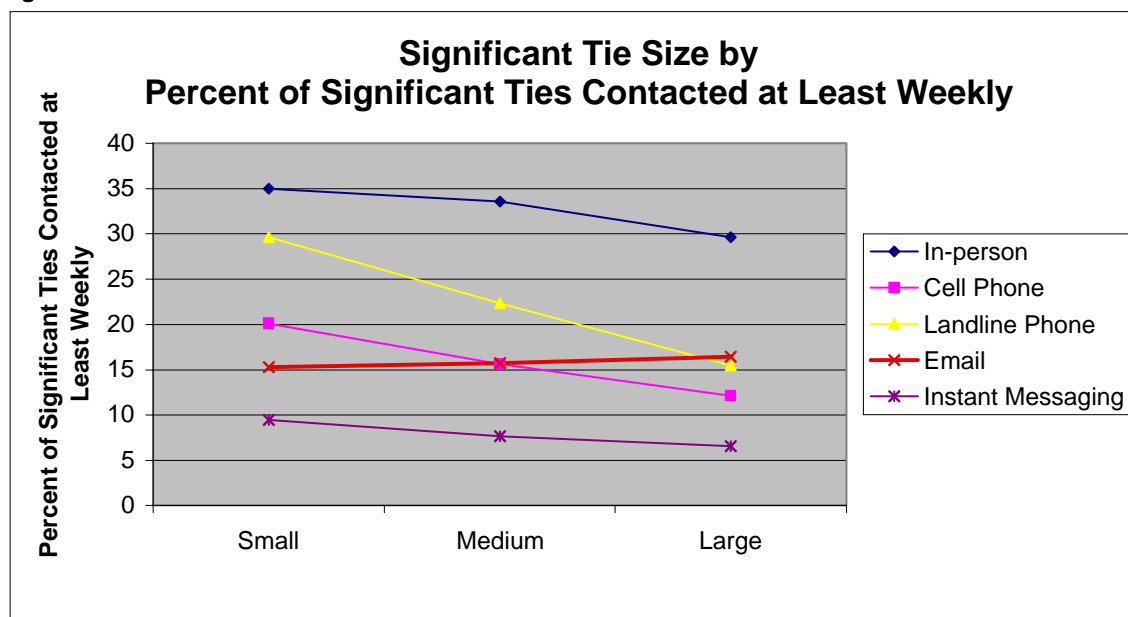
Figure 4

Core Tie Size by Percent of Core Ties Contacted at Least

Figure 5

Significant Tie Size by
Percent of Significant Ties Contacted at Least Weekly

Email may be more resilient to the effects of network size because it allows for more flexible interaction.

Why is email more resilient to the effects of network size than other forms of contact? A number of characteristics set email apart.

■ Email exchanges need not occur at the same time, unlike "real-time" synchronous contact via in-person encounters, cell phone, landline phone, or IM. While landline telephones, cell phones, and IM are less constrained by geography than in-person encounters—people do not have to be in the same place to interact—they are still constrained by time—people have to interact at mutually available times. By contrast, the asynchronous store-and-retrieve nature of email allows all parties involved to exchange messages within loose time frames, sometimes taking days or weeks.

■ The asynchronous nature of email also provides flexibility to keep in contact with a large number of social ties. As network size increases, the ability to have real-time interactions with the same percentage of people is constrained by having the time available to coordinate schedules. The more people involved, the more difficult it can be to find times when all are free to communicate. By relaxing the constraint of simultaneous availability, email greatly simplifies the coordination involved in communication.

■ Email makes it easy to contact several—or many—people at the same time. People can either type a list of names into the address line or use a previously established group to send messages repeatedly to the same set of people. Reciprocity rules in

email: As long as messages are not vacuous spam or nasty flames, the more people receive a message, the more they will respond.

■ Email provides more control over time spent on each interaction. By contrast to other communication media, email users have more autonomy over the time spent interacting. Interactions that occur through other media typically require that all parties involved agree to end the interaction. Yet, if one party wants to end the interaction while another wants to continue, the person who wants out of the interaction may feel it rude or awkward to end the interaction, resulting in spending more time. Email allows time-conscious people to avoid these situations, giving them the opportunity to communicate only what they feel necessary.

Email is most important for those with large numbers of significant ties.

People normally use landline and cell phones more than email to keep in weekly contact with core and significant ties. However, the larger their network, the more people rely on email to contact their significant ties. For example, in large networks, email is used to contact weekly (17%) a greater percentage of significant ties than both cell phone (12%) or landline phone (15%).

Email is the fourth most widespread means of contacting core ties weekly after landline phone (43%), in-person encounters (43%), and cell phones (36%). By contrast, 25% of core ties are contacted weekly by email and 15% by IM.

In general, email is more important for large numbers of significant ties than core ties. Core ties entail more of the rich and in-depth contact that tends to takes place in real time through in-person and phone contact. This means that even those with large core tie networks need to contact these ties in person or by telephone.

> Email fills a communication void—not by substituting for more in-depth contact, but by augmenting otherwise rarer contact.

By contrast, significant ties may find email suitable for contact, even though it does not convey as much sensory information as in-person or phone contact. It is not that email takes the place of richer contact, but that it augments otherwise rarer contact. It fills a communication void. Moreover, email is efficient for juggling large numbers of significant ties because it can be sent and received at convenient times without worrying about the availability of the other party.

Email is used in particular to keep in contact with geographically distant ties, both core and significant.

From the beginning, there was excitement about the internet because people could use email to contact friends and relatives who do not live near each other. To obtain some

information about this, the Social Ties survey asked people about the number of their ties that live more than one hour's travel from them.

The data show that Americans actively use email to contact core and significant ties that do not live nearby. Those with higher percentages of core and significant ties living more than an hour away are the most active email users (Figures 6 and 7). Not surprisingly, those with many geographically distant ties also have less in-person contact with their core and significant ties.[14] In comparison, phone contact—both landline and cell—and IM is not affected by the geographical dispersion of core ties, and their use increases in importance in networks with many geographically distant significant ties.

Yet, while email is especially useful for contacting distant friends and relatives, it is used extensively to contact those who live near-by—even neighbors. This is consistent with the intensive study of an exurban Toronto neighborhood done by Keith Hampton and Barry Wellman (2002), which showed that email is a convenient way to contact people near as well as far.

Figure 6
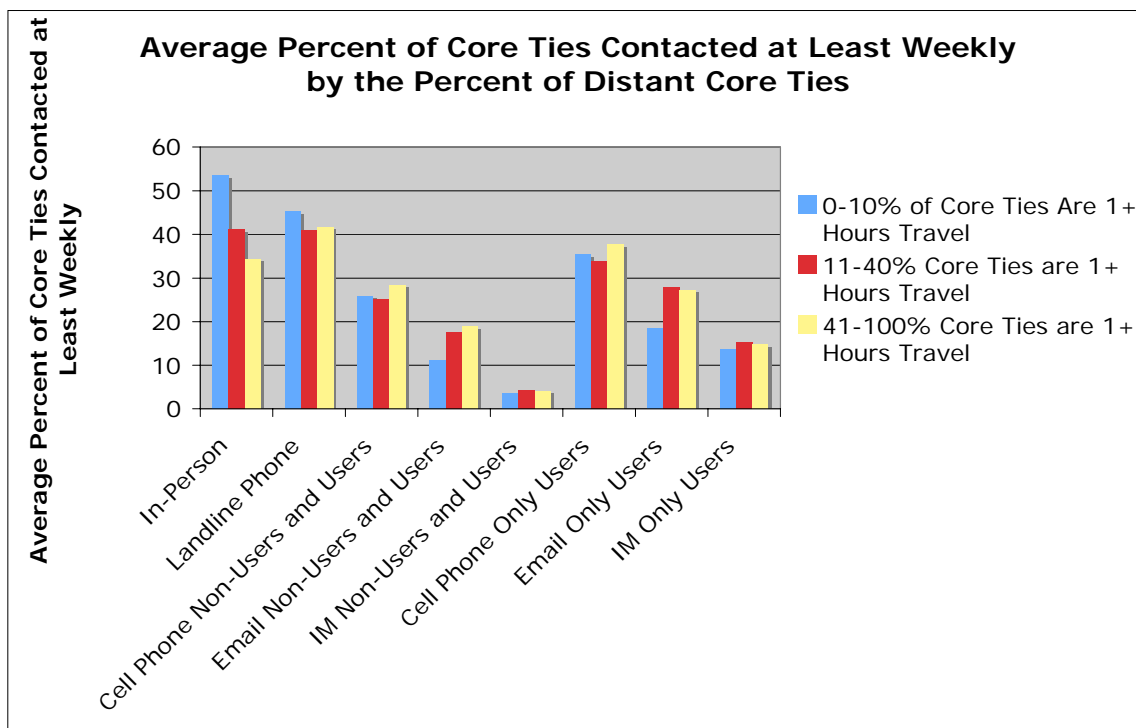
Figure 7

---

[14] We caution that our data allow us only to analyze networks as a whole. We cannot see to what extent it is the specific social ties who live far away that are more apt to be contacted by email.

