**STANFORD INSTITUTE FOR
THE QUANTITATIVE STUDY OF SOCIETY**

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TEN YEARS AFTER THE BIRTH OF THE INTERNET: HOW DO AMERICANS USE THE INTERNET IN THEIR DAILY LIVES? *

2005 REPORT

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I. REPORT SUMMARY

Since 2000, the Stanford Institute for the Quantitative Study of Society has conducted an annual study about the Internet activities of the average American. This report provides a summary of the key findings from the 2005 study. Details on the survey methodology used in the study are available in appendix C. Below is a list of the main findings of the study, with elaboration provided in the next section.

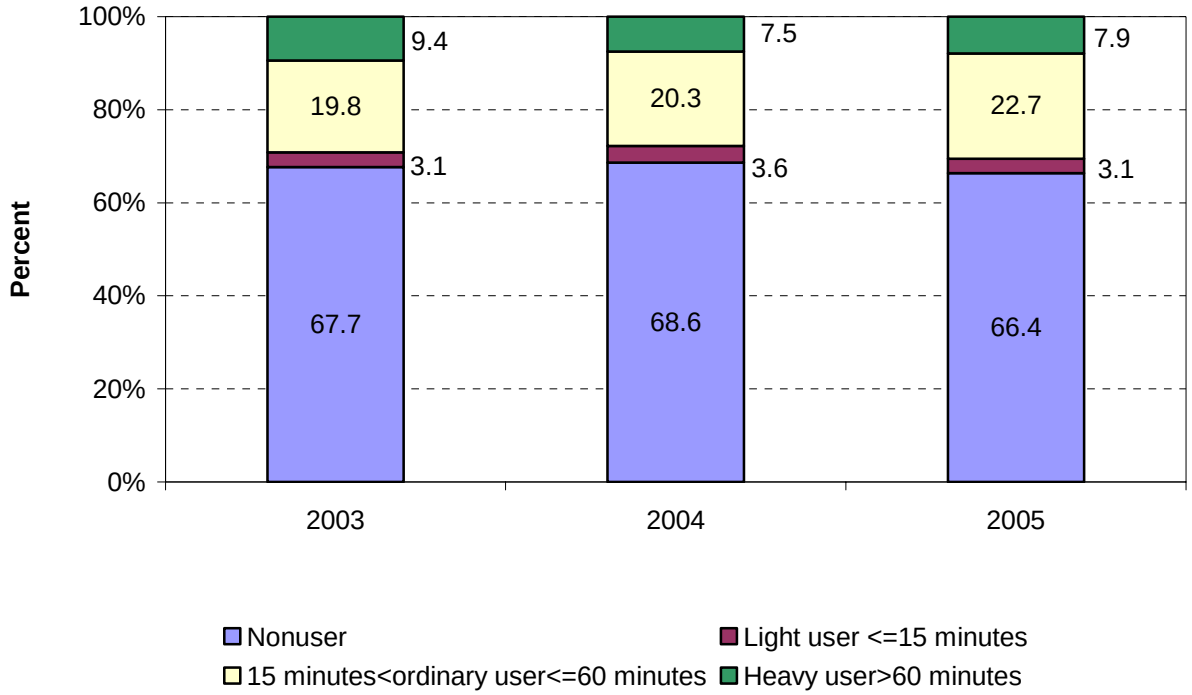
- 34% of respondents reported using the Internet the day before being surveyed.
- Those who use the Internet on a given day, spend on average of approximately 3 and a half hours (213 minutes), which is an increase by 4% compared to last year.
- About a third of the time on the Internet is at work.
- Americans use the Internet more on weekdays than on weekends (79% vs. 21%).
- About 55% of the time on the Internet is spent on communication. Of this 55%, work-related communications constitute more than a third, communication with friends constitutes almost a third, and communication with family constitutes about a sixth.
- We see a dramatic decrease (from 8% to 0.1%) of time dealing with spam/pop-up ads while browsing on the Internet compared to last year. However, about 4 minutes out of every hour on the Internet (over 6% of the total time online) are spent dealing with spam connected to email, instant message or chat rooms.
- The average respondent reported spending a mean of 7.5 minutes per day dealing with other computer problems (a slight decrease compared to last year).
- Young people are more likely to use the Internet. Although there is no significant difference in total online time by age, older people tend to spend much time online on email while the younger people spend more time on instant messaging and chat rooms.
- On average, males tend to spend more time on Internet than females. Also, men spend more time on chat rooms and web browsing while females spend more time on email.
- Asian Americans are more likely to use the Internet and spend much more time on the Internet relative to other groups. There is little difference in total Internet time between whites, African Americans and Hispanics.
- More educated Americans are more likely to use the Internet. However, among those who use the Internet, the total Internet time is the same across educational levels. In addition, more educated Americans are more interested in web browsing.
- Single people are more likely to use the Internet than those who are married. Also, singles tend to spend significantly more time on email and social networking.
- Employed people spend less time on instant messaging, chat rooms, news groups, and web browsing than unemployed, although the total online time does not significantly differ by employment status.
- People earning more income spend slightly less time on the Internet.
- For the average respondent, an hour on the Internet reduces face-to-face time with family by close to 24 minutes.
- For the average respondent, an hour on the Internet reduces sleep time by about 12 minutes.

II. SURVEY RESULTS

1. Internet Use: What Percentage, How Much, When, Where, What Activities and with Whom?

1a. Percentage: Among 4,384 respondents 18 to 64 years old, 33.6% used the Internet on the day before being surveyed. This result is an increase of 2.2 percentage points compared to last year. Over the past three years, the percentage of Internet users has been fairly stable (around 32%). (See Graph 1)

Graph 1: Level of Internet Use and Percentages
(Based on 6 Hour Results)



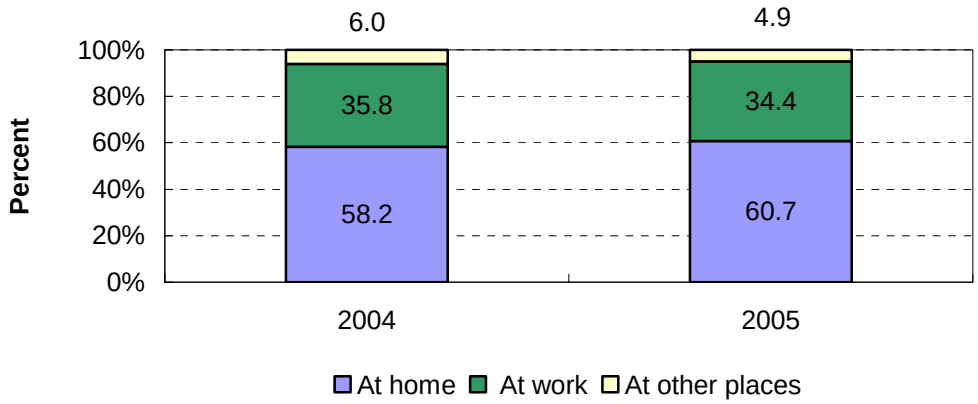
1b. Total Time: An average respondent[1] uses the Internet for 72 minutes in a day, an increase of 18% compared to last year. An average Internet user [2] spends approximately 3 and a half hours (213 minutes) online per day, which is an increase of 4% compared to last year.

