www.digitalcenter.org

The Digital Future Report

Surveying the Digital Future

Year Four

Ten Years, Ten Trends

USC Annenberg School
Center for the
Digital Future

September 2004

THE DIGITAL FUTURE REPORT

Surveying the Digital Future

YEAR FOUR

Jeffrey I. Cole, Ph.D.
Director, USC Annenberg School Center for the Digital Future
Founder and Organizer, World Internet Project

Michael Suman, Ph.D., Research Director
Phoebe Schramm, Associate Director
Robert Lunn, Ph.D., Senior Research Analyst
Jedrix-Sean Aquino, Research Assistant

Dennis Fortier, Graduate Associate
Philip Gussin, Graduate Associate
Koren Hanson, Graduate Associate
Weihua Huang, Graduate Associate
Mark West, Graduate Associate
Eric Zusman, Graduate Associate

Written by Harlan Lebo

Production editing by Monica Dunahee

THE DIGITAL FUTURE REPORT

Surveying the Digital Future

YEAR FOUR

ADDITIONAL COPIES

You are welcome to download additional copies of The Digital Future Report for research or individual use. To download the full text and graphs in this report, go to www.digitalcenter.org.

ATTRIBUTION

Excerpted material from this report can be cited in media coverage and institutional publications.

Text excerpts should be attributed to The Digital Future Report.

Graphs should be attributed in a source line to:

The Digital Future Report
USC Annenberg School Center for the Digital Future
September 2004

REPRINTING

Reprinting of this report in any form other than brief excerpts requires permission from the USC Annenberg School Center for the Digital Future at the address below.

QUESTIONS

E-mail: info@digitalcenter.org

Center for the Digital Future
USC Annenberg School for Communication
300 South Grand Ave., Suite 3950
Los Angeles, CA 90071
(213)437-4433
www.digitalcenter.org

The USC Annenberg School Center for the Digital Future
thanks its foundation and corporate partners,
whose participation in the World Internet Project make this work possible:

Hewlett-Packard
Accenture
Time Warner Companies
Sony
Verizon
SBC
National Cancer Institute
Microsoft

Digital Future Report – Year Four: Contents

The Digital Future Report

Surveying the Digital Future

Year Four

Welcome to "Surveying the Digital Future," the report of Year Four of the Digital Future Project.

The Digital Future Project is a comprehensive, year-to-year examination of the impact of online technology on America. This work is part of the World Internet Project, which is organized and coordinated by the USC Annenberg School Center for the Digital Future. Included in the World Internet Project are the Center's work and partner studies in countries in North America, Europe, South America, and Asia.

The fourth Digital Future Report continues to explore how the Internet influences the social, political, and economic behavior of users and non-users. With the completion of Year Four of the study, we are working on one of the principal goals of the Digital Future Project: to compare the evolving responses of Internet users and non-users over the years.

THE USC ANNENBERG SCHOOL CENTER FOR THE DIGITAL FUTURE: EXPLORING THE IMPACT OF THE INTERNET

We created this project because the Internet represents the most important technological development of our generation; its effects may surpass those of television and could someday rival those of the printing press. Had research been conducted as television evolved in the late 1940s, the information would have provided policy-makers, the media, and ultimately historians with valuable insights about how broadcasting has changed the world.

Our objective is to ensure that the Digital Future Project and its yearly reports study online technology and capitalize on the opportunity that was missed as television developed. By beginning our study of the Internet early in its evolution as a worldwide communications and information-gathering tool, we can understand the effects of the Internet as it grows, and not as a postscript after it has matured.

To achieve this objective, the Digital Future Project surveys more than 2,000 households across the United States, compiling the responses of Internet users and non-users. Each year we contact the same households to explore how online technology affects the lives of those who continue to use the Internet, those who remain non-users, and those who move from being non-users to users, and vice versa. We are also noting changes as continuing users move their Internet access from modem to broadband.

The Digital Future Project is not restricted to investigating a particular method of accessing the Internet. As new types of access – such as wireless or methods now unknown – become available, the project will track them. The project is open to exploring the Internet in any form, and will monitor online technology as it transforms in yet-unexpected ways.

WHY A COMPREHENSIVE REPORT ON THE INTERNET?

Other studies examine the Internet from a variety of viewpoints. The Digital Future Project differs from most other studies in five principal areas:

- **The Digital Future Project looks at the social impact of the Internet**

Most Internet studies gather data about who is online, how long they are online, and what they do online. The Digital Future Project also compiles this information, but then examines the implications of the use of online technology, and links this use to a broad range of values, behavior, attitudes, and perceptions.

- **The project focuses on Internet non-users as well as users**

The Digital Future Project follows how the behavior and views of Internet users differ from those of non-users. Especially important is noting changes in the behavior and views of individuals who are initially non-users and later become users.

- **Year-to-year data**

The Digital Future Project comprehensively examines the effects of this communication technology over the course of years – ideally for an entire generation. The research team maintains a core sample of respondents, and tracks short-term and long-term changes in behavior, lifestyle, attitudes, and Internet use.

- **A worldwide effort**

The USC Annenberg School Center for the Digital Future created and organizes the World Internet Project, which includes the Digital Future Project and similar studies in countries worldwide (for contacts at many of the worldwide partners, see page 101). Through this team of international partners, the World Internet Project studies and compares changes associated with the Internet in different countries and regions, creating an international picture of change in online technology, use, and impact.

- **A principal goal of the Digital Future Project is to engage government and private industry decision-makers who can create policy based on our findings**

For this project to be truly effective, we involve public and private organizations that are committed to using our results. We have been allied with an unprecedented array of corporations – several of which are direct competitors – and foundations, including the National Science Foundation, Hewlett-Packard, Accenture, America Online, Time Warner Companies, Microsoft, Merrill Lynch, Sony, Verizon, SBC, Disney, DirecTV, the National Cable Television Association, and the National Cancer Institute.

THE DIGITAL FUTURE PROJECT: KEY AREAS

The fourth Digital Future Report includes findings that compare Internet users to non-users, new users (less than one year online) to very experienced users (seven years or more online), and users within different demographic groups.

The survey is organized into five general subject areas:

- **Internet Users And Non-Users: Who Is Online? Who Is Not? What Are Users Doing Online?**
- **Media Use And Trust**
- **Consumer Behavior**
- **Communication Patterns**
- **Social Effects**

The Digital Future Report includes a broad sampling of more than 100 major issues from this year's survey. We hope you will be enlightened by these findings from Year Four of "Surveying the Digital Future," as we work to understand how the Internet is transforming our world.