Average Percent of Sigificant Ties Contacted at Least Weekly by the Percent of Distant Significant Ties

Average Percent of Significant Ties Contacted at Least Weekly

Legend:
- 0% of Significant Ties are 1+ Hours Travel
- 1-37% Significant Ties are 1+ Hours Travel
- 38-100% Significant Ties are 1+ Hours Travel

Categories: In-Person, Landline Phone, Cell Phone Non-Users and Users, Email Non-Users and Users, IM Non-Users and Users, Cell Phone Only Users, Email Only Users, IM Only Users

Part 5.

Testing the Replacement Hypothesis

Does email substitute for in-person and phone contact or augment it?

Since the internet became popular, analysts have wondered about the relationship between email and other means of social contact. Some studies test the *replacement hypothesis* by examining whether the frequency of email messages sent or received corresponds to decreases (or even increases) in the frequency of in-person or telephone contact.[15] Other studies test this hypothesis by measuring time spent online and time spent on other social activities.[16] Results from both types of studies have been consistent: The internet does not reduce in-person or telephone contact, or any other form of social activity; it replaces only sleeping or TV watching.

This study examines this issue in a different way. Instead of looking for associations between the frequency or duration of email contact and in-person (or phone) contact, this study looks for associations between the percentage of social ties contacted through various media. If the replacement hypothesis holds true, we would expect that high percentages of social ties contacted by email would be associated with low percentages of social ties contacted through other communication media. This survey has the further advantage of being able to test the replacement hypothesis for core ties and significant ties. For example, Caroline Haythornthwaite and Barry Wellman (1998) found that core ties rely on multiple modes of contact, while significant ties rely on only one or two. By separating core ties from significant ties, we can take into account the strength of the tie when assessing the kinds of communication media used.

Email does not replace other forms of contact for core ties.

Generally, the higher the percentages of core ties that are contacted by email, the higher the percentage of core ties that are contacted by phone and IM. We find the opposite of the replacement hypothesis: There is no evidence that email replaces other forms of contact (Figure 8). To the contrary, those who have weekly email contact with a high percentage of their core and significant ties usually have weekly contact with a high percentage of their ties by phone (landline and cell) and by IM. For example, people who send weekly emails to the great majority (80%-100%) of their core ties are also in weekly landline phone contact with 50% of their core ties. By contrast, those who do not do email are in weekly phone contact with 40% of their core ties. This is an increase of 25% (or 10 percentage points) in phone contact from those who do not email any core ties to those who email almost every core tie at least weekly.

---

[15] See, for example, the studies in Wellman & Haythornthwaite 2002 and in Kraut, Brynin & Kiesler, 2005.
[16] For example, see Franzen 2003, Nie & Hillygus 2002, and Pronovost 2002.

Email contact with core ties does not reduce in-person contact.

The replacement hypothesis also is not supported for in-person contact with core ties: People see about the same number of core ties regardless of whether they email a few or many core ties (Figure 8). The percent of weekly in-person contact does not decrease as the percent of weekly email contact increases. For example, the percentage of core ties seen in-person at least weekly is the same, 41%, for both those who do not use email and for those who email 80%-100% of their core ties at least weekly. These findings are consistent with a 2002 study by Anabel Quan-Haase and Barry Wellman that uses a larger, but less representative, sample.

Email does not replace other forms of contact for significant ties. The higher the percentage of significant ties contacted by email, the higher the percentage of significant ties contacted by other media.

The replacement hypothesis is even more strongly contradicted for significant ties. The greater the percentage of significant ties contacted weekly by email, the greater the percentage of significant ties in that network that are contacted weekly by all other means of communication we surveyed—cell phone, landline phone, IM, and in-person. The steep lines in Figure 9 for significant ties shows that the *positive* relationships between emailing and other forms of contact are stronger for significant ties than for core ties.

Heavy email users have more than twice as much landline phone contact and three times as much cell phone contact than email non-users. People who email weekly with almost all of their significant ties (80%-100%) have weekly contact with 48% of their significant ties by landline phone and 47% of their significant ties by cell phone. By contrast, non-users of email have weekly landline phone contact with 23% of their significant ties and cell phone contact with only 14%.

The same pattern holds for in-person contact although the differences are not as marked. Those people who use email for weekly contact with 80%-100% of their significant ties have weekly in-person contact with 48% of their significant ties. By contrast, email non-users have weekly in-person contact with 32% of their significant ties. There is an increase in in-person weekly contact of 50% (or 16 percentage points) between non-email users and heavy users.

There is "media multiplexity": the more contact by one communication medium, the more by others.

The findings suggest media multiplexity: people who communicate frequently use multiple media to do so. The more contact by one medium, the more contact by others. At this time, we can only speculate as to why.

It could be that one thing leads to another, so that email leads to in-person contact ("let's get together") or phone contact ("this is too complicated for email; phone me!"). Similarly, phone conversations can lead to more email ("I'll send you that joke or web address as soon as I get online") as can in-person encounters ("It was fun meeting you; let's keep in touch by email."). It could be that some social networks are more gregarious than others, so that there is a greater norm and practice of sociability. Or, it could be that some people are more gregariously active in maintaining their networks through frequent communication.

> The current generation of email users is communicating more often than recent generations and possibly more often than any previous generation.

Whatever the cause, it is clear that email is adding on to other communication media. This means that the current generation of email users is communicating much more often than recent generations and possibly more often than any previous generation since people huddled in caves with only conversation to pass the nights away. Couple this high rate of communication with the sizable networks we have found, and we have suggestive evidence that while Americans may be bowling alone—as Robert Putnam warned—they are networking together.

Testing the Replacement Hypothesis

Figure 8
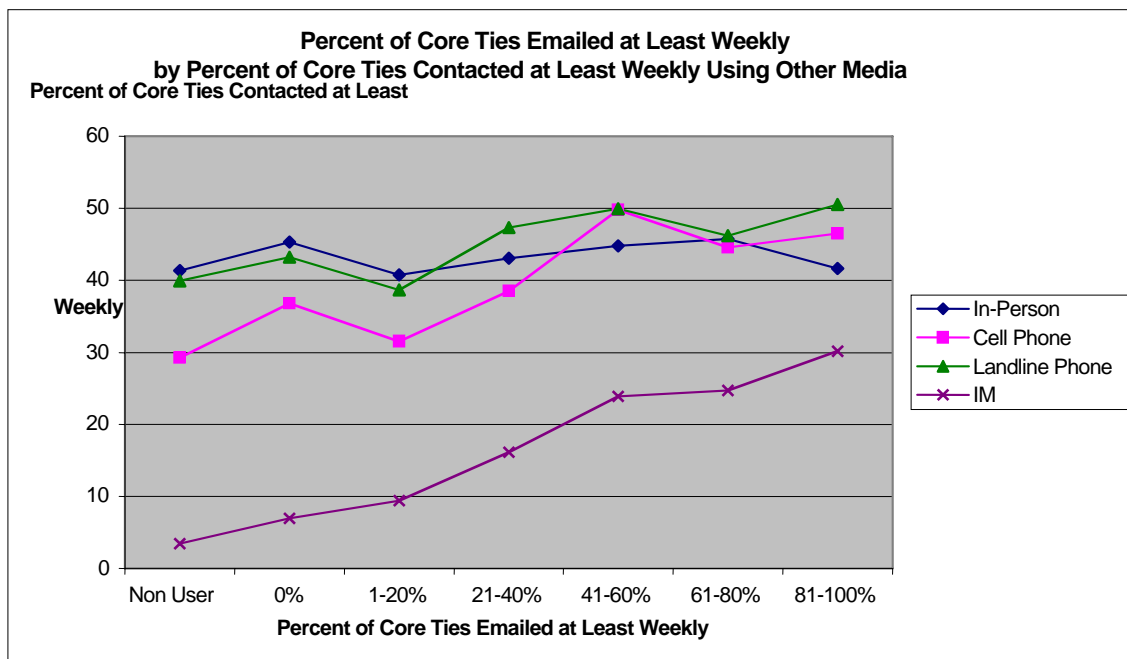
**Percent of Core Ties Emailed at Least Weekly
by Percent of Core Ties Contacted at Least Weekly Using Other Media**

Note: The average percent of ties contacted by cell phone, email and IM, includes only those who use the medium