1c. Weekdays vs. Weekends: We find that American internet users are more likely to use the Internet on weekdays than on weekends (78.8% on weekdays vs. 21.2% on weekends). Compared to last year (80.8% on weekdays and 19.2% on weekends), there is a slight decrease in use on weekdays and increase in use on weekends.

[1] This refers to all respondents aged 18-64 (4,384), whether or not they used the Internet the day before the survey.
[2] This refers only to those respondents aged 18-64 (1,475) who used the Internet the day before the survey.

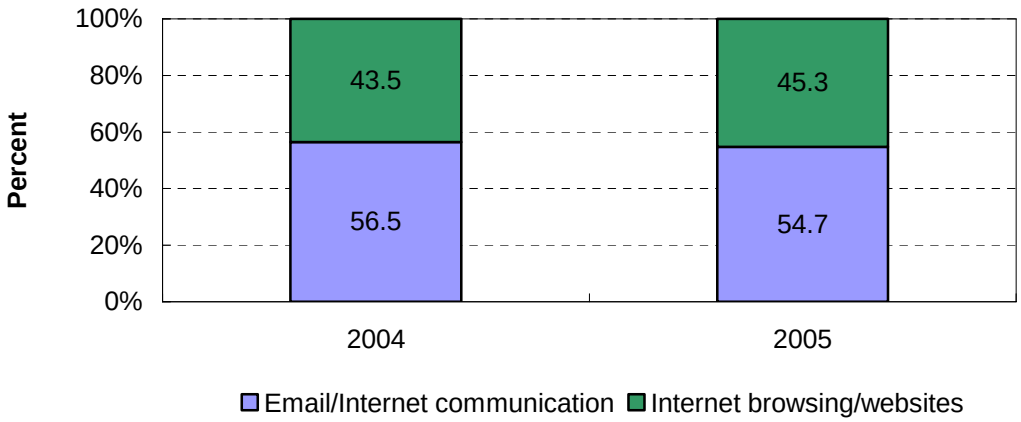
1d. At Home vs. at Work: Most media reports have underscored how the Internet has increased work productivity and changed workplaces. However, Internet users spend more time online at home than at work (61% vs. 34%). This represents a slight increase in Internet use at home and decrease in Internet use at work compared to last year. (See Graph 2 below and Table B1 in Appendix B)

Graph 2: Percentages of Total Internet Time by Location



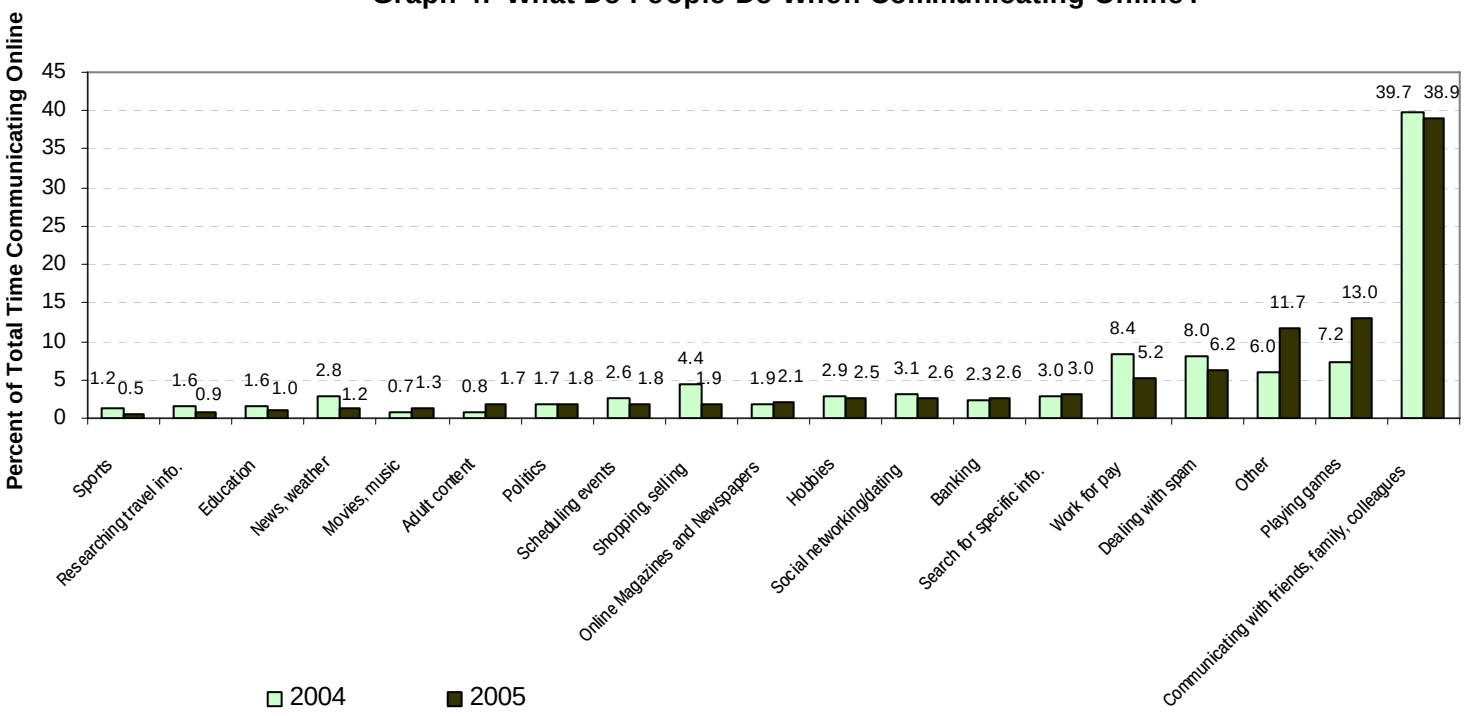
1e. Communicating vs. Browsing: 55% of time online is spent on email and other communications, including instant messaging and chat rooms. The rest (45%) of the time online is spent browsing web pages, newsgroups, maintaining websites, or using social networking/dating sites. (See Graph 3 below)

Graph 3: Percentages of Total Online Time by Activity



1f. Types of Communication: What do people do when they communicate online? As Graph 4 shows, communication with friends, relatives, or colleagues takes up the largest portion (39%) of Internet communication time, which includes using email, instant messaging, or chat rooms. The second largest percent of online communication time is related to playing games. The time spent playing games has doubled compared to last year. Although the Internet makes interpersonal communication incredibly efficient and convenient, our study also shows some of its downsides: dealing with spam takes up 6% of the Internet communication time. This is more than work-related communication online (5%)[3], which ranks fifth among all communication activities online. The distribution of Internet communication time on specific subjects is relatively similar to last year.