Jeffrey I. Cole, Ph.D.
Director, USC Annenberg School Center for the Digital Future
Founder and Organizer, World Internet Project

HIGHLIGHTS: DIGITAL FUTURE REPORT – YEAR FOUR

In 2000, the first report of the Digital Future Project created a baseline profile of behavior and attitudes about Internet use and non-use in five major subjects: who is online and who is not, media use and trust, consumer behavior, communication patterns, and social effects.

The second, third and fourth years of this study have continued the year-to-year appraisal of more than 100 major issues, focusing on Internet users vs. non-users, as well as new users (less than one year of experience) compared to very experienced users (in Year Four, seven or more years of experience).

Here are highlights of the five major areas in Year Four of the Digital Future Project:

HIGHLIGHTS – DIGITAL FUTURE PROJECT, YEAR FOUR

THE INTERNET: TEN YEARS, TEN TRENDS

- The Digital Future Project has identified ten major trends that characterize the Internet's impact on Americans. (Page 19)

WHO IS ONLINE? WHO IS NOT? WHAT ARE USERS DOING ONLINE?

OVERALL INTERNET ACCESS, ONLINE HOURS

- Overall, Internet access rose to its highest level in the four years of the Digital Future Project. About three-quarters of Americans go online. (Page 27)
- The number of hours online continues to increase – rising to an average of 12.5 hours per week – the highest level in the study thus far. (Page 27)

THE TOP TEN MOST POPULAR INTERNET ACTIVITIES

- The top ten most popular Internet activities are: e-mail and instant messaging, general Web surfing or browsing, reading news, hobby searches, entertainment searches, shopping and buying online, medical information searches, travel information searches, tracking credit cards, and playing games. (Page 29)

NEW INTERNET USERS VS. VERY EXPERIENCED USERS: WHAT DO THEY DO ONLINE?

- In Year Four, very experienced Internet users (seven or more years online) spent by far the largest percentage of their time online dealing with e-mail, followed by general Web browsing, work at home for their jobs, reading news, hobbies, instant messaging, and school-related work – levels that have remained relatively constant during all four years of the survey. (Page 30)
- New users (less than one year online) also spent the largest percentage of their time online with e-mail and Web browsing, followed by instant messaging, playing games, school-related work, downloading music, paying bills, and reading news. (Page 30)

INTERNET USERS: ACROSS ALL AGE RANGES

- Each of the four studies by the Digital Future Project shows that online access spans every age range – in some age ranges, approaching 100 percent. At least three-quarters of respondents age 55 and under are Internet users. (Page 31)

HOW LONG ARE YOU ONLINE EACH WEEK?

- The average number of hours online per week has grown steadily since the Digital Future Project began in 2000. Users in Year Four of the study report an average of 12.5 hours online per week, up from 9.4 when the study began in 2000. (Page 32)
- Even the newest Internet users devote substantial time to going online. Currently, new users go online 7.2 hours per week, up from 6.1 hours in 2000. (Page 32)

USING THE INTERNET AT HOME

- The use of the Internet at home continues to increase. In 1995, the National Science Foundation reported that only about one-fifth of users had access to the Internet at home. In Year Four, home access has increased to nearly two-thirds of American households. (Page 33)

HOW DO YOU CONNECT TO THE INTERNET AT HOME?

- While most households still connect to an online service with a telephone modem, the number who connect via modem continues to decline, while access by broadband (either cable modem or DSL) has increased 300 percent since 2000. (Page 36)

BROADBAND VS. MODEM: THE GAP CONTINUES IN HOURLY USE AT HOME

- Broadband users at home (either cable modem or DSL) spend more time online than users who connect to the Internet by modem. (Page 36)

HIGHLIGHTS: DIGITAL FUTURE PROJECT, YEAR FOUR

BROADBAND VS. MODEM: HOW DO THEY AFFECT ONLINE USE?

- Compared to modem users, broadband users spend more hours online working on their jobs at home, instant messaging, playing games, seeking entertainment information, using online auctions, and downloading music. (Page 37)

NON-USERS: WHY NOT ONLINE?

- The 24.1 percent of Americans who do not use the Internet express a range of reasons for not being online. In Year Four of the Digital Future Project, the single most-cited reason by far is the lack of a computer; more than 40 percent of non-users say they do not have a computer or their current computer is not good enough for Internet use. (Page 40)

ELECTRONIC DROPOUTS: WHY DO USERS STOP GOING ONLINE?

- Internet non-users who were once users – the "electronic dropouts" – continue to report many reasons for no longer going online. In Year Four, a much higher percentage of electronic dropouts than in previous years report their reason for not being online is "no computer available." (Page 41)
- Notably, in neither of the two most current studies did any electronic dropouts cite concerns about privacy or security as a reason for no longer using the Internet. (Page 41)

WHAT DO YOU MISS BY NOT USING THE INTERNET?

- Sixty percent of electronic dropouts – non-users who once used the Internet – say they miss nothing by not having access to the Internet. (Page 42)

WILL ELECTRONIC DROPOUTS EVER GO BACK ONLINE?

- Even though a majority of electronic dropouts say they miss nothing about the Internet, almost three-quarters of them say they will eventually go back online. (Page 42)

NON-USERS: WILL YOU LOG ON SOON?

- The number of non-users who say they are somewhat likely or very likely to go online in the next year has declined to its lowest level in the four years of the Project. (Page 43)

* * * * * * * *

MEDIA USE AND TRUST

TELEVISION: VIEWING CONTINUES TO DECLINE AMONG INTERNET USERS

- The biggest gap in use of various media among Internet users and non-users continues to be the amount of time they watch television. In Year Four of the study, Internet users watch about 4.6 hours of television less per week than non-users – compared to 4.8 hours the previous year. (Page 46)
- More than twice as many of the very experienced users compared to new users say that they spend less time watching television since using the Internet. (Page 47)

THE INTERNET: AN IMPORTANT SOURCE OF INFORMATION?

- In the 10 years since online technology became generally available to the public as a communication tool, the Internet has become one of the most important sources of information for the vast majority of users. However, the importance of the Internet as a source of information is declining – along with the importance of all other forms of media as well. (Page 49)
- Among very experienced users in Year Four, the Internet outranks all other media as a very important or extremely important source of information. (Page 50)

HIGHLIGHTS: DIGITAL FUTURE PROJECT, YEAR FOUR

INFORMATION ON THE INTERNET: IS IT RELIABLE AND ACCURATE?