Figure 9

**Percent of Significant Ties Emailed at Least Weekly
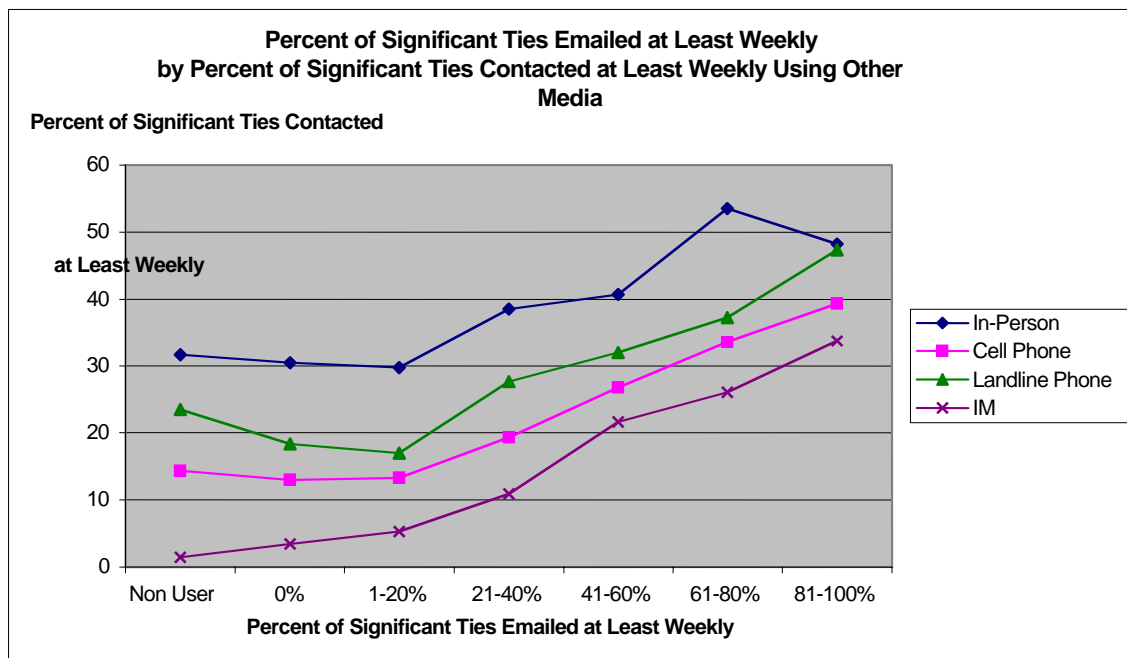by Percent of Significant Ties Contacted at Least Weekly Using Other
Media**

Note: The average percent of ties contacted by cell phone, email and IM, includes only those who use the medium.

Email use and in-person contact are associated with larger social networks and phone use is associated with smaller social networks.

Regression analysis is a method useful for seeing if email use has an independent effect on the size of networks, while taking into account other factors such as education, age, and phone use, that might also have independent effects on the size of networks.[17] The regressions show that the number of network members contacted weekly by email is associated with the number of significant ties in a network as well as the number of total ties (core + significant). The positive coefficient of email with the number of core ties also shows that the more people contacted weekly by email, the larger the social network. By contrast, the negative coefficients for the use of landline and cell phones shows that email use is related to *smaller* networks when other factors are taken into account. Surprisingly, there is a higher percentage of weekly in-person contact for *larger* numbers of significant ties, presumably because many are neighbors or workmates.

The regressions also support what the demographic analysis in the Methodology section describes: Being married, college-educated, employed and living in rural areas can affect the number of core and significant ties. Being married has the strongest impact, as marriage connects spouses to an additional set of kin.

---

[17] As elsewhere in this report, we look separately at the number of core ties and somewhat less close significant ties To increase statistical power, we use the logarithm (to the base 10) of network size. This logarithmic transformation takes into account that the difference between 5 and 6 persons in a network is more important than the difference between 25 and 26 persons. Although regression is often used to "predict" from independent variables (frequency of in-person contact, etc.) to dependent variables (the number of core, significant and total ties), prediction makes little sense in this case for it is quite likely that the number of ties affects the amount of media use. We use regression for a different purpose: to see the relatively "pure" effect of variables (such as the frequency of in-person contact) while controlling for the effects of other variables. "Statistical significance" means that 95 times out of 100, the associations that we find here will be found again in another national random sample.

Testing the Replacement Hypothesis

The Effect of Email on the Size of Social Networks: Regression Results			
Number of Ties **(logarithmic transformation)**	**Total**	**Core**	**Significant**
Media Use (% contacted at least weekly)			
In-person	-.031	-.014	.082*
Landline Phone	-.269*	-.241*	-.128*
Cell Phone	-.067*	-.067*	-.017
Email	.045*	.024	.068*
IM	-.016	-.003	-.043
Demographics			
Gender (male=1)	-.004	-.074*	.068*
Age	-.002	.018	-.018
Married	.090*	.090*	.075*
Employed (full or part-time)	.058*	.056*	.035
Whites	.021	.033	.023
Blacks	.010	.052	-.046
College graduate	.057*	.033	.086
Rural	.021	.017	.018*
Urban	-.024	-.020	-.008
Adjusted R-square	.115	.086	.050
Numbers in tables are standardized beta coefficients. * denotes significance at a 95% level			

Part 6.

Information Is a Conduit to Help

Getting help for the big and small challenges people encounter

On the face of things, getting one's car repaired appears as easy as opening the phone book and looking for a mechanic. Finding a job might seem as straightforward as looking at the want ads, going to a job fair, or to an employment counselor. Addressing a health care issue is more involved, with the level of complexity depending on the problem, who is affected, the insurance status of the person with a problem, and the amount of support from family and friends.

It doesn't take long to realize that getting help often begins with getting information. Which auto mechanic is reliable and fair? Not every job opening might appear in the newspaper or online listings, and a certain employment counselor might not be appropriate for a specific person's skills or needs. For problems such as health care, it is hard to separate gathering information from the act of getting help.

People use their social networks to seek information and advice.

This is where people often come into play in the process of finding the necessary information to chart the right course for getting help. A close friend or family member may know an auto mechanic who specializes in the make of your car. A work colleague—or maybe an acquaintance of that colleague—may know a good place for adult day care for an elderly relative in need.

> Network capital refers to the personal ties people may draw upon as a source of trusted information when people have to deal with the institutions and rules which are usually part of problem-solving.

In these examples, one's personal network is the avenue for help. People you know – sometimes very well, but often not – are the conduits for getting information that adds to your ability to address a problem. They constitute network capital – personal ties that are a source of trusted information that help people negotiate through the thicket of institutions and rules that are unavoidable parts of dealing with problems.

A key question in this research is whether people's networks affect their capacity to address various problems in their lives, with a special focus on whether the internet and other communication technologies leverage people's social networks. Although the size of people's social networks and their structures (lots of significant ties or active membership in community groups) may provide access to resources that offer help, it may be that information technologies make these networks more effective.

Part 6. Information Is a Conduit to Help

To get at these issues, the Social Ties survey asked respondents whether they had gotten help from people in their social networks for any of the following eight issues:

- Finding a new place to live

- Changing jobs

- Buying a personal computer

- Making a major investment or financial decision

- Looking for information about a major illness or medical condition

- Caring for someone with a major illness or medical condition

- Putting up drywall in your house

- Deciding who to vote for in an election

The list was designed to probe issues of great importance, such as health care, things that involve spending money, such as buying a computer, and issues that pertain to decision-making, such as voting or investing.

As the following tables show, people are generally more likely to turn to their core ties for help than their significant ties. The tables also show that internet users tend to reach into their social networks for help more often than non-users. A fairly consistent pattern is that internet users have greater access to help about a variety of things.

Seeking Help from Core Ties			
Type of help sought …	All respondents (n=2,200)	Internet users (n=1,518)	Non-internet users (n=682)
Find a new place to live	38%	42%	30%
Change jobs	33	39	21
Buy a personal computer	29	37	12
Make a major investment or financial decision	42	48	29
Look for information about a major illness or medical condition	49	54	41
Care for someone with a major illness or medical condition	53	54	52
Put up drywall in your house	22	23	18
Decide who to vote for in an election	17	19	12
Total (out of 8)	2.77	3.10	2.02
Source: Pew Internet & American Life Project February 2004 Survey. N=2,200. The margin of error is ±2% for the entire sample, ±3% for the sample of internet users, and ±4% for non-internet users.			

Seeking Help from Significant Ties			
Type of help sought …	All respondents (n=2,200)	Internet users (n=1,518)	Internet non-users (n=682)
Find a new place to live	17%	17%	15%
Change jobs	18	21	11
Buy a personal computer	11	12	7
Make a major investment or financial decision	14	15	11
Look for information about a major illness or medical condition	28	29	25
Care for someone with a major illness or medical condition	29	28	32
Put up drywall in your house	11	12	11
Decide who to vote for in an election	9	10	8
Total (out of 8)	1.14	1.24	0.92

Source: Pew Internet & American Life Project February 2004 Survey. N=2,200. The margin of error is ±2% for the entire sample and ±3% for the sample of internet users, and ±4% for non-internet users.

Of course, getting help for various problems is bound to vary by a number of factors, not just internet use. As Figures 10 and 11 show, people with large social networks, those who know people across a wide range of professions, and those who are participants in many community groups have access to the most help.[18] People who are fairly heavy users of information and communication technologies are also more likely than average to report high levels of receiving help when they need it.