Graph 4: What Do People Do When Communicating Online?

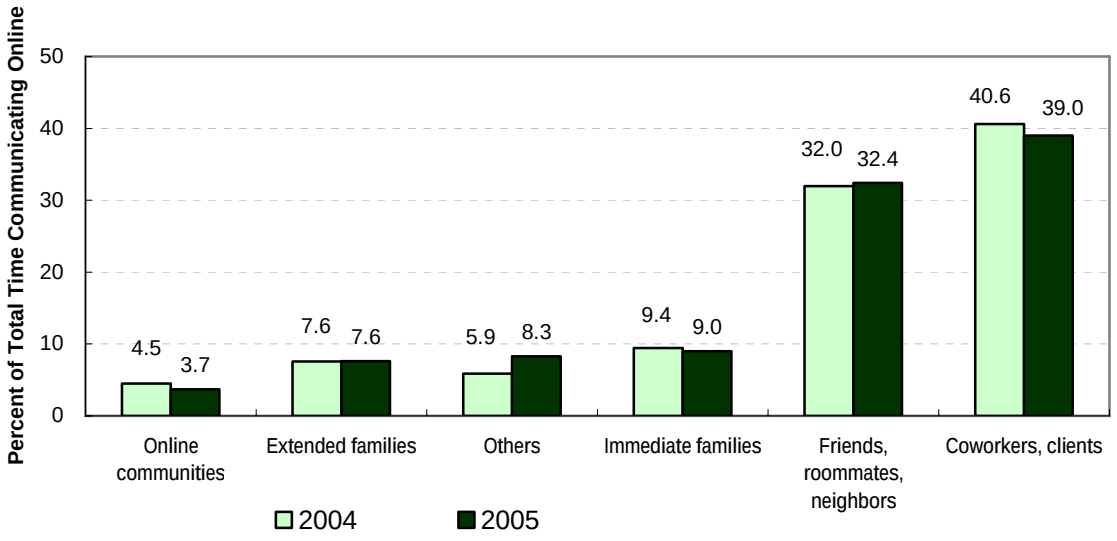


1g. With Whom do Internet Users Communicate?

As graph 5 shows, there has been very little change since last year in how people distribute their time when communicating online. Communication with business associates or co-workers takes more time (about 39%) than communication with anyone else. The second largest portion of online time is devoted to friends, acquaintances, roommates, or neighbors (32%). About 17% of online communication time relates to communication with family, including immediate (9%) and extended family (8%). Table B2 in Appendix B shows more detailed breakdowns.

[3] This proportion may have been deflated since the first category (communication with friends, relatives and colleagues) includes communication with colleagues, which most likely involves some work related internet communication but has not been counted as "work for pay".

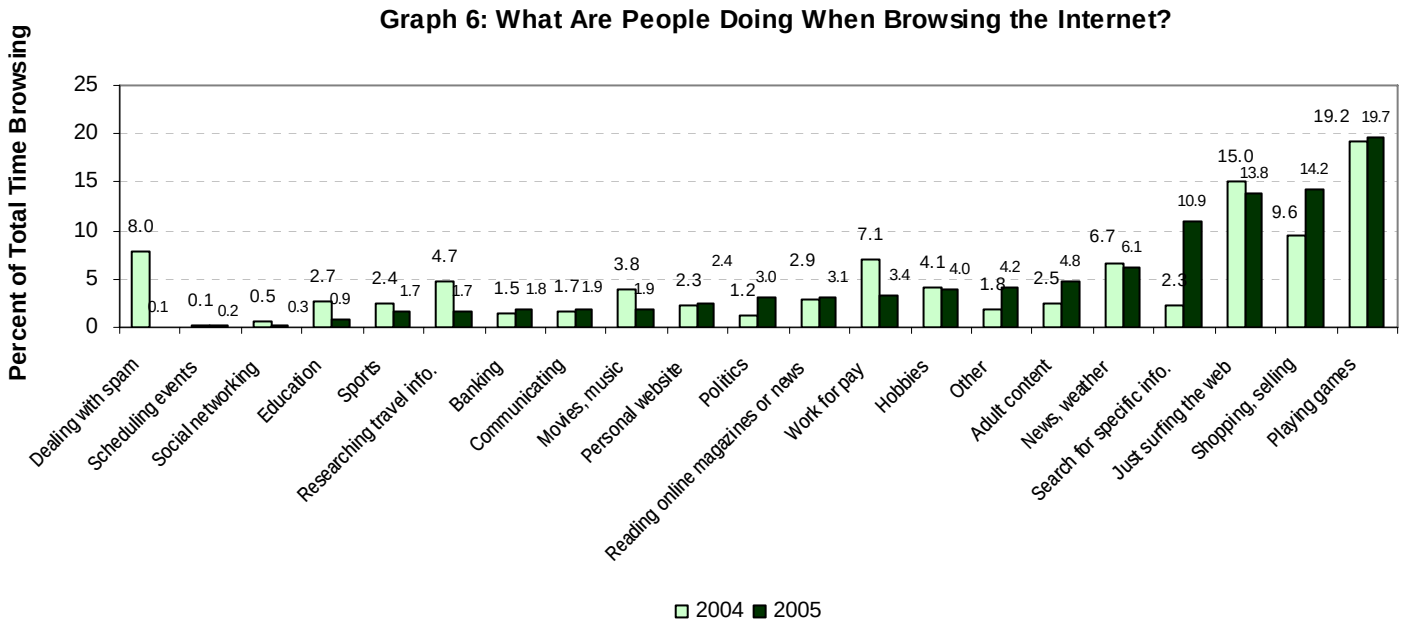
Graph 5: Whom Do Internet Users Communicate With?