- The number of users who believe that information on the Internet is reliable and accurate has declined slightly in Year Four of the Digital Future Project. (Page 51)
- The number of users who believe that only about half of the information on the Internet is reliable and accurate is growing, and has now passed 40 percent of users for the first time in the four years of the Digital Future Project. (Page 51)

ONLINE INFORMATION: WHICH WEB SITES ARE RELIABLE AND WHICH ARE NOT?

- Web sites mounted by established media ranked highest in perceived accuracy and reliability; 74.4 of users say most or all information on established media Web sites is reliable and accurate. (Page 52)
- Government Web sites fared well with users in the current study; 73.5 percent say that most or all of the information on government Web sites is reliable and accurate. (Page 52)
- Information pages posted by individuals have the lowest credibility; only 9.5 percent of users say the information on Web sites posted by individuals is reliable and accurate. (Page 52)
- Although large percentages of users say that most or all of the information on Web sites posted by established media and the government is reliable and accurate, significant numbers of users believe that only half or less of information on these sites is reliable and accurate. (Page 52)

DO INTERNET USERS MULTITASK WHILE ONLINE?

- Many Internet users engage in a variety of offline electronic activities other than the Web while online. The Digital Future Project found that nearly two-thirds of all users (65.4 percent) engage in other electronic activities while online – such as listening to recorded music or the radio, engaging in instant messaging, watching TV, or talking on the telephone. (Page 54)

* * * * * * * *

CONSUMER BEHAVIOR

INTERNET PURCHASING: DO YOU BUY ONLINE? HOW MUCH? HOW OFTEN?

- In Year Four, the number of adults who bought online increased slightly over the previous year; the annual number of purchases continues to increase, and the average dollars spent online by adult buyers dipped slightly. (Page 56)

AS INTERNET EXPERIENCE INCREASES, BUYING ONLINE INCREASES

- Internet users don't necessarily become Web shoppers as soon as they begin going online. Much higher percentages of very experienced users compared to new users shop online. (Page 58)
- More than half of very experienced adult users (55.6 percent) shop online. (Page 58)

INTERNET PURCHASING: DOES IT AFFECT BUYING IN RETAIL STORES?

- In Year Four, Internet buyers in growing numbers report that buying online reduces some purchasing in retail stores. More than two-thirds of Internet users who buy online (67.1 percent) say their retail purchasing has been somewhat reduced or reduced a lot. (Page 59)
- As Internet experience grows, buying online increasingly reduces purchasing in retail stores. In the study, 71.5 percent of very experienced users who buy online say their retail purchasing has been somewhat reduced or reduced a lot – compared to one-third of new users. (Page 59)

SHOP IN STORES, THEN BUY ONLINE; SHOP ONLINE, THEN BUY IN STORES

- The number of online purchasers who shop in local stores and later buy online has increased. In the current study, 69.1 percent of Internet purchasers say they sometimes or often browse in traditional retail locations and then buy online – up from 64.7 percent in the previous study. (Page 60)

HIGHLIGHTS: DIGITAL FUTURE PROJECT, YEAR FOUR

ARE YOU CONCERNED ABOUT YOUR PRIVACY WHEN BUYING ONLINE?

- In one of several questions in the study that explore the issues of privacy and security online, most respondents continued to report some level of concern about the privacy of their personal information when or if they buy on the Internet. However, the intensity of that concern has declined steadily in the three years these questions have been asked in the study. (Page 63)
- Overall, the number of respondents who are not concerned grew to 11.8 percent, more than double the number three years ago. (Page 63)

CONCERNS ABOUT PRIVACY: PURCHASERS VS. NON-PURCHASERS

- Much higher numbers of non-purchasers than purchasers are concerned about the privacy of their personal information when or if they buy online. However, worth noting is the decline in concerns from year to year among non-purchasers. (Page 64)

CONCERNS ABOUT PRIVACY: NON-USERS, NEW USERS, VERY EXPERIENCED USERS

- Comparing non-users, new users, and very experienced users shows that concerns about privacy of personal information when or if they buy online decline as Internet use increases. (Page 65)

PRIVACY: WILL INTERNET USERS PAY FOR IT?

- Although Internet users express high levels of concern about privacy when they go online, users aren't convinced that paying for increased privacy is a solution to the problem. (Page 66)

CONCERNS ABOUT CREDIT CARD INFORMATION: CONTINUING, BUT DECLINING

- As with issues of personal privacy, concerns about credit card security on the Internet remain high among non-users, new Internet users, and very experienced users. However, the intensity of that concern is declining. (Page 67)

WHAT ARE YOUR CONCERNS ABOUT USING CREDIT CARDS ONLINE?

- Respondents most frequently cite "hackers" are their primary cause for concern about using credit cards online; in the current study, nearly three-quarters (74.2 percent) of respondents were very concerned or extremely concerned about hackers. (Page 68)
- Notably, the number of respondents who are very concerned or extremely concerned about using credit cards online because they know someone who has experienced credit card fraud has increased. And, the number of respondents who say they are very concerned or extremely concerned because of personal experience has increased. (Page 68)

WHAT WOULD REDUCE YOUR CONCERNS ABOUT USING A CREDIT CARD ONLINE?

- For a growing number of respondents who have some concerns about using their credit cards online, nothing will reduce those concerns. (Page 69)
- Extremely small percentages of Internet users – a total of less than four percent – cite either new laws or government enforcement as effective methods to ease concerns. (Page 69)

* * * * * * * *

COMMUNICATION PATTERNS

DO YOU USE E-MAIL?

- E-mail use – the most popular online activity – continues to grow. (Page 71)
- More than 90 percent of Internet users in the current study (92.5 percent) have e-mail, meaning that 70.2 percent of Americans now use e-mail. (Page 71)

HOW OFTEN DO YOU CHECK YOUR E-MAIL?

- Of all e-mail users in Year Four of the study, 62.3 percent say they check e-mail once a day or more, compared to 61.2 percent in 2002 and 57.7 percent in 2001. (Page 72)
- Almost one-third (33.2 percent) of e-mail users say they check e-mail several times a day, or every hour or more, compared to 29.2 percent in 2002 and 25.6 percent in 2001. (Page 72)

HIGHLIGHTS: DIGITAL FUTURE PROJECT, YEAR FOUR

HOW OFTEN SHOULD USERS CHECK E-MAIL?