The definitions for the items in the figures below are as follows:

- The definitions of large, medium, and small networks are the same as those used earlier in the report.[19]

- Heavy users of communication technologies are defined as those who said they used, within the past month, at least five of the seven technologies we surveyed: cell phone, digital camera, PDA, email, IM, wireless internet, and a cell phone that permits text messaging.

- To measure the scope of occupational acquaintances, respondents were asked if they knew people in the following professions: lawyer, truck driver, sales/marketing

[18] We asked about eight types of help. This means the maximum values in the scales below is eight.
[19] For core networks, small networks have between 0 and 10 people, medium networks have between 11 and 22 people, and large networks have more than 22 people. For somewhat less close significant networks, small networks have between 0 and 10 people, medium networks have between 11 and 26 people, and large networks have more than 26 people.

manager, pharmacist, janitor/caretaker, engineer, cashier, waiter/waitress, computer programmer, or carpenter. People who know people in 5 or more of the 10 occupations listed are considered to have a large occupational network. The average is 2.7

■ To measure membership in community groups, respondents were asked whether they had been members in the last three years of a: business or professional organization, labor union, sports league (for self or child), religious organization, hobby group, community service group, political group, other kind of group. Heavy participants in group activity are defined as those who answered "yes" to four on that list (the average is just under two).

Figure 10

Number of types of help received -- core tie networks

Figure 11
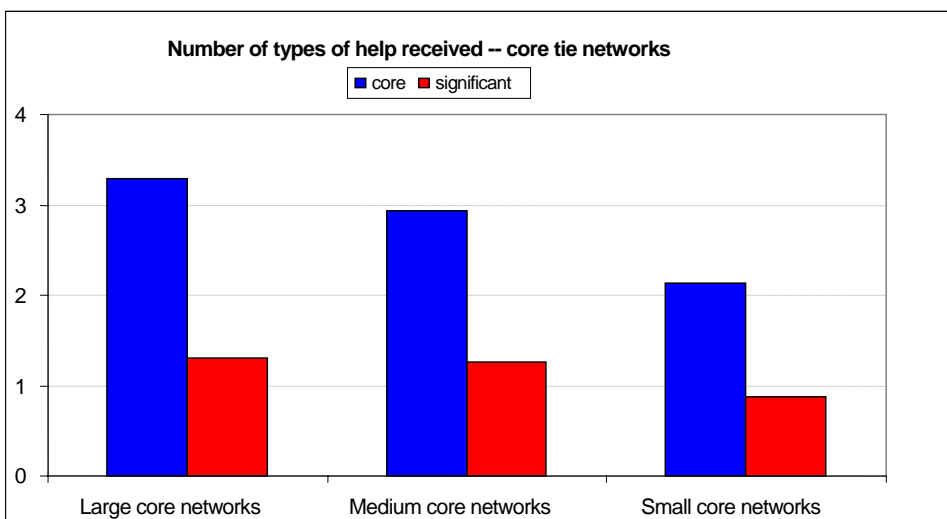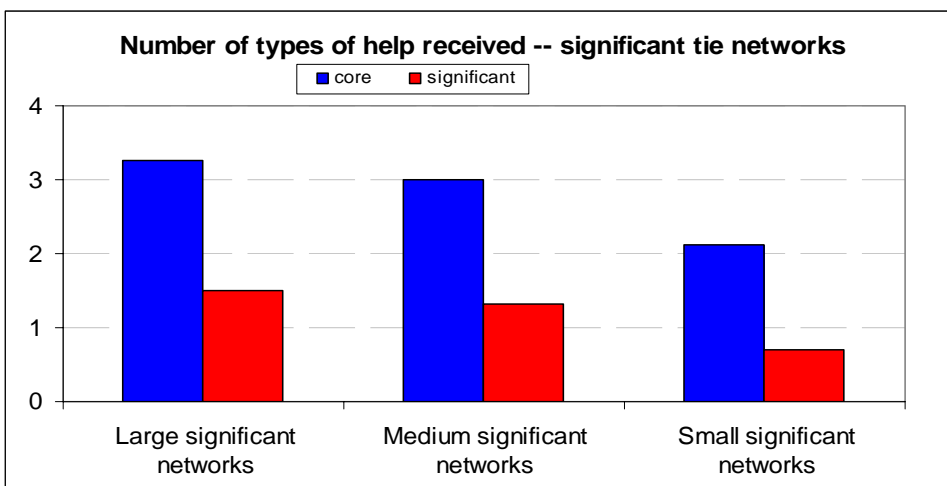

Number of types of help received -- significant tie networks

The patterns in these charts are not too surprising in some respects. In asking respondents if they turn to their personal networks for help in certain areas, one would expect that

large personal networks—either core or significant—are associated with better access to resources that might yield help.

Focusing on the role of core ties, people with large number of core ties can rely on those people for help, but they tend not to be greatly reliant on their significant ties for help (see Figure 10). Turning to people with large significant tie networks, they seem to get the best of both worlds—they get about the same amount of help as those rich in core ties, but they are better able to get help from their large pool of significant ties (see Figure 11).

As Figure 12 below shows, those who are more heavily involved in community or professional groups, or who know people across a wide range of occupations, are more likely to draw on those networks for help. Relatively heavy users of information technology tend to get more help from their personal networks than those who don't as much use information technology.

Figure 12
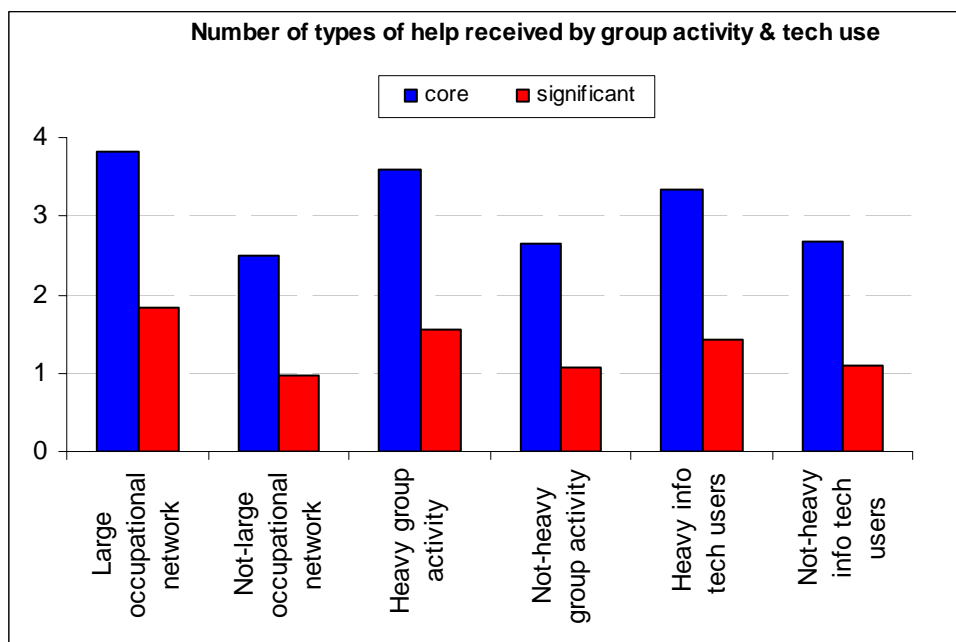
Even though core ties tend to be more frequent sources for help than significant ties, significant ties can be important on the margins. Such weaker ties have their largest payoffs when it comes to changing jobs, finding new places to live, or decisions relating to voting, investments, or buying a computer. For help about medical or health issues (i.e., looking for information about an illness or needing help in caring for someone with a major illness), core ties trump significant ties as sources for help.

The newer technologies—email and cell phone—seem to smooth more paths toward getting help than traditional means.

Earlier in this report, we discussed how people use communication technologies to keep up with people in their social networks, with a focus on how these patterns change as network size grows. As network size grows, people contact a lower share of their social networks for all communication technologies (as well by in-person contact), with the exception of email. For email, the share of a person's social network contacted on a weekly basis does not decline as network size increases and, as also noted, email does not displace other forms of keeping up with core and significant ties.

The analysis in this section looks at whether there is a relationship between contacting a large share of people's social networks and getting help—taking into account the different means people use to stay in touch with their core and significant ties.

The figures below are built on the question in the Social Ties survey that asked respondents to tell us how many of their core or significant ties they contact at least once a week using the specific tool or means asked about. Below are definitions of what those who contact many or relatively few people in their social networks:

- For email, those who contact 8 or more people in their network per week are defined as heavy users of email to keep up with people, while those who contact 2 or fewer by email are defined as light users of email for keeping up with their social networks.

- For cell phone, those who contact 11 or more people per week are heavy contactors, while those who contact 3 or less are light contactors.

- For the landline telephone, those who contact 12 or more people per week are heavy users, while those who contact 3 or less are light contactors.

- For in-person contact, those who contact 18 or more people per week are heavy contactors, while those who contact 7 or less are light contactors.

Heavy users of a particular means of contact are those persons in the upper 33% of the distribution, i.e., they contact the highest share of their networks using a particular tool on a weekly basis. Light contactors are in the lower third of the distribution.