1h. Browsing: What do people do when browsing web pages? Our results show that people browse the web largely for fun and entertainment. An average Internet user reports that the largest proportion of time spent browsing the Internet is used for game-playing (20%).

Our data also show that Americans use the Internet to complete daily errands such as reading news, shopping, searching for travel information, and online banking. As our data show, 14% of the web time is used for online shopping or selling, while reading online magazines, news or weather reports takes up about 9% of Internet browsing time. On the other hand, browsing for work takes up only 3% of total online browsing time (See Graph 6 below).

As will be discussed more in the next subsection, the only major change in how people spend their online browsing time is in the large decrease in time dealing with spam while browsing.



2. Spam and Computer Problems

While spam is still an enormous time sink, there has been a significant decrease since last year in the amount of time dealing with it. Respondents reported spending 6% of their communication time dealing with spam (a 2 percentage point decrease compared to last year). For Internet users, this amounts to more than 5 workdays per year assuming daily use for 50 weeks out of the year. The decrease in time dealing with spam while browsing the Internet has been much more dramatic (from 8% to 0.1%), which may be due to the improvement of spam preventive technology (e.g. advertisement filter, pop-up blockers) embedded in the newest browsers.

The average respondent spent about 8 minutes per day dealing with computer problems (which is almost the same as last year). Assuming the computer is used every day for 50 weeks of the year, this amounts to 6 full work days per year. The figure for respondents who reported having used the Internet that day was higher – 12 minutes per day (which has decreased by 2 minutes compared to last year), or about 9 days per year, assuming daily use for 50 weeks. Clearly there are significant productivity consequences of dealing with spam and computer problems.

3. Do Patterns of the Internet Use Differ by Population Groups?

3a. Percentage of Internet Use

To see how different individual characteristics affected the likelihood of using the Internet, we did a multivariate logistic regression analysis (Appendix B, Table B3). Our results suggest that the likelihood of using the Internet is heavily affected by a person's age, race, education level, and marital status, but it does not differ significantly by gender, employment status and household income level.

3a.1. Age. Young people are more likely to use the Internet than old people, other things being equal. For example, the predicted probability of using the Internet for a 25 year-old married white male who has 14 years of education and a job, earns an annual household income of $53,000 and uses the Internet on the weekdays is about .34. The probability decreases to .30 and to .27 for people who are 45 and 64 years old respectively, other characteristics being the same. (See Appendix A, Graph A1; Appendix B, Table B3)

3a.2. Race. We find that Asian Americans (including Pacific Islands and Native Americans) are more likely to use the Internet compared to whites while other groups (African Americans and Hispanics) are just as likely as whites to use the Internet, other things being equal. For example, the predicted probability of using the Internet for a 44 year-old married white male who has a job, earns an annual household income of $53,000, and uses the Internet in the weekdays is about .32. The probability increases to .39 for Asian Americans, other characteristics being the same. (See Appendix A, Graph A2; Appendix B, Table B3).

3a.3. Education. The more educated Americans are more likely to use the Internet than those with less education, other things being equal. For example, the predicted probability of using the Internet for a married 44 year-old white employed male with an annual income of about $53,000 and with less than high school education (8 years) is about .15. The probability increases to .27 and .62 for people with some college (13 years) and a doctoral degree (about 22 years) respectively, other characteristics being the same. (See Appendix A, Graph A3; Appendix B, Table B3)

3a.4. Marital Status. Other things being equal, single people are more likely to use the Internet than married people. For example, the predicted probability of using the Internet for a married 44 year-old employed white male with about 14 years of education and an annual household income of about $53,000 is about .31. The probability increases to .37 for singles, other characteristics being the same. (See Appendix A, Graph A4; Appendix B, Table B3)

3b. Total Internet Time and Time Spent on Specific Internet Activities

How do Internet users differ in terms of total Internet time and time spent on specific activities? On the one hand, our linear regression of total Internet time suggests that the time spent online differs by gender, race, and income. However, people of different age, education level, marital status, employment status, and income level spend similar amount of time online. On the other hand, our linear regressions of time spent on specific Internet activities indicates that the time spent on specific Internet activities such as email, browsing, and chatting online does differ by some of the demographic characteristics.

3b.1. Age. Older Internet users tend to spend more time on email. On average, for every one year increase in age, individuals tend to spend about two more minutes on email per day. In contrast, the younger cohort spends more time on instant messaging and chat rooms. (See Appendix B, Table B4)

3b.2. Gender. On average, males tend to spend 16 minutes more per day on the Internet than females. Specifically, they spend about 11 minutes more on chat rooms and 14 minutes more on web browsing per day. In contrast, females tend to spend 10 minutes more per day on email than males. (See Appendix B, Table B4)

3b.3. Race. Asian Americans spend over 50 minutes more total online time per day than whites. Specifically, they spend much more time (26 minutes on average) on Internet browsing per day than whites. In contrast, there is no significant difference in total Internet time for whites, African Americans and Hispanics. (See Appendix B, Table B4)

3b.4. Education. There is no significant difference in total online time and time on specific Internet activities for people with varying levels of education except for time on web browsing. More educated Americans tend to spend a few more minutes web browsing on average. (See Appendix B, Table B4)

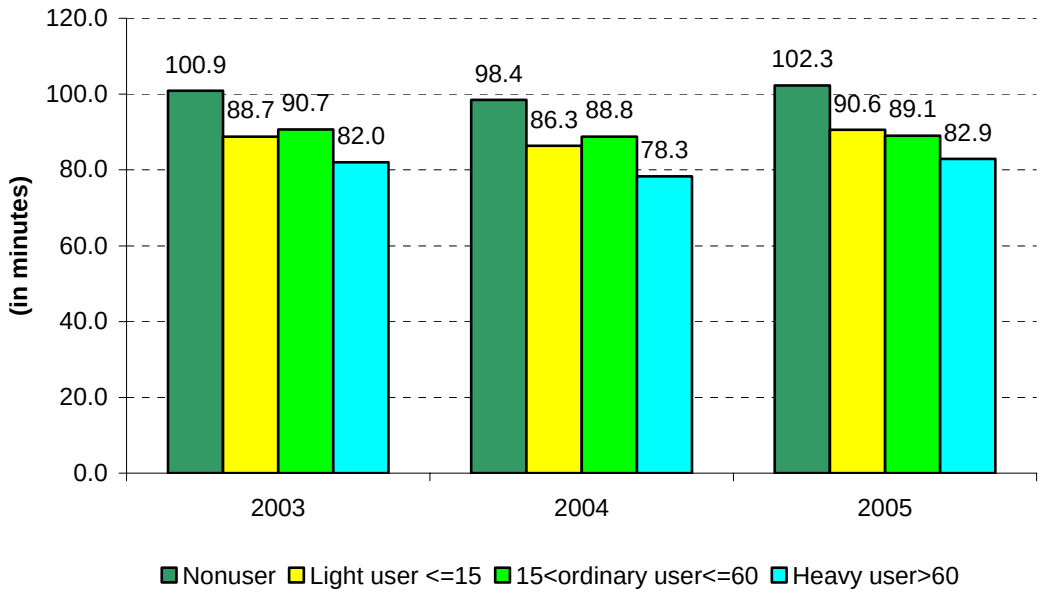
3b.5. Marital Status. No significant difference in total Internet time is found for married and single people. However, it is clear that singles spend more time on email and online social networking than married individuals. (See Appendix B, Table B4).