- While a large percentage of e-mail users respond to messages within one day or less, many users believe that e-mail does not require such a timely response. (Page 73)
- Slightly less than half of Internet users (49.1 percent) say that an e-mail reply should be sent as soon as possible or within one day. However, the majority of the rest say that a reply should be sent within 2-3 days – or longer. (Page 73)
- More than twice as many new users compared to very experienced users say e-mail replies should be sent "as soon as possible." However, 64.5 percent of very experienced users say e-mail replies should be sent in 1-3 days, compared to 45.9 percent of new users. (Page 73)

* * * * * * * *

SOCIAL EFFECTS

TIME WITH FAMILY, TIME WITH FRIENDS

- Most Internet users continue to believe that the Internet has no influence on the amount of time they spend with their family. A near-identical percentage say that Internet use has no effect on the time they spend with friends. (Page 76)

INTERNET AND WATCHING TELEVISION: THE RIGHT AMOUNT OF TIME FOR CHILDREN?

- 14.8 percent of adults say the children in their households spend too much time on the Internet, while 46.2 percent say children spend too much time watching television. (Page 77)
- About three-quarters (75.5 percent) of adults say the children in their household spend "just the right amount of time" online – an increase over 2001 and 2002. (Page 77)
- The number of adults who say that children spend too much time online dropped for the first time since 2000. (Page 77)

DOES USING THE INTERNET CHANGE CHILDREN'S TV VIEWING HABITS?

- A large majority of adults continues to report that children in their households watch about the same amount of television as they did before they began to use the Internet. (Page 78)

SCHOOLWORK AND THE INTERNET

- More than 60 percent of students age 18 and under say that the Internet is very important or extremely important for their schoolwork. (Page 79)
- Although students consider the Internet important to their schoolwork, the Internet is not perceived by adults as having an effect on school grades. (Page 79)

FREEDOM OF SPEECH, GOVERNMENT CONTROL OF INTERNET CONTENT

- Respondents express conflicting views about freedom of speech and government control of Internet content. Regarding freedom of speech, nearly 90 percent of all respondents agree (agree or strongly agree) that freedom of speech is important to them. (Page 81)
- However, in spite of large majorities of users and non-users alike agreeing about the importance of freedom of speech, much lower percentages of all respondents (28.2 percent) agree that the government should allow "undesirable" content on the Internet. (Page 82)

CONCERNS ABOUT TECHNOLOGY'S EFFECT ON LOSS OF PERSONAL PRIVACY

- Overall, 38 percent of all respondents agree (agree or strongly agree) that new technology will lead to the loss of personal privacy. (Page 84)

POLITICAL KNOWLEDGE, POWER, AND INFLUENCE

- The Internet is viewed by growing numbers of users as a tool for learning about the political process. However, it is not yet perceived as a medium that can help users gain political power or more say in what government does. (Page 86).

HIGHLIGHTS: DIGITAL FUTURE PROJECT, YEAR FOUR

THE INTERNET AT WORK: BUSINESS AND PERSONAL USE

- Internet users continue to report growing levels of Internet access at work for both personal and professional use. (Page 88)
- A steadily growing number of users who have Internet access at work report that they go online for personal use at work – peaking in the current study. (Page 88)

E-MAIL AT WORK

- Users in Year Four who have access to the Internet at work report the highest levels yet for using e-mail and visiting Web sites – for both business and personal use. (Page 89)

DOES THE INTERNET AFFECT PRODUCTIVITY?

- The number of users who say the Internet at work makes them more productive has continued to increase for four years in a row. (Page 89)

* * * * * * * *

THE INTERNET AND MEDICAL ISSUES

HEALTH CARE INFORMATION ONLINE: USE VARIES BASED ON INTERNET EXPERIENCE

- Using the Internet as a source of health or medical information varies widely between new users and very experienced users. Almost two-thirds of very experienced users (65.1 percent) say they have accessed health care information online within the last 12 months, compared to less than one-quarter of new users (24 percent). (Page 91)

WHY GO ONLINE FOR HEALTH AND MEDICAL INFORMATION?

- Internet users seek information for a variety of reasons; among the most frequently cited are: the information is free, quickly available, private, easy to find, and widely available. (Page 92)

HOW DO YOU FIND ONLINE INFORMATION?

- A large number of new users (58.3 percent) looked at a Web site that was recommended by a health care professional. (Page 93)

VIEWS ABOUT HEALTH INFORMATION ONLINE

- Low numbers of users express concerns about their online searches for health information. (Page 95)
- In particular, a relatively low number of these users (21.8 percent) agreed or strongly agreed that they were concerned about the quality of the information they found. (Page 95)

WHAT DO INTERNET USERS DO WITH THE HEALTH INFORMATION THEY FIND ONLINE?

- Most frequently, health information found online leads users to seek further advice or more information – actions that are consistently high among all users. (Page 96)
- Large numbers use this information to increase their comfort level with advice they have received from doctors or other health professionals. More than half of users say that the information they found online led them to contact a health care professional. (Page 96)

* * * * * * * *

THE DIGITAL FUTURE REPORT

Surveying the Digital Future

YEAR FOUR

Ten Years, Ten Trends

When a technology transforms itself – in the span of only a few years – from a scientific curiosity into an invaluable information-gathering tool used by most Americans, milestones and advances can occur at a breakneck pace. For the Internet in 2004, two of those milestones are particularly noteworthy: first, this year marks the 10th anniversary of the Internet becoming generally available to the public. In 1994, the major online providers – that until then had maintained their own proprietary electronic services – opened their portals to the outside world for millions of their users, who suddenly had unlimited access to previously unimaginable amounts of information and services.

The second milestone, also a 10th anniversary, marks the convening by this center of the "Information Superhighway Summit," the first gathering of leadership from government, technology, media, and entertainment organizations to explore the Internet and its future. That conference marked the beginning of a national appreciation of the Internet's tremendous potential; as a result, five years ago we created the Digital Future Project, and its first comprehensive study of the impact of the Internet on America was published in 2000.

At the time of the Information Superhighway Summit in January 1994, about two million computers – primarily used by academics, scientists, and corporate researchers – were connected to the Internet. That number would increase to 70 million by the time the Digital Future Report was created in 2000. Now, as the results of this current study show (page 28), the Internet is used by about three-quarters of Americans, and online technology is a constant presence in two-thirds of American homes.

In our observations of the Internet over the last decade, combined with four years of concentrated research and analysis through our annual Internet Projects, we have explored more than 100 major issues involving media use and trust, users vs. non-users, changes in consumer behavior, social effects, communication patterns, and many other illuminating subjects. Of these findings, ten broad trends have emerged that have particular relevance as we reach the 10-year anniversary of the opening of the Internet: Ten Years, Ten Trends.

Ten Years, Ten Trends

1. In America, The Digital Divide Is Closing, But Is Not Yet Closed As New Divides Emerge

Does the "digital divide" still exist? In 2004, 75 percent of Americans can access the Internet from some location – home, work, school, libraries, and other locations (page 26). The fastest-growing Internet user populations are groups that were once considered the primary victims of the digital divide: Latinos, African Americans, and older Americans. According to the National Center for Education Statistics, in 1994, 35 percent of public schools had Internet access; today, nearly 99 percent of schools have access.