Figure 13

Number of types of help by amount of contact with network

very close ■ somewhat close

| | Contacts many in network using email | Contacts few in network using email | Talks to many in network over phone | Talks to few in network over phone |

Figure 14

Number of types of help by amount of contact with network

very close ■ somew hat close

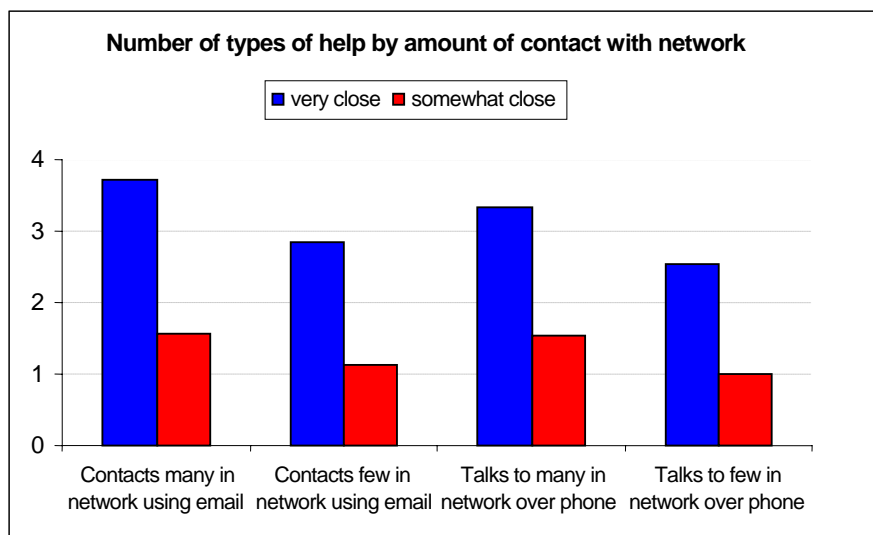| | Talks to many in netw ork f2f | Talks to few in netw ork f2f | Talks to many in netw ork using cell | Talks to few in netw ork using cell |
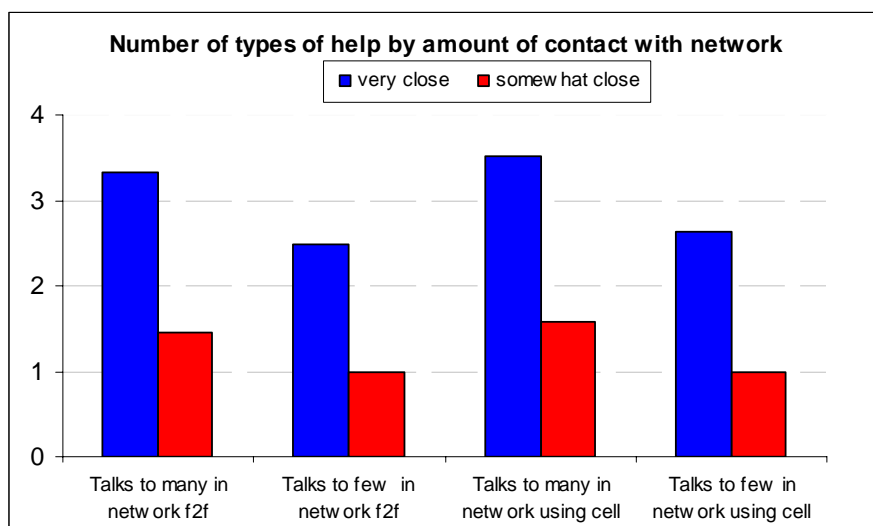
One general pattern is that the newer technologies of email and the cell phone seem to smooth more paths toward getting help than traditional means. Does this mean that email is a better way for getting help via one's social networks than the phone or an in-person visit? That may be the case because the purpose of using email to contact people in your social network may be to get help – at least to a greater extent than calling someone on the phone to chat or paying them a visit. As the Pew Internet & American Life Project documented in its longitudinal study "Getting Serious Online," people show a tendency over the course of time to use email for weighty or urgent purposes.[20] In other words,

---

[20] See John Horrigan and Lee Rainie, *Getting Serious Online: As Americans Gain Experience, They Use the Web More at Work, Write Emails with More Significant Content, Perform More Online Transactions, and Pursue More Serious Activities*. March 2002, available online at: http://www.pewinternet.org/PPF/r/55/report_display.asp.

face-to-face visits or phone chats may not have getting help as their purpose, while sending an email may be more likely to be intended for that.

It is difficult, then, to conclude that email or cell phones are better resources for maintaining supportive networks. The findings do suggest that email and cell phones are handy tools for keeping in touch with social networks—with the benefit that network members can become aware of problems and offer help and advice when needed.

The internet and other communication technologies often serve as bridges to help.

The internet and other communication technologies often serve as bridges to help. But is there a clear "internet effect" that can be identified in these exchanges in social networks? Perhaps communication technologies are additional channels that open doors to sources of help. Or maybe they let people cultivate and maintain ties with acquaintances that are called upon to provide help or advice at certain times.

It may also be the case that the apparent link may be an artifact of something else. Active internet, IM, or cell phone users are likely to be people with a wide range of acquaintances or who are involved in a lot of group activities. These factors are clearly correlated with greater access to help.

Statistical analyses that disentangle these effects show that technology use independently affects access to help. Regression analysis is the method used to examine whether email or internet had an independent effect on access to help, controlling for other factors such as education, age, familiarity with people in a variety of professions, and network size, which might also have independent effects on access to help.

As it turns out, even though knowing lots of people from different occupations is a very good predictor of access to help, internet use and the use of other communication technologies are, separately and independently, positive predictors of access to help. Specifically, use of the internet alone and email use in the past month are both independently associated with access to help.

> People draw on their network capital when they need help. The internet and other communication technologies play an important supporting role in maintaining or cultivating social networks so that they can be called upon when needed.

To look at the internet effect in a different way, the same kind of analysis was done focusing on the communication tools discussed in the previous section, namely the number of core and significant ties contacted by respondents at least weekly. Here the question is whether, when all other factors are held constant, email and cell phone are associated with greater levels of getting help.

The results pointed to email contact having a positive impact on access to help. An increase in the amount of email contact in their networks has a positive impact on the amount of help people receive—holding other things constant. Of the other types of contact asked about, landline telephone contact also has a positive impact on getting help, while IM and cell phone contact do not have any effect.

The upshot of this analysis is that people draw on their network capital—whether it is people in their social networks, people they know in various professions, or those they meet in the course of more formal professional, hobby, or social groups—to try to address issues that arise in their lives. The internet and other information and communication technologies help in this process.

The internet and email use play a prominent role when compared with other factors. To be sure, knowing more people in a variety of different professions makes the biggest difference for people. Knowing a person in one additional profession has an impact on the amount of types of help a person can get that is about three times as large as being an email or internet user. Still, internet or email use has an impact on the types of available help that is greater than being in a professional or business association, belonging to a religious organization, or participating in a hobby group.[21]

The number of significant ties has a greater positive effect on one's access to help than the number of core ties.

The size of people's social networks greases the path to getting help of different types, but this effect plays out in a very specific way. Significant ties have a statistically significant, and positive, impact on the amount of help people say they have received.[22] In other words, the more significant ties a person has, the more likely she is to have received help from her network.

> If someone's goal is to expand the range of available help across a variety of topic areas, there will be a greater payoff to increasing one's number of significant ties than to expanding one's core ties.

Core ties, by contrast, do not exert a statistically significant effect on the amount of help received. Even though people receive on average a wider range of help from their very close ties, these findings mean that, if someone wanted to increase the range of help available, it would be better to expand one's network of significant ties. This finding that significant ties are a better avenue for many forms of help is consistent with Granovetter's classic "Strength of Weak Ties" theory (Granovetter, 1973).

---

[21] The Methodology section at the end of the report provides full discussion and results of the regression model.
[22] As noted in the Methodology section, significant ties are significant at the 10% confidence level in several models run and the 5% level in one model.

The general finding about the greater relative utility of significant ties must be qualified when disaggregating the types of help asked about in this survey. Two of the eight help issues pertain to health care. One asked whether the respondent sought help to care for someone with a major illness or medical condition and the other asked whether the respondent had looked for any information about a major illness or medical condition. In these two types of help, core ties matter while significant ties do not. This is understandable, as medical and health issues are often of a personal nature. People with such issues are more likely to turn to trusted people with whom they are very close for support and advice.

Part 7.

Using the Internet in Making Important Decisions

Millions of Americans use the internet to help in decision-making.

Although it is clear that the internet is an avenue for mobilizing people's social networks when they need help, the scope of this phenomenon isn't specified in the February-March 2004 survey on social ties. To get at this, the Pew Internet and American Life Project fielded a survey in March 2005 that sought to explore the internet's role in significant decisions people might face in their lives.