3b.6. Employment Status. Both employed and unemployed people spend a similar amount of time on the Internet. However, unemployed people spend significantly more of their online time on the following activities: instant messaging, chat rooms, news groups, and web browsing. (See Appendix B, Table B4)

4. The Impact of Internet Use on Sociability, Sleep, and TV Watching (Multivariate Analysis)

Since 2000, Norman H. Nie and his associates have fielded yearly nationally-representative surveys probing the way that Americans use their time (Nie and Erbring 2000, Nie 2001, Nie and Hillygus 2002a and 2002b). One of the main findings in these surveys has been that time spent using the Internet is negatively associated with time spent with family, with time spent with friends, with time spent watching TV, and with time spent sleeping (See Appendix B, Table B5, B6). For the average Internet user, an hour on the Internet at home reduces face-to-face time with family by 24 minutes and with friends by more than 6 minutes; an hour on the Internet at work reduces face to face time with family by about 12 minutes and with friends by about 4 minutes. Finally, as graph 7 shows, those that spend more time on the Internet also sleep less. These relationships hold even after statistically controlling for a number of possible confounding variables.

Graph 7 : Time on Sleep by Level of Internet Use
(Based on 6 Hour Results)



This finding was interpreted as evidence for the hypothesis that Internet use takes time away from other activities, face-to-face socializing in particular. Nevertheless, up until now, such an interpretation was inconclusive because the possibility of reverse causation remained a possibility. For example, it is possible that higher Internet use, rather than *causing* a decrease in time spent socializing, could *result* from less socializing. Or, to paraphrase Nie and Hillygus (2002b) on the relationship between online time and sleep time, it is possible that Internet users stay up late in order to use the Internet, but it could also be the case that insomnia leads to increased Internet use. Neither of these two possibilities could be ruled out given the single-point-in-time character of the data.

However, because of the continuity between the 2004 and the 2005 surveys, we can now go a step further and control for "baseline" time socializing, sleeping, and TV watching. More than 20% (1,129 respondents) of the 2005 respondents had also been surveyed in 2004. For these respondents, we use the 2004 response for time spent face-to-face with family, sleeping, or TV watching as control variables in the multivariate regression analysis. (Tables B6-B8 in Appendix B).

We find that even after controlling for the "baseline" time socializing, TV watching, and sleeping, the effects of Internet time on time socializing and sleeping remain significant and do not change much in magnitude. The results of this analysis are as follows:

- For the average respondent, an hour on the Internet reduces face-to-face time with family by close to 24 minutes. Since the average respondent uses the Internet for 72 minutes per day, this translates into a reduction of about 29 minutes per day of face time. For the

average Internet user (who uses the Internet 3 and a half hours per day) the equivalent figure is a daily reduction of one hour and 25 minutes in face time with family.[4]

- For the average respondent, an hour on the Internet reduces sleep time by about 12 minutes; this is equivalent to a reduction in sleeping time of about 14 minutes per day. For the average Internet user the equivalent figure is a daily reduction in sleeping time of about 43 minutes.

Under the assumption that the previous year's value of time with family, TV watching, or sleep is a reasonable baseline, this analysis is consistent with the hypothesis that Internet use has a causal effect on time spent sleeping and socializing. Thus, it is consistent with Nie's controversial hypothesis that the increased Internet use reduces the time spent on socializing and other activities, according to the "displacement" or "hydraulic" model of time use.

5. Internet Use vs. TV Use in the Whole Population (Descriptive Statistics)

- The average person in the sample spent nearly twice as much time watching TV as using the Internet. On average, the Internet was used for 72 minutes per day, and TV was watched for 130 minutes per day.
- In contrast, those who used the Internet spent about twice as much time on the Internet as they did on watching TV. On average, Internet users used the Internet for 210 minutes per day, and spent only 108 minutes watching TV.[5]
- In the population as a whole, more education is associated with less TV watching and more Internet use. While people at all levels of education spend more time watching TV than using the Internet, the gap between the two is much smaller for the more educated. Those with a high-school education spend over two hours more watching TV than using the Internet. In contrast, those with a bachelor's or higher degree spend only 9 minutes more watching TV than using the Internet. (see Table 1 below)

Table 1: Time Spent Watching TV and on the Internet by Respondents' Education
(in minutes from imputed 24 hours in a day)

Education	On TV	On Internet	Difference
Less than high school	177	47	130
High school	160	47	113
Some college	112	83	29
Bachelor's degree or higher	106	98	9
All respondents	134	72	62

[4] This assumes the relationship between Internet use and socializing is the same for the population as a whole as it is for Internet users. The same assumption is made for sleep.

[5] The following are descriptive statistics based on cross-tabulations, and do not control for other factors or for the interactions between education, age, and employment.