Clearly, the "digital divide" in America is nearly closed, *if* one describes that gap by its simplest definition: those who have the Internet compared to those who have not. But some lingering digital divide issues remain: there is still a divide based on Internet access at home (page 33). And, a new divide is coming that will bring with it a new set of ramifications: the divide between those who have broadband and those who use traditional telephone modem access (page 36).

As we explore why one-quarter of Americans are not online, three primary reasons emerge: First, many non-users fear technology in general, and the Internet in particular – fear caused by lack of knowledge, or lingering concerns about privacy, security, or other issues. Second, many non-users simply see no need to use the Internet; 60 percent of "electronic dropouts" (former Internet users who are now non-users) miss nothing because they don't go online (page 42).

The third reason – and the most politically charged one – is cost. Many non-users don't go online at home because they don't have a computer, or can't afford one, or they believe their current computer is not capable of linking to the Internet (page 40). At some level, the cost issue lingers, and remains appetizing fodder for debate about "haves vs. have nots" in political and government policy circles.

But even the cost issue has changed considerably in a short time: when the Digital Future Project began in 2000, a PC adequate to go online cost about $1800. Today, such a computer – and one much more powerful than the 2000 model – costs about $400. Cost is certainly an issue for some families, but it is not necessarily *the* issue that prevents low-income people from going online. For instance, 98.3 percent of American homes have television, but TV's penetration in the poorest homes is nearly 100 percent – it is primarily the more affluent households that choose to be among the 1.7 percent that don't have television.

Each of these reasons for not going online is important, but they all lead to the same result: as the Internet continues to become an increasingly commonplace fixture in American life, the differences in behavior between those who are users and those who are not will become more evident. For instance, how will non-users cope with a national economy that increasingly functions online for many activities, such as shopping, identifying information resources, and searching for facts about entertainment, news, and health? What will happen when other basic services go primarily online, such as banking, voting, and postal services?

As just a single example of how quickly life has changed because of the Internet, one can already see how non-users are affected by one industry in particular: the airlines. Internet users have access to instant information about flight arrivals and departures, and have substantially easier access to tickets – to the point where most airlines offer online ticketing that allows passengers to bypass the check-in procedure. Non-users can do none of these things without Internet access.

How will Internet non-users be affected as new forms of the digital divide continue to emerge?

2. THE MEDIA HABITS OF THE NATION HAVE CHANGED, AND CONTINUE TO CHANGE

For the past 50 years, Americans' time at home has been dominated by television. Increasingly over the last 10 years, Internet users have "bought" their time to go online from the time they previously spent watching television – and, we emphasize, that time spent online seems to have little negative effect on other personal and social activities, such as time with family and friends (page 76), exercise, sleeping, and hobbies. And, the more experience users have with the Internet, the less television they watch (page 46).

This trend is the same in all of the 16 countries that have produced data about television and Internet use that are in the World Internet Project, which is coordinated by this center.

The social impact of such dramatic change could be extraordinarily deep. What will happen as a nation that once spent an extremely large portion of time in a passive activity (television) transfers increasingly large portions of that time to an interactive activity (the Internet)? This continuing shift will have a broad range of ramifications, probably affecting every aspect of American culture, the economy, politics, and social behavior.

At the same time, print readership is declining. Newspaper readership began to drop long before Internet use grew, and that trend continues today. Newspapers are constantly challenged to get readers – especially young readers. The first two years of this study showed that users spent the same amount of time with newspapers as non-users; that time with newspapers by users declined in the third year of this study, and again in year four (page 46).

Use of online publications brings with it a series of issues. The e-newspaper from a distant city, or even another country, may be just as accessible (and possibly more interesting) than the local online edition. How will access to wide varieties of online news information shape the other media outlets of the nation?

And finally, examining changes in the media brought by the Internet requires continued exploration of the impact of September 11 on communications. Following September 11 – the first national crisis since the emergence of online technology – the Internet played an important but not a compelling role in gathering information; television was much more important in terms of acquiring information quickly. The Internet and its role as an information source did not play a transformational role in the days after September 11. What *was* transformational about online technology was the use of e-mail – to connect, to reconnect, to communicate with those who would not have been contacted otherwise. In a special study conducted by the Digital Future Project about the impact of online technology after September 11, one-quarter of Americans said they received messages of concern from people outside of the United States. Would that personal contact have occurred without e-mail?

3. THE CREDIBILITY OF THE INTERNET IS DROPPING

The credibility of information on the Internet was high among users through the first three years of this study, and that credibility remains generally high in Year Four. However, that high level of credibility for online information began to decline in the third year of this study, and dropped even further in Year Four. When asked, "how much of the information on the Worldwide Web is reliable and accurate," those who said most or all information was reliable and accurate totaled 55 percent in 2000, 58 percent in 2001, 53 percent in 2002, and 50 percent in Year Four (page 52).

Year Four of this study shows that most users trust information on the Web sites they visit regularly, and on pages created by established media and the government. The information that users don't trust is on Web sites posted by individuals (page 52).

Should we view online information as being more credible, or less credible, than information from other sources? To deal with the constant stream of information encountered from myriad sources every day, Americans have self-imposed "filters" that help them determine which information to trust, and what to discredit. Given the rapid rise of the Internet, those filters have been transferred – perhaps too quickly –

to appraisal of online information in ways that may not be necessarily the most useful in distinguishing good Internet information from bad. For instance, a credible print magazine costs tens of millions dollars to create; it costs almost nothing to produce a Web site that looks legitimate, even if the content is not. Do Internet users fully appreciate how to determine the credibility of online information?

4. WE HAVE JUST BEGUN TO SEE THE CHANGES TO COME IN BUYING ONLINE

A variety of issues that affect online purchasing have changed dramatically in the last four years.

There is no question that concerns about credit card security while buying online remain extremely high. However, the *intensity* of that concern is declining. Three years ago, two-thirds of Internet users were very concerned or extremely concerned about privacy of information while buying online; in the current study, that number has declined to less than half (46 percent). And, while concerns remain high, Internet users are buying more frequently. In 2001, they bought online about 11 times each year; now they buy about 30 times per year (page 56). And, as Internet use increases, buying online increases dramatically (page 58).

In other words, many Internet users previously said, "I'm concerned and not buying;" now, in increasing numbers, they are saying, "I'm concerned, but less concerned, and I *am* buying."