The March 2005 Major Moments survey cast the net widely in assessing how online resources aid in decision-making. The survey asked about a range of decision points that people may experience. Several are those included in the 2004 Social Ties survey, namely making a big financial decision, changing jobs, helping someone deal with a major illness or medical condition, dealing oneself with a major illness or medical condition, and finding a new place to live. Others are of a different sort, such as buying a car or choosing a school or college for oneself or a child.

The structure of the questioning unfolded by asking respondents first whether they had faced a decision pertaining to a particular item within the past two years and, if they had, whether the internet played a crucial role, an important one, a minor role, or no role at all. For five topics—buying a car, making a major financial decision, getting additional education and training for your career, choosing a school for oneself or child, and helping someone deal with a major illness—respondents were asked which occurred most recently, with follow-up questions probing specifically into how the internet played a role.

The table below shows how the internet fit in for eight of the decision events. Where the internet seems to matter most is for decisions that lend themselves to research by non-experts. Getting additional training for one's job or choosing a school for oneself or a child—in which the internet played a crucial role for one in five people who dealt with these issues—are arguably topics more easily grasped by non-specialists than, say, medicine or finance. When it comes to health issues, a smaller percentage of those who have dealt with such problems turn to the internet, perhaps because of the complexity of many health issues.

Still, when extrapolated to millions of American adults who have turned to the internet in a significant way for a decision, the numbers are sizable. Some 21 million Americans relied on the internet in an important way for career training, 17 million when helping someone else with a major illness or medical condition, and another 17 million relied on

the internet in a crucial or important way when choosing a school for themselves or a child.

Using the Internet for Decision-Making				
	Percent of internet users who dealt with the issue	**Percent of those who dealt with issue for which internet played crucial role**	**Percent of those who dealt with issue for which internet played important role**	**Number of Americans who said the internet was crucial or important**
Gotten additional training for your career	39%	21%	18%	21 million
Helped another person with a major illness or medical condition*	49	9	17	17
Chosen a school or college for yourself or your child	29	22	20	17
Bought a car	46	12	15	16
Made a major investment or financial decision*	41	12	17	16
Found a new place to live*	24	15	15	10
Changed jobs*	25	13	12	8
Dealt yourself with a major illness or other health condition*	19	5	23	7
Source: Pew Internet & American Life Project March 2005 Survey. N=1,450 for internet users. The margin of error ±3% for the sample of internet users.* denotes issues asked about in February 2004 "social ties" survey.				

Looked at another way, the internet's reach in playing a role in Americans' decision making is striking. Fully 45% of internet users, or about 60 million Americans, say that the internet played an important or crucial role in at least one of the eight decision points listed above in the previous two years.

For the five topics common to both the February 2004 Social Ties survey and the March 2005 survey, 29% of internet users, or approximately 39 million Americans, said the internet played a crucial or important role in at least one of those decisions.

The internet is the most important source of information for many facing an important decision.

For the five decisions that people have most likely confronted in the past two years—buying a car, making a major financial decision, helping someone deal with a major health matter, choosing a college, or getting additional career training—39% of internet users said the internet played a crucial or important role in at least one of those decisions.

Part 7. Using the Internet in Making Important Decisions

Whether the information found online is helpful, burdensome, inaccurate, or unimportant compared with other sources is hard to pin down with precision. In an effort to put the internet's role in context, a series of follow-up questions were posed to the 39% of online users who said the internet played an important or crucial role in the five decision categories mentioned above. Projected out to the general population, this subgroup amounts to 53 million people. The questions touched on whether they got bad information online, felt they had too much information, and whether information found online was more important than offline information.

Online information works well for the 39% of internet users in the five key areas who said the internet played an important or crucial role in their decisions. Just 5% said they encountered bad information in the course of carrying out their online research. When asked to compare the importance of online information to offline sources of information that factored into the decision, 57% of those who had relied on the net in an important way for at least one of the five decision areas said that online information was the *most* important source of information, as compared with 37% who said that offline information was most important. For those who have bought a car in the past two years and who said the internet played an important or crucial role, nearly two-thirds (65%) said the internet was their most important source of information.

> Of online users who have relied on the internet for at least one decision out of a menu of five possibilities, only 5% say they have gotten bad information.

On the one hand, it is not surprising that for those who said the internet played an important or crucial role in a decision, a lot said it was the most important factor. Still, it is notable that in thinking about the panoply of possible sources of information to help in a decision, a majority of this group said the internet was most important.

Americans do not feel overwhelmed by the amount of information to consider in making decisions.

As to the possibility of information overload, that was generally not the experience of the group who heavily relied on the internet for at least one of the five decisions. Just 15% said they felt they sometimes felt overwhelmed by the amount of information they had, 71% said they had all the information they needed and thought it was manageable, and 11% said they were missing information that they wish they had. Few who bought a car in the past two years reported information overload (9%), while 22% of those who said the internet played a crucial or important role in helping someone with an illness said they felt overwhelmed by the volume of information. With the stakes being high— offering help to another person about a major illness—one might expect anxiety about this important role leading people to worry about how to sort through such information.

The internet aids decision-making by connecting people to information.

The group for which the internet has played a crucial or important role in at least one of five key decisions say that, in their judgment, the internet yields good information, information that plays an preeminent role in their decision-making, and in amounts that are generally manageable for them.

By what means does the internet play this helpful role? The internet offers access to websites and email lets users connect to people directly. Online communities often function as information clearinghouses that let people compare options, find experts, or share information among people who have recently encountered similar circumstances.

The Major Moments survey asked specifically what made the internet play a large role in a decision. The table below shows how respondents – the 39% who said the internet played a crucial or important role in one of the five key decisions – characterized the specific role the internet played in aiding in decision-making.

The internet's largest impact comes in connecting people to other people for advice or sharing valuable experiences. With about one-third of those who used the internet in a key way in a decision, the internet's capacity to let users draw on social networks is part of the decision-making dynamic. To the extent that some of the 28% who said the internet connected them to expert services found specific individuals for help, the "social network" effect is somewhat larger.

The Internet's Role in Making an Important Decision	
What specific role did the internet play in the event for which the internet played an important or crucial role?	
For respondents who said the internet played a crucial or important role in buying a car, making a major investment, getting additional career training, choosing a school for self or child, or helping someone with a major illness or health condition.	
Help you find advice and support from other people	34%
Help you find information or compare options	30
Help you find professional or expert services?	28
Source: Pew Internet & American Life Project March 2005 Survey. The margin of error ±5% for the 560 respondents to this question.	

The internet's role in assisting major life decisions has grown over time.

The March 2005 survey repeated questions that were asked in January 2002 about the major moments people had encountered. That survey was discussed in "Use of the

Part 7. Using the Internet in Making Important Decisions

Internet in Major Life Moments."[23] Since 2002, the internet's role in helping people make important decisions has grown. In 2002, 45 million Americans, or 40% of internet users, said the internet played a crucial or important role in at least one of the eight decision points asked about. That number grew by one-third, to 60 million, by March 2005, and the share of online users for which the internet played a key role in a decision grew to 45%.

Focusing only on the subset of decisions common to the 2004 social ties survey, the story is the same. The number of internet users for which the internet played a crucial or important role in at least one of the five decisions grew by about one-third, from 29 million to 39 million. The share of internet users saying this grew from 26% to 29%.

The Growing Role of the Internet in Decision-Making		
Number of Americans for which internet was crucial or important		
	2005	**2002**
Gotten additional training for your career	21 million	14 million
Helped another person with a major illness or medical condition	17	11
Chosen a school or college for yourself or your child	17	12
Bought a car	16	13
Made a major investment or financial decision	16	11
Found a new place to live	10	7
Changed jobs	8	7
Dealt yourself with a major illness or other health condition	7	5
Sources: Pew Internet & American Life Project March 2005 Survey. N=1,450 for internet users. The January 2002 survey contained 1,415 internet users. The margin of error ±3% for the sample of internet user in both surveys.		
* denotes issues asked about in February 2004 "social ties" survey.		

One possible reason for the increase in the number of Americans turning to the internet to help with decisions is the growth in broadband penetration between 2002 and 2005. In January 2002, 17% of home internet users, or 9% of all Americans, connected to the internet using high-speed connections. By March 2005, 50% of home internet users connected to the internet using broadband, or 30% of all Americans. This means that the number of home broadband users in the United States roughly tripled from the beginning of 2002 to early 2005 – an increase from 18 million in January 2002 to 60 million by March 2005.

In both surveys, having a broadband connection had a significantly positive impact on the likelihood that the internet played a crucial or important role in at least one of the eight decisions, even when controlling for a variety of the respondent's demographic characteristics. In 2002, 56% of high-speed users said the internet played an important or

---

[23] See Nathan Kommers and Lee Rainie, "Use of the Internet in Major Life Moments", May 2002, available online at http://www.pewinternet.org/PPF/r/58/report_display.asp.

crucial role in at least one decision compared with 39% of dial-up users. In 2005, that share was basically the same, with 57% of high-speed users saying the internet played a crucial or important role in at least one decision, versus 38% of dial-up users. With greater numbers of high-speed users in 2005, it seems likely that the convenience of broadband drew more users to the internet to deal with some decision.