- In the population as a whole, age is associated with more TV watching and less Internet use. While people of all ages spend more time watching TV than using the Internet, the gap between the two is much smaller for the young. Those under 44 years of age spend 19 to 46 minutes more time watching TV than using the Internet. In contrast, those between 60 and 64 years of age spend two hours more watching TV than using the Internet. (see Table 2 below)

Table 2: Time Spent Watching TV and on the Internet by Respondents' Age
(in minutes from imputed 24 hours in a day)

Age	On TV	On Internet	Difference
18-29	103	84	19
30-44	118	71	46
45-59	166	66	99
60-64	175	53	121

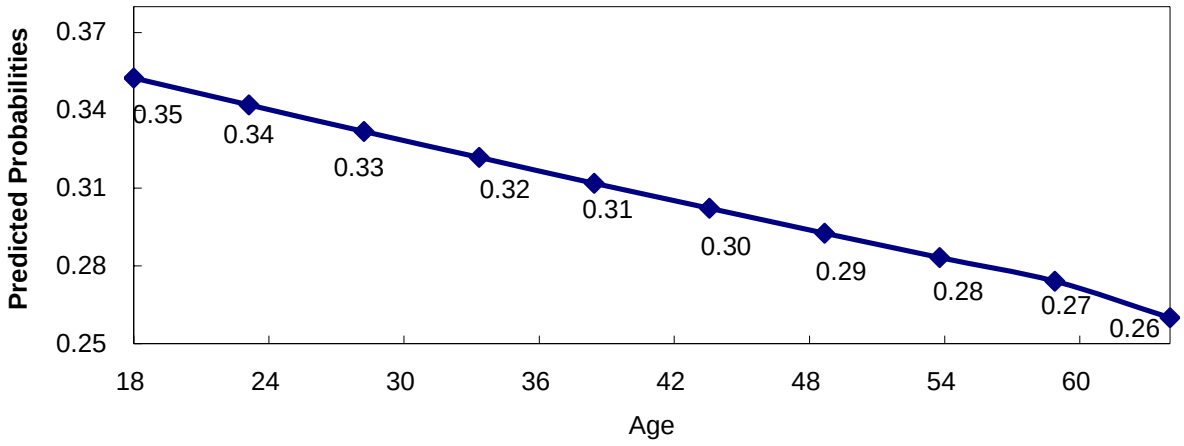
- In the population as a whole, the employed watch less TV and use the Internet less than the unemployed. The retired watch the most TV (3 hours and 48 minutes per day), followed by the unemployed, those who have a job but are on medical leave, vacation or strike, and homemaker. But Internet use follows a different pattern: students use the Internet the most (about two hours per day for full time students and 1 and a half hours per day for part-time sudents), followed by full time workers, part-time workers, and the unemployed.
- All groups except the students in Table 3 spend more time watching TV than using the Internet; the gap is the smallest for those working full time (56 minutes), and the largest for those who have a job but are on medical leave, vacation or strike and the retired (close to 3 hours), followed by the unemployed (more than 2 hours). The students, whether part time or full time, spend more time using the Internet than watching TV, which is not surprising. The findings in Table 3 highlight a fundamental difference between TV and the Internet: The Internet is much more than a source of entertainment and news; it is also a crucial tool for studying, researching, working and looking for a job.

Table 3: Time Spent Watching TV and on the Internet by Respondents' Employment Status
(in minutes from imputed 24 hours in a day)

Employment Status	On TV	On Internet	Difference
Working full time	124	68	56
Working part time	130	67	63
With a job, but on medical leave, vacation, or strike	202	36	166
Unemployed, temporarily laid off, or looking for work	205	67	138
Retired	226	65	161
Homemaker	160	51	109
Part time students	84	108	-24
Full time students	109	112	-3

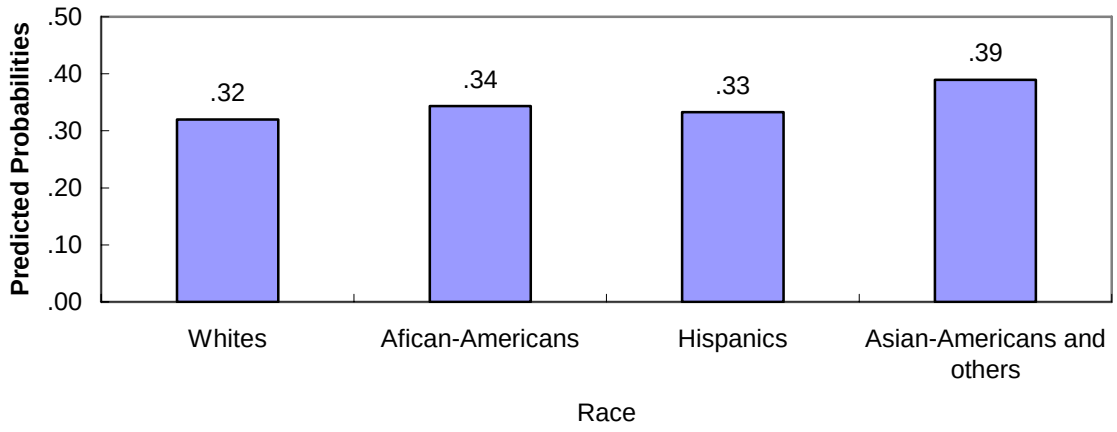
APPENDIX A

Grpah A1: Probabilities of Using the Internet by Age

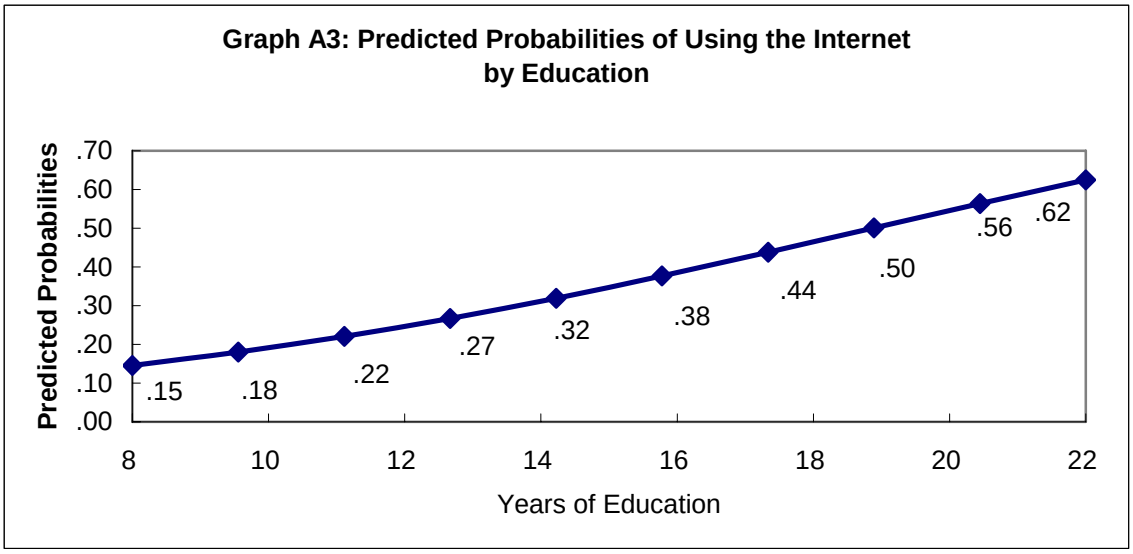


Note: predicted probabilities are calculated for hypothetical respondents who are married male whites, have 14 years of education, have a job, earn an annual household income of 53,000 dollars and use the Internet in the weekdays