Yet we believe that the modest easing of concerns about credit card security – or purchasing in spite of those concerns – is only part of the story about changes in online purchasing. The dot-com collapse of 2000 and 2001 caused economic disaster in the short-term for many Internet companies. However, for the online economy, the end of the boom was a very good thing indeed, because it brought with it the implosion of the fantasy world of wildly speculative tech investment and irresponsible business claims – an environment that had done nothing to inspire faith in the trustworthiness of Internet retailing companies for potential online buyers. After the meltdown, the normal rules of business were – finally – imposed on Internet companies, and consumer trust in online organizations began to grow.

As barriers to online buying lessen, concerns about the security of credit card information ease, and the credibility of Internet retailers grows, how will the evolving impact of buying online shape the future of traditional brick-and-mortar retailing?

5. THE "GEEK-NERD" PERCEPTION OF THE INTERNET IS DEAD

With the Internet in two-thirds of all American households and three-quarters of citizens defined as Internet users, it seems laughable in 2004 to think that there was a time only a few years ago when the stereotype of the Internet user was the "geek-nerd" who was thoroughly separate and alienated from mainstream society. Even more relevant, there were many social critics of the Internet who believed that going online would cause vast and irreparable harm to relationships with family and friends, and would also degrade other personal activities, such as sleep, exercise, and offline interests.

From the beginning, the Digital Future Project found that going online did not put the social lives of users at risk. The Internet has little or no impact on time spent with family or friends (page 76), or on sleeping, exercising, or most other personal activities (other than watching television). In fact, our studies continue to show that Internet users are often more socially active than non-users, and are less alienated from others. And thanks to e-mail and instant messaging, the Internet has become a useful tool to build relationships; Internet users communicate with others more, not less.

Looking past the specific "geek-nerd" phenomenon, an interesting point to consider is that new users are going online knowing what the Internet is, or have used it before, or have heard testimonials from others – so the technology is no longer a novelty or mystery to anyone. Many new users quickly move beyond activities such as chat rooms and games, to more practical purposes, such as news gathering, work at home, and financial transactions.

Users are also doing more offline even while on the Internet. Multi-tasking while online is a growing trend (page 54). When television first arrived on the scene, Americans would sit down, watch television, and do nothing else. Soon, we learned to eat while watching – and quickly learned to do everything else as well while the television was on. From the beginning of our studies, we found that large percentages of Internet users do many things while online – watching TV, reading, and talking on the telephone – primarily because Internet use can be suspended or continued at will. Thus, interesting questions arise: while multi-tasking, do Internet users approach each medium with equal levels of attention and comprehension? Or, do they not comprehend some of what they are doing?

6. PRIVACY AND SECURITY: CONCERNS REMAIN, BUT THE HIGH LEVELS ARE CHANGING

From the beginning of our studies, Internet users and non-users alike have expressed very high levels of concern about privacy and security. They fear not only for their personal security, but are also concerned about companies or individuals tracking what they do online.

Some issues surrounding privacy concerns and buying online are outlined in #4 above. Consumer behavior on the Internet is, of course, an important subject, but much broader issues of concern about personal privacy and security while on the Internet transcend purchasing issues, and have an increasing role in every aspect of online use: Is my e-mail being monitored? Is my identity being stolen? Can information on my home computer be stolen if I am linked to the Internet with a broadband connection? Can I search for information confident that my activities and behavior are not being monitored? Or put most simply: *Is my personal privacy safe as I explore the online world?*

7. THE INTERNET HAS BECOME THE NUMBER ONE SOURCE FOR INFORMATION FOR INTERNET USERS

The Internet has become the most important source of current information for users – the primary place they go for research, general information, hobbies, entertainment listings, travel, health, and investments. The "always-on" function of broadband has accelerated this importance.

When one can turn to the computer in the kitchen to instantly access movie schedules from a bookmarked location, what does that say about the functionality – or even the need – for the entertainment sections of the local traditional media?

There is a distinct difference between sources of information on general subjects, and sources of news about major events and crises, such as September 11 (see #2 above). While the Internet is clearly the leading source of general information, television reigns supreme at providing instant access to breaking news stories.

Also worth noting is that as Internet experience increases, perceptions of the importance of the Internet as an information source also increase. Eventually, almost every American will be an experienced user. How will that change the perception of the Internet as an information source? And how will that ascendancy affect other sources of information?

8. The Benefits – and Drawbacks – Of The Internet For Children Are Still Coming Into Focus

There is no question that the Internet opens a whole new world to children. But it's a world that is also strewn with pitfalls.

Perhaps the greatest conflicts about the Internet emerge in our exploration of how adults perceive the role of the Internet in their children's lives (page 77).

The issues involving children and the Internet are countless: Does the Internet help my children with their schoolwork? (Children say yes.) But, does the Internet improve grades? (Adults say no.) Do my children spend too much time online? Should I actively monitor online access by my children? Should I use filtering software? Are my children potential victims of online predators? How do I know my children's friends when they contact so many of them mainly by e-mail? And, how can I keep track of what my children do online when they know more about computers and the Internet than I do?

Clearly, parents have to pay attention and be active in their children's lives, but paying attention to the Internet takes more time and attention than monitoring other in-home activities, such as TV viewing. The many Internet dilemmas for parents will continue, and many new ones will no doubt emerge. We will continue to observe how formal online policies and informal family decisions about children's online use continue to evolve.

9. E-mail: E-Nuff Already?

E-mail is still the single most important reason people go online (page 28). E-mail is a tremendous convenience, and for most users, it is a free service with enormous benefits. E-mail opens opportunities to communicate more often and with a much broader circle of people than we ever reach by telephone or by mail.

E-mail is certainly a great convenience, but it is also a great irritation. What user today doesn't voice some concern about e-mail – spam, inbox overload, time commitments required to respond – in addition to its benefits? No Internet user wants to get rid of their e-mail, but they are tired of e-mail defining their lives.

One of the more interesting findings in the Digital Future Project is that we may be seeing the first hints that the most experienced users are not going to answer e-mail as often as they used to: new users think e-mail needs to be answered faster than do the experienced users (page 73).

While e-mail is used regularly by practically everyone, a "common etiquette" for its use has not yet emerged. We have no commonly accepted conventions about dealing with e-mail: how quickly should we respond? What types of correspondence should be handled electronically? Do we need to respond to every e-mail?

10. BROADBAND WILL CHANGE EVERYTHING – AGAIN

Just as the arrival of the Internet created a flood of social change, the proliferation of broadband technology as a method of accessing the Internet is beginning to cause its own revolution. Broadband is changing entirely our relationship with the Internet at home – how often we go online, how long we stay online, and what we do online (page 37). Simply, modem use is disruptive; broadband use is integrative.