Broadband is probably not the entire story behind this growth. After all, broadband penetration grew much faster than the number of Americans using the internet in key decisions. Better online content or more widely advertised Web sites also might have drawn some people to the internet when they were faced with a big decision. Since people draw on other people in using the internet for decisions, there could also be a network effect in play. As more people seek out other people to help with decisions, and find the experience beneficial, online "word of mouth" might draw others to the internet for help with confronted with a big decision.

Part 8.

The Internet Has Become Part of Everyday Life— and Has Broadened Our Social Networks in the Process

Once upon a time, long, long ago—in 1995—the internet was seen as something special, available only to wizards and geeks. Now it has become part of everyday life. People routinely integrate the internet into the ways in which they communicate with each other, moving easily between phone, computer, and in-person encounters. With its help, they are able to maintain active contact with sizable social networks of core and significant ties even though many of their ties do not live close to them.

But as the internet has become a part of our everyday routine, it has changed our form of community and broadened our social networks. Today, few people inhabit urban villages or rural "Pleasantvilles" where everybody knows their name—and minds their business. Instead, they inhabit socially and spatially dispersed networks through which they maneuver to be sociable, to seek information, and to give and get help.

Barry Wellman (1999, 2001) has shown how this shift from solidary communities to social networks began before the internet. Yet the internet surely has accelerated the change. It has made it easy for people to connect without living nearby and without knowing each other well. It has probably increased the variety of the kinds of people who are network members. Where once communication was confined to neighbors (usually similar in ethnicity and social status), it is now more diversified, bridging multiple social worlds.

The internet—and the cell phone—have also transformed communication from house-to-house to person-to-person. In the past, people went visiting on Sundays or called on each other at home in the evening. Now, they contact each other person-to-person. As Robert Putnam (2000) has shown, households are much less likely than a generation ago to have family dinners or picnics. But this does not mean they are disconnected. Rather, they are connected—as individuals—to friends and relatives and even to other household members (Kennedy and Wellman, 2006). The internet now helps people in maintaining ties with large and diversified networks.

The result is that people not only socialize online, but they incorporate the internet into seeking information, exchanging advice, and making decisions. While not everyone does this, the trend is clear, and our findings show what a great boost the internet is providing to social capital—obtaining resources both from other people and from more institutional web resources. To get such capital, people must act as individual internet entrepreneurs. Americans are in an era where they may have only one or two extremely close relationships, but dozens of core and significant ties. This means rather than relying on a

single "community" for information, advice, and resources, people do better when they actively seek out a variety of appropriate people and web resources for different situations. The evidence from the two surveys shows that they are doing this, and that many are using the internet actively for help with crucial and important issues.

Wellman has called this shift away from reliance on a single group "networked individualism." He and Manuel Castells (The Rise of the Network Society) have argued that it is a profound shift in the fabric of western societies, as organizations outsource, jobs function in fluid teams, marriages are serial, children have multiple parents, and people shift among many roles. Although the shift began before the advent of the internet, our research suggests that the internet both reflects this shift and is enabling and accelerating it.

References

Barlow, John Perry. 1995. "Property and Speech: Who Owns What You Say in Cyberspace?" *Communications of the ACM* 38:19-22.

Bastani, Susan. 2006. "Family Comes First: Men's and Women's Personal Networks in Tehran." *Social Networks* 26: forthcoming.

Boase, Jeffrey, and Barry Wellman. 2005. "Personal Relationships: On and Off the Internet." in *Handbook of Personal Relations*, edited by Dan Perlman and Anita L. Vangelisti. Oxford: Blackwell, p 709-723.

Campbell, Heidi. 2005. *Exploring Religious Community Online.* New York: Peter Lang.

Castells, Manuel. 2000. *The Rise of the Network Society*. 2nd ed. Oxford: Blackwell.

Fischer, Claude. 1982. *To Dwell Among Friends: Personal Networks in Town and City*. Chicago: University of Chicago Press.

Fischer, Claude S. 2005. "Bowling Alone: What's the Score?" *Social Networks* 27:155-167.

Fox, Robert. 1995. "Newstrack." *Communications of the ACM* 38:11-12.

Franzen, Axel. 2003. "Social Capital and the Internet: Evidence from Swiss Panel Data." *Kyklos* 53:341-360.

Granovetter, Mark, 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78: 1360-1380.

Greenfield, David N. 1999. "The Nature of Internet Addiction: Psychological Factors in Compulsive Internet Use." edited by American Psychological Association. Boston.

Grossetti, Michel. 2006. "Are French Networks Different?" *Social Networks* 28: forthcoming.

Hampton, Keith, and B Wellman. 2002. "The Not So Global Village of Netville." Pp. 345-371 in *The Internet in Everyday Life*, edited by Barry Wellman and Caroline Haythornthwaite. Oxford: Blackwell.

Hampton, Keith and Barry Wellman. 2003. "Neighboring in Netville: How the Internet Supports Community and Social Capital in a Wired Suburb." *City and Community* 2: 277-311.

Harmon, Amy. 1998. "Sad, Lonely World Discovered in Cyberspace." *New York Times*, August 30, p. 1.

Haythornthwaite, Caroline, and Barry Wellman. 1998. "Work, Friendship and Media Use for Information Exchange in a Networked Organization." *Journal of the American Society for Information Science* 49:1101-1114.

Hennig, Marina. 2006. "Re-evaluating the Community Question from a German Perspective." *Social Networks* 28: forthcoming.

References

Horrigan, John and Lee Rainie. 2002. "Getting Serious Online: As Americans Gain Experience, They Use the Web More at Work, Write Emails with More Significant Content, Perform More Online Transactions, and Pursue More Serious Activities." Washington, DC: Pew Internet and American Life Project. www.pewinternet.org.

Ito, Mazuko, Misa Matsuda, and Daisuke Okabe (Eds.). 2005. *Portable, Personal, Pedestrian: Mobile Phones in Japanese Life.* Cambridge, MA: MIT Press.

Katz, James E., and Ronald E. Rice. 2002. *The Social Consequences of Internet Use.* Massachusetts: MIT Press.

Kennedy, Tracy and Barry Wellman. 2006. "The Networked Household." *Information, Communication and Society* 9:forthcoming.

Kraut, Robert, Malcolm Brynin and Sara Kiesler (eds.). 2005. *Domesticating Information Technologies.* New York: Oxford University Press.

Kraut, Robert, Sara Kiesler, Bonka Boneva, Jonathon Cummings, Vicki Helgeson, and Anne Crawford. 2002. "Internet Paradox Revisited." *Journal of Social Issues* 58:49-74.

Kraut, Robert, Michael Patterson, Vicki Lundmark, Sara Kiesler, Tridas Mukhopadhyay, and William Scherlis. 1998. "Internet Paradox: A Social Technology that Reduces Social Involvement and Psychological Well-Being?" *American Psychologist* 53:1017-1031.

Lenhart, Amanda. 2002. "Teenage Life Online: Youth and Instant Messaging." Washington, DC: Pew Internet and American Life Project. www.pewinternet.org.

Ling, Richard and Per Pedersen (eds.). 2005. *Mobile Communications: Re-negotiation of the Social Sphere.* London: Springer.

Marsden, Peter. 1987. "Core Discussions Networks of Americans." *American Sociological Review* 52:122-31.

McPherson, J. Miller, Lyn Smith-Lovin, and Matthew Brashears. 2005. "Social Isolation in America: Changes in Core Discussion Networks over Two Decades." Presented to the Conference on Social Capital and Networks, Ohio State University, June.

Nie, Norman H., and D. Sunshine Hillygus. 2002. "Where Does Internet Time Come From? A Reconnaissance." *IT & Society* 1:1-20.

Pronovost, Gilles. 2002. "The Internet and Time Displacement: A Canadian Perspective." *IT & Society* 1:44-52.

Putnam, Robert. 2000. *Bowling Alone.* New York: Touchstone.

Quan-Haase, Anabel, Barry Wellman, with Keith Hampton, and James Witte. 2002. "Capitalizing on the Net: Social Contact, Civic Engagement, and Sense of Community." Pp. 291-324 in *The Internet in Everyday Life*, edited by Barry Wellman and Caroline Haythornthwaite. Oxford: Blackwell.

Shiu, Eulynn, and Amanda Lenhart. 2004. "How Americans Use Instant Messaging.."

Washington, DC: Pew Internet and American Life Project. www.pewinternet.org.

Turkle, Sherry. 1995. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster.

Wellman, Barry. 1979. "The Community Question." *American Journal of Sociology* 84:1201-31.

Wellman, Barry (Ed.). 1999. *Networks in the Global Village*. Boulder, CO: Westview Press.

Wellman, Barry. 2001. "Physical Place and Cyberspace: The Rise of Personalized Networks." *International Urban and Regional Research* 25:227-252.

Wellman, Barry and Caroline Haythornthwaite (eds.). 2002. *The Internet in Everyday Life.* Oxford: Blackwell.