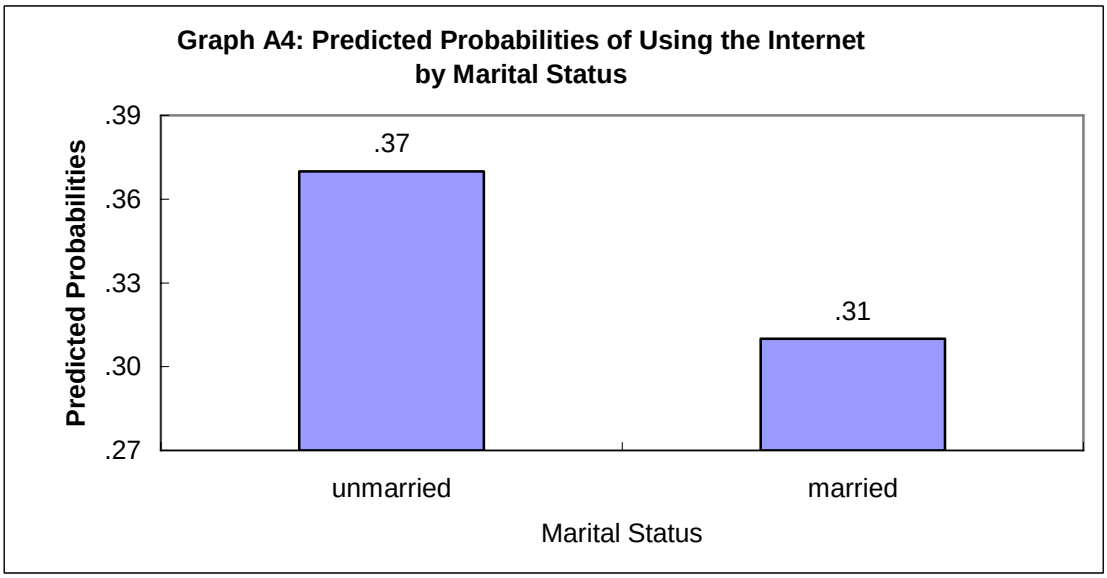
Graph A2: Graph Predicted Probabilities of Using the Internet by Race



Note: predicted probabilities are calculated for hypothetical respondents who are 44 years-old married males, have a job, earn an annual household income of 53,000 dollars and use the Internet in the weekdays.



Note: predicted probabilities are calculated for hypothetical respondents who are married 45 years-old whites, have a job, earn an annual household income of 53,000 dollars and use the Internet in the weekdays.



Note: predicted probabilities are calculated for hypothetical respondents who are 44 years-old whites, have about 14 years of education, have a job, earn an annual household income of 53,000 dollars and use the Internet in the weekdays.

APPENDIX B

Table B1: Time Spent by Different Internet Activities and by Location (2004 and 2005)
(In imputed minutes in a day)

	Home		At work		Other places		Percent of Total	
	2004	2005	2004	2005	2004	2005	2004	2005
Email	51.7	47.3	41.4	41.1	5.1	5.0	46.4%	44.0%
Internet browsing	43.3	50.8	24.8	21.6	4.0	4.0	34.0%	36.0%
Instant messaging	11.8	11.6	2.2	3.3	1.1	0.7	7.1%	7.4%
Newsgroup/Message boards	6.0	7.3	2.3	1.7	1.2	0.3	4.5%	4.4%
Chat rooms	5.6	6.6	0.0	0.6	0.6	0.0	2.9%	3.4%
Creating/Maintaining websites	3.9	3.2	3.1	4.0	0.2	0.5	3.4%	3.6%
Social networking	1.1	1.9	2.1	0.7	0.4	0.0	1.7%	1.2%
In Total	123.3	128.8	75.9	72.9	12.6	10.5		
Percent of Total	58.2%	60.7%	35.8%	34.4%	6.0%	4.9%	100%	100%

Time Study 2005: N=1,475, age 18-64 and weighted.

Table B2: Time Spent Communicating with People Via Email/Internet
(In Imputed minutes in a day)

	Imputed Minutes	Percent of total time communicating online
Spouse or significant other	3.7	4.2%
Special partner	0.6	0.7%
Children	1.9	2.2%
Parents	1.7	2.0%
Other families or relatives	6.7	7.6%
Friends	26.5	29.9%
Roommates	0.0	0.0%
Neighbors	0.1	0.1%
Business associates or coworkers	25.8	29.1%
Clients or customers	8.9	10.0%
Acquaintances	2.2	2.4%
Online communities	3.3	3.7%
Attendant or waiter	0.1	0.1%
Strangers	2.8	3.2%
Others	4.4	5.0%
In Total	88.7	100%

Time Study 2005: N=1,475, age 18-64 and weighted.

Table B3: Logistic Regression of the Internet Use on Selected Independent Variables

	Coefficients	Odds Ratio
Age	-.009**	0.991
Male	-0.091	0.913
Black	0.126	1.134
Hispanic	0.074	1.076
Asian and other	0.338**	1.402
Education	.163***	1.177
Married	-0.252***	0.778
Working	-0.031	0.969
Weekdays	.425***	1.529
Household income (thousand $)	0.000	1.000
Constant	-2.707***	0.067

Time Study 2005: N=4,384, age 18-64 and weighted.
*p<.05 **p<.01 ***p<.001

Table B4: OLS Regressions of Total Internet time and Time Spent on Specific Internet Activities

	Total Internet Time	Email	Instant Messaging	Chat Rooms	News Group	Social Networking	Web Browsing	Website
Age	-0.40	1.70***	-0.44***	-0.34**	-0.12	0.00	0.05	0.08
Male	16.142*	-10.18*	2.17	10.97***	0.37	-0.43	13.72**	-1.90
Black	2.42	-7.59	-6.77	-10.25*	-1.20	-2.29	0.89	-3.40
Hispanic	-9.94	-9.44	-5.77	-5.83	-3.44	-1.99	-6.45	-3.21
Asian and other	53.81***	-1.62	-1.29	-3.23	-1.85	-1.23	25.93**	0.97
Education	-0.75	-0.84	-0.17	-0.63	-0.23	-0.14	2.23*	-0.12
Married	-4.13	-11.87*	-3.04	-5.62	-0.24	-2.58*	-3.44	1.45
Working	1.90	-5.73	-6.92*	-13.02***	-8.27***	1.71	-16.50**	-4.39
Weekdays	7.89	12.34*	-6.49	-13.57***	-3.09	-0.21	-5.96	3.52
Household income (thousand $)	-0.27*	-0.04	-0.06	-0.09*	0.04	0.00	-0.17*	0.01
Constant	235.66***	-2.07	44.74***	53.97***	20.06**	4.28	25.25	3.59
R^2	.02	.07	.03	.05	.01	.01	.03	.01