Already we are seeing that broadband users spend more time online than users who connect to the Internet by modem, and that the tasks people undertake online vary based on their method of access.

The advantage of broadband was first perceived as simply providing faster online speed than modem access. Now, we are seeing that more important than speed is that broadband is always on; there is no need to log in and out of the Internet as with modem access. This means that an Internet access "session," which had previously been an activity that required a commitment of time merely to get online, is now becoming an activity that can be done briefly dozens of times a day – even if only for a few seconds. This "always on" feature will have broad effects on Internet use, creating change for users that is almost as great as the difference between Internet access and not having access at all.

Exploring how that integration occurs will be a major priority in the upcoming studies of the Digital Future Project.

THE DIGITAL FUTURE REPORT

Surveying the Digital Future

YEAR FOUR

Each year, the Digital Future Project explores more than 100 major issues in five broad categories involving the impact of online technology on America.

This report explores only a small sampling of the findings from the survey. For more detailed findings, contact the center at the addresses listed at the beginning of this report.

INTERNET USERS AND NON-USERS
WHO IS ONLINE? WHO IS NOT?
WHAT ARE USERS DOING ONLINE?

Who went online in Year Four of the Digital Future Project? How did the experiences of users and non-users differ?

Do the views of online users change as they progress from being "new users" (less than one year using the Internet) to "very experienced users" (seven or more years on the Internet)?

* * * * * * * *

Year Four of the Digital Future Project found that overall Internet access remained generally stable over the past year, but the number of hours users were online continued to increase, as did use of the Internet at home.

- **Overall, Internet access rose to its highest level in the four years of the Digital Future Project. About three-quarters of Americans go online.**

- **The number of hours online continues to increase – rising to an average of 12.5 hours per week – the highest level in the study thus far.**

- **Nearly two-thirds of Americans (65.1 percent) have Internet access at home, a substantial increase in only three years from the 46.9 percent of users who reported home Internet access in 2000, the first year of the Digital Future Project.**

As Internet access and hours online continue to increase, how are online habits changing in America? Are opinions changing about buying online, privacy, credit card security, and time commitments to other online activities?

INTERNET ACCESS AND USE

Year Four of the Digital Future Report found continued growth in the number of hours online, Internet access at home, and the number of respondents with the Internet at work.

	2000	2001	2002	**2003**
INTERNET ACCESS				
■ Total Americans who use the Internet	66.9%	72.3%	71.1%	**75.9%**
■ Internet use at home	46.9%	58.4%	59.3%	**65.1%**
■ % of students who use the Internet at school	55.4%	64.3%	62.6%	**62.1%**
■ Internet users with e-mail	n/a	87.9%	89.9%	**92.5%**
■ % of employed who use the Internet at work outside the home	42.3%	51.2%	51.2%	**57.5%**
HOURS ONLINE				
■ Average numbers of hours online per week	9.4	9.8	11.1	**12.5**
■ Hours online per week from home, 2004 (new users)				**4.3**
■ Hours online per week from home, 2004 (very experienced users)				**8.6**
NUMBER OF YEARS ONLINE				
■ Less than one year				**3.3%**
■ One year to less than three years				**13.8%**
■ Three years to less than five years				**25.2%**
■ Five years to less than seven years				**25.0%**
■ Seven or more years				**32.7%**

	2000	2001	2002	**2003**
ONLINE PURCHASERS				
■ Adult purchasers (percentage of Internet users)	45.1	50.9	39.7	**43.0**
■ Average number of purchases (monthly)	n/a	10.8	28.3	**29.3**
■ Average dollars spent online (monthly)	$113.43	$70.21	$100.70	$95.14
ONLINE SPENDING PER MONTH (PURCHASERS ONLY)				
■ Less than $15	n/a	21.5%	36.2%	**10.9%**
■ $15-$175	n/a	59.8%	55.4%	**75.7%**
■ Greater than $175	n/a	18.7%	8.4%	**13.4%**

THE TOP TEN MOST POPULAR INTERNET ACTIVITIES
(Percentage of people who report online weekly time with these activities)

1. E-mail and instant messaging	**90.4%**
2. Web surfing or browsing	**77.2%**
3. Reading news	**52.0%**
4. Hobbies	**46.7%**
5. Entertainment information	**45.6%**
6. Shopping and buying online	**44.2%**
7. Medical information	**36.1%**
8. Travel information	**34.6%**
9. Tracking credit cards	**32.5%**
10. Playing games	**28.5%**

NEW INTERNET USERS VS. VERY EXPERIENCED USERS: WHAT DO THEY DO ONLINE?

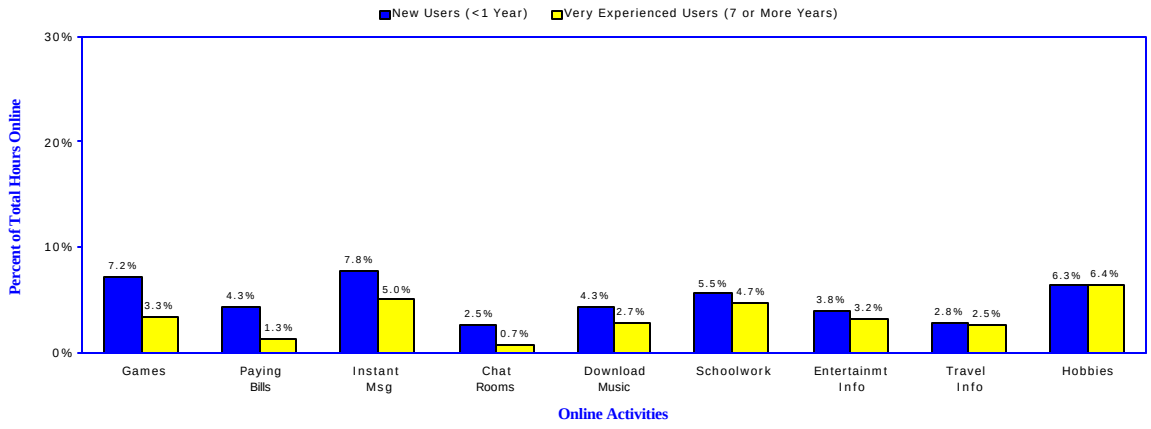
In all four surveys conducted by the Digital Future Project, some of the most revealing findings compare the online activities of new users (less than one year online) with the activities of very experienced users (seven or more years in the current study).