Wellman, Barry, and David Tindall. 1993. "Reach out and Touch Some Bodies: How Telephone Networks Connect Social Networks." *Progress in Communication Science* 12:63-94.

Wellman, Barry, and Scot Wortley. 1990. "Different Strokes from Different Folks." *American Journal of Sociology* 96:558-88.

Appendix

Demographics and Network Size

Women, those who are older, and those with college degrees, tend to have the largest numbers of core ties. People with large numbers of significant ties tend to be male, educated, and working in professional occupations.

Gender

Men most often maintain contact with only a small number of core ties. By contrast, equal percentages of women have small, medium, or large numbers of core ties. The opposite pattern appears when examining the number of significant (non-core) ties maintained by men and women. Women often maintain small or medium numbers of significant ties, and less often maintain large numbers of significant ties. By contrast, there is a greater percent of men with large numbers of significant ties, than men with medium or small numbers of significant ties.

Age

The mean age is slightly higher for those with large numbers of core ties (50 years old), than it is for those with small and medium numbers of core ties (47 and 46 years old, respectively). It is possible that age gives people time to develop these core ties. Unlike core ties, the number of significant ties maintained by respondents does not vary by age.

Employment Status

Those working full-time or part time most often have a medium number of core ties, while those who are retired are more likely to have either a small or large number of core ties, and those that are unemployed are more likely to have a small number of core ties. By contrast, those working full-time are no more likely to have a medium number of significant ties than they are to have small or large number of significant ties. Those working part-time are more likely to have a medium number of significant ties, while those who are retired and unemployed are more likely to have a small number of significant ties.

Education

Those with college degrees often have a medium number of core ties. By contrast, those with high school degrees often have a small number of core ties. These findings are more pronounced for the number of significant ties. Those who have a college degree tend to have a medium or large number of significant ties. The opposite is true for those with

high school or less education—they often have a smaller number of significant ties. Those with a college degree have an average of 34 significant ties, while those with high school or less education have a mean of only have 23 significant ties.

Community Type

A commonly held perception is that small communities foster large numbers of supportive and intimate relationships. The Social Ties data show that people living in rural areas are no more prone to have large numbers of core ties than they are to have small or medium numbers of core ties. The same is true for people living in suburban areas. However, those living in urban areas are more apt to have a small number of core and significant ties in their networks

Job Type

When taking the Social Ties survey, respondents gave us the name of their occupation. These responses were later coded as fitting into one of the following categories: professionals, working class and service class. Professional jobs include knowledge-based professional workers and business owners; working class jobs include manual laborers and semi-skilled workers; service class jobs include low-level sales, and office workers.

The results show that people with professional or service class jobs most often have a medium number of core ties. Meanwhile, people with working class jobs most often have small or medium numbers of core ties.

Professionals most often have a large number of significant ties. People with service jobs most often have a medium number of significant ties, while people with working class jobs most often have a small number of significant ties.

Demographic Characteristics and Network Size

	Core Ties					Significant Ties				
	% Small (1-10)	% Medium (11-22)	% Large (22+)	Mean # Ties	Median # Ties	% Small (0-10)	% Medium (11-26)	% Large (26+)	Mean # Ties	Median # Ties
Women	32	35	33	23	16	37	35	29	24	16
Men	37	33	30	24	15	32	32	36	32	18
Age (average)	47	46	50			49	46	48		
Age (median)	46	45	50			48	45	47		
Employment Status										
Full-Time	33	37	31	22	15	31	34	35	28	18
Part-Time	28	38	35	26	17	28	43	29	24	17
Retired	33	27	41	28	17	38	29	32	31	16
Not Employed	43	35	22	20	13	44	32	24	22	13
Education										
High School or Less	36	33	31	24	15	41	34	26	23	14
Some College	34	34	33	24	15	36	30	33	27	16
College Degree	29	38	33	23	16	26	35	40	34	21
Grad or Prof. Degree	35	33	33	20	16	24	38	38	32	22
Community Type										
Rural	34	33	33	25	15	34	34	33	29	17
Suburban	32	35	33	24	16	34	33	33	28	17
Urban	37	34	29	22	14	36	34	30	25	16
Job Type										
Professionals	32	36	31	23	15	25	35	40	33	21
Working	35	35	30	25	15	37	30	33	24	16
Service	30	39	32	21	16	33	39	28	23	16
Internet Access										
No internet at Home	37	30	33	26	15	41	30	29	27	15
Internet at Home	32	37	31	22	15	31	36	34	27	18

Regression Analysis

In making the finding that internet use is associated with higher rates of access to help, regression analysis was used to pin down the effect of the internet and other communication technologies. This statistical technique builds a model of what might drive an outcome—in this case the number of types of help people reported receiving via their social networks—given a number of factors (including internet use) that might logically be thought influence the outcome. For results reported here, ordinary least squares regression was used and the dependent variable—the number of types of help received—was modeled as a function of variables that fall into the following categories:

- **Technology use:** whether the respondent is an internet user, email user, the percentage of people in respondent's social network emailed each week, and amount of use of various information technologies in the past month. The first two measures are binary variables, coded as 0 for "no" and 1 for "yes." The measure of use of information technology is a scale that runs from 0 through 7 of technologies asked about in the survey (the cell phone, a digital camera, a personal digital assistant, email, instant messaging, wireless internet, and a cell phone that permits text messaging).

- **Scope of social networks:** two continuous variables of the number of people in the respondent's core and significant social networks.

- **Associational activity**: a binary variable taking on the value of 1 if the respondent is a member of a business/professional association, labor union, sports league, religious organization, or hobby group.

- **Professional and occupational networks**: a continuous variable of how many people respondents' know in each of the following occupational categories: lawyer, truck driver, sales/marketing manager, pharmacist, janitor/caretaker, engineer, cashier, waiter/waitress, computer programmer, or carpenter.

- **Personal characteristics and social outlook**: measures of peoples tolerance for others, degree of shyness relative to extroversion, and self reported information on whether the respondent is creative or not. A number of questions were asked of respondents in each of these areas and factor analysis was used to collapse responses to similar questions into single variables reported below.

- **Demographic**: gender, education level, marital status, parental status, employment status, income (a scale that runs from 1 to 8 by which respondents report which income interval they fall into), and race.

Regression Results				
Number of types of help as a function of variables listed below	**Model I**	**Model II**	**Model III**	**Model IV**
Technology use				
Internet use	.093***			
Email user		.095***		
Percent of social network emailed			.059**	
Range of information technologies				.073***
Scope of social networks				
Core ties	.022	.035	.019	.019
Significant ties	.047*	.050*	.038	.052**
Associational activity				
Business/professional association	.063***	.069***	.064**	.057**
Labor union	.022	.034	.023	.028
Sports league	.015	.018	.013	.015
Religious organization	.029	.027	.021	.031
Hobby group	.051***	.056***	.046*	.048**
Professional & occupational networks				
Number respondents know	.291***	.281***	.276***	.288*
Personal characteristics/social outlook				
Traditional values need more emphasis	.016	.004	.018	.002
Harder for non-whites to succeed	.076***	.071***	.064***	.071***
Shy personality type	.003	.005	.004	.010
Self-report degree of creativity	.060***	.047**	.060***	.064***
Demographics				
Gender (male=1)	-.103***	-.094***	-.094***	-.107*
Age	-.143***	-.154***	-.161***	-.146***
Parents	.017	.017	.026	.019
Married	-.048*	-.051*	-.042	-.032
Employed (full or part-time)	.018	.012	.023	.027
Income (scale)	-.027	-.024	-.017	-.022
Whites	-.017	.006	-.020	-.017
Blacks	-.068**	-.049	-.060*	-.072**
College graduate	.012	.009	-.003	.019
Rural	.028	.026	.022	.030
Urban	-.019	-.009	-018	-.014
Adjusted R-square	.191	.196	.162	.191
Numbers in tables are standardized beta coefficients.				
*** denotes significance at a 99% confidence level				
** denotes significance at a 95% level				
* denotes significance at a 90% level				

Methodology

This Pew Internet & American Life Project report is based on the findings of two daily tracking surveys on Americans' use of the Internet.

The Pew Social Ties survey was fielded from February 17, 2004 through March 17, 2004 and it surveyed 2,200 adults age 18 and older. For results based on the entire sample, the margin of error is plus or minus 2 percentage points; for results based on internet users, the margin of error is plus or minus 3 percentage points. The final response rate for that survey was 35%.

The Pew Major Moments Project survey on the internet's role in major life decisions was fielded from February 21, 2005 through March 21, 2005 and it surveyed 2,201 adults age 18 and older. For results based on the entire sample, the margin of error is plus or minus 2 percentage points; for results based on internet users, the margin of error is plus or minus 3 percentage points. The final response rate for that survey was 30%.

The sample for this survey is a random digit sample of telephone numbers selected from telephone exchanges in the continental United States. The random digit aspect of the sample is used to avoid "listing" bias and provides representation of both listed and unlisted numbers (including not-yet-listed numbers). The design of the sample achieves this representation by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange, and bank number. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.