Time Study 2005: N=1,475, age 18-64 and weighted.
*p<.05 **p<.01 ***p<.001

Table B5: Unstandardized Coefficients from OLS Regressions of Active Time with Families and Friends

	Active Time with Families		Active Time with Friends	
	2004	2005	2004	2005
Face-to-face time with families in previous year	0.16***	0.21***	0.19***	0.1**
Change of time online at home from previous year	-0.24***	-0.21**	-0.09*	-0.1*
Change of time online at work from previous year	-0.15*	-0.25*	0.03	-0.09
Adjusted R^2	0.35	0.29	0.14	0.11
N	1,392	879	1392	879

* <.05, ** <.01, ***<.001

Note: controlling for education, gender, marital status, ethnicity, age, weekday, time on sleep, time on TV, time on work, etc.

Table B6: Unstandardized Coefficients from OLS Regression of Active Time with Families in 2005

Total Internet time 2005	-0.4***
Active Time With Families 2004	0.2***
Sleep Time 2005	-0.2***
Married	136.8***
Years of education	7.1***
Age	-0.4
Male	-2.3
African-American	-3.6
Hispanic	-23.6
Asian-American and other	-31.4
(Constant)	131.3***
R^2=.18	
* p<.05 **p<.01 ***p<.001	N=1129

Table B7: Unstandardized Coefficients from OLS Regression of Time Spent Sleeping in 2005

Total Internet time 2005	-0.2***
Sleep Time 2004	0.1***
TV watching time 2005	-0.1***
Married	3.4
Years of education	-0.8
Age	-0.3
Male	-13.5
African-American	-60.5***
Hispanic	-18.6
Asian-American and other	-9.4
(Constant)	465.8***
R^2=.04	
* p<.05 **p<.01 ***p<.001	N=1129

Table B8: Unstandardized Coefficients from OLS Regression of Time Spent Watching TV in 2005

Total Internet time 2005	-0.1
TV watching time 2004	0.3***
Sleep Time 2005	-0.1***
Married	-23.8***
Years of education	-7.9***
Age	1.2***
Male	2.8
African-American	49.1***
Hispanic	9.7
Asian-American and other	31.4
(Constant)	190.4***
R^2=.15	
* p<.05 **p<.01 ***p<.001	N=1129

APPENDIX C - METHODOLOGY AND DATA

This report is based on data from the SIQSS (Stanford Institute for the Quantitative Study of Society) Time Diary Study, collected in June of 2005 using Knowledge Networks' nationally representative survey panel.[6] The Knowledge Networks' panel is the only projectable population-representative panel for Internet research, with Web users and non-users alike represented. The panel offers high participation rates, extensive profile data, methodological consistency (leading to comparability of results) and low attrition rates (ideal for longitudinal studies that follow each respondent for several years).

An innovative time-budget methodology, developed and refined over several years at SIQSS, uses detailed activity diaries that ask respondents to recall, in succession, all the activities that they performed during six randomly-selected hours on the previous day. The specific hours are a stratified sample from different segments of the day, so each individual is asked about activities during one hour in the morning, midday, afternoon, etc. When relevant, the respondents are asked whether they used the Internet for each of the activities that they report (for example, sleeping, taking a shower, eating, or doing manual labor, are not plausible Internet activities while reading newspapers, doing correspondence, or paying bills, are). Compared to other studies that ask general questions about the Internet use, our method ensures more precise estimates in a number of ways. By randomly selecting only 6 hours from 6 time blocks (one hour from each block) of the day[7], our method reduces the respondent fatigue common in 24-hour diaries. The respondent fatigue leads to considerable decrease in response quality. Most respondents are able to complete the survey in 20 minutes. Additionally, our survey is administered online, either via a computer connected to the Internet at home or through a Microsoft Web-TV set top box. Unlike phone-based administration, online administration provides the respondent with memory recall assistance, such as a checklist of possible activities as well as a cumulating activity list for the day.[8] Online administration by Knowledge Networks also avoids the problem of rapidly increasing refusal rates that plagues phone surveys.

The survey asks when and where people use the Internet, what Internet applications they use, what their Internet activities relate to, and with whom they communicate through the Internet. It also asks about other activities that respondents do during the day, which enables us to probe fundamental questions about how varying amounts of Internet use relate to other forms of time use, such as social interactions and work.

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[6] Respondents in the Knowledge Networks panel are randomly selected through Random Digit Dial sampling methods on a quarterly-updated sample frame consisting of the entire U.S. telephone population. All telephone numbers have an equal probability of selection, and sampling is done without replacement. Detailed information on the Knowledge Networks methodology can be found at www.knowledgenetworks.com. Though surveys are conducted over the Internet, respondents are a random probability sample of the United States population, in households provided with Internet terminals by Knowledge Networks for that purpose.

[7] The six time blocks are: Block 1: midnight-5:59am; Block 2: 6:00-9:59am; Block 3: 10am-1:59pm; Block 4: 2:00pm-5:59pm; Block 5: 6:00-8:59pm; Block 6: 9:00-11:59pm).

[8] Mailout, paper diary designs also have numerous limitations, including the lack of investigator control, low response rate resulting in biased data, long turn-around time, and high expenses related to data entry and follow-up. Such designs also result in lower quality time diary data because the survey must be simplistic, and it is not possible to ask for clarification or probe to ensure accurate data.

Unless otherwise stated, the statistics in this report reflect the time use on specific activities in a day (24 hours) since we impute the time use on activities during unsurveyed hours with data collected during the 6 surveyed hours[9].

[9] We impute time use on a specific activity in each time block by first multiplying the surveyed time (less than 1 hour) on this activity and the duration of this time block (3,4 or 6 hours), then adding up the time in each time block. For example, suppose a person spent 0 minutes, 20 minutes, 10 minutes, 0 minutes, 0 minutes, and 60 minutes on the Internet in the time block 1, 2, 3, 4, 5, 6 respectively yesterday, then his/her total Internet time the day before the survey would be: 0*6+20*4+10*4+0*4+0*3+60*3=80+40+180=300 minutes.

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