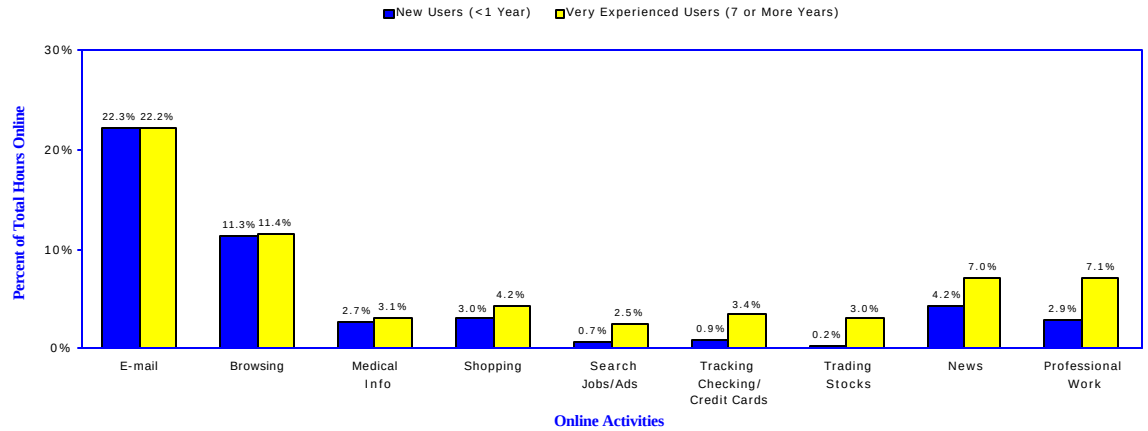
In Year Four, very experienced Internet users spent by far the largest percentage of their time online dealing with e-mail, followed by general Web browsing, work at home for their jobs, reading news, seeking information on hobbies, instant messaging, and doing school-related work – at levels that have remained relatively constant during all four years of the survey.

New users also spent the largest percentage of their time online with e-mail and Web browsing, followed by instant messaging, playing games, school-related work, downloading music, paying bills, and reading news.

What are the largest gaps between new users and very experienced users? The very experienced users go online at higher levels for professional work, tracking credit card transactions, and stock portfolio management; while new users have higher levels playing games online, instant messaging, paying bills, and participating in chat rooms.

Internet Use: Activities Online



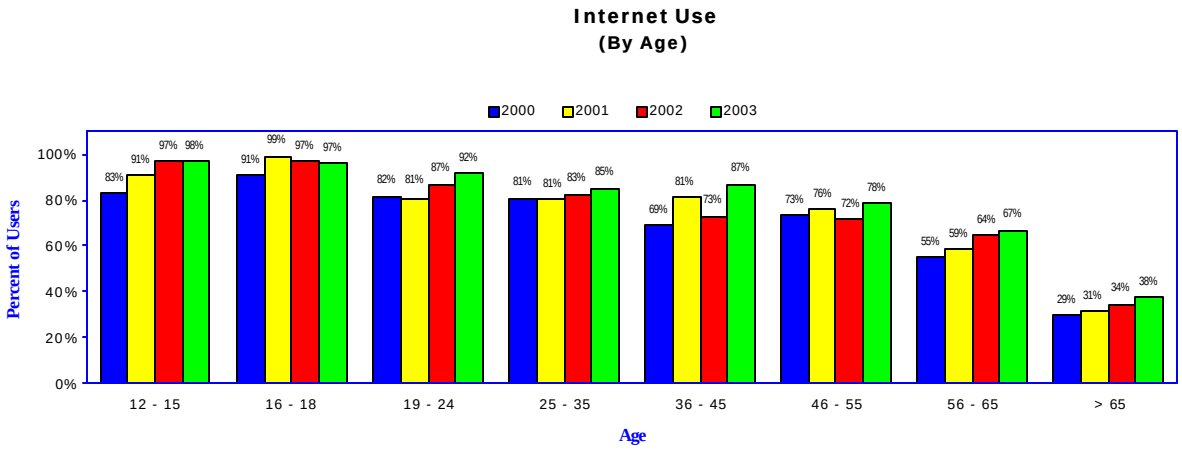


INTERNET USERS: ACROSS ALL AGE RANGES

Each of the four studies by the Digital Future Project shows that Internet access spans every age range.

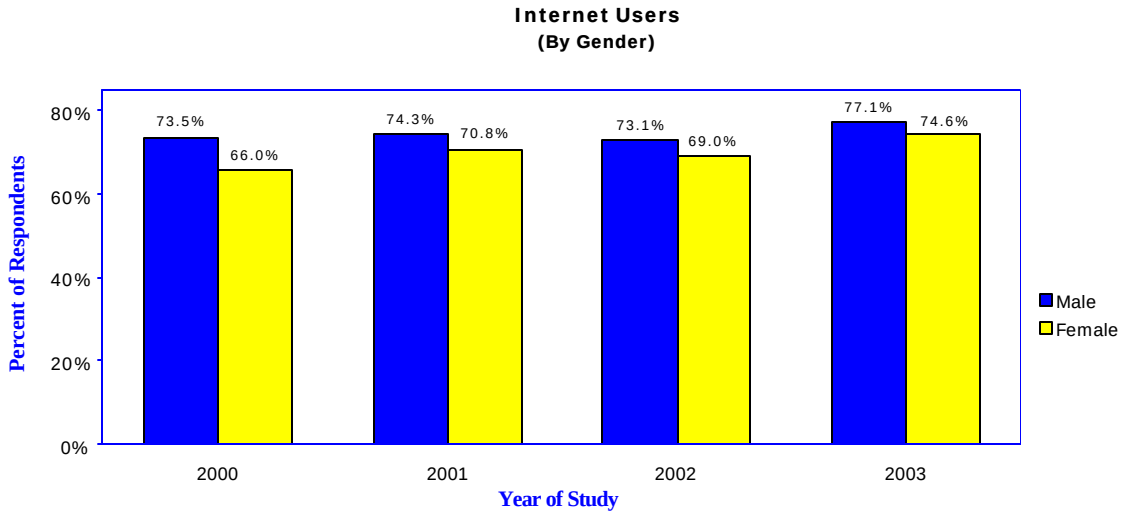
Not surprisingly, the highest levels of Internet use are for those age 24 and under, with use among those age 18 and under approaching 100 percent.

Additionally, at least three-quarters of respondents age 55 and under are Internet users. And, Internet use among the older respondents continues to grow steadily; two-thirds of users 56-65 go online, and more than one-third (38 percent) of those over 65 use the Internet – up from 29 percent when the Digital Future Project began in 2000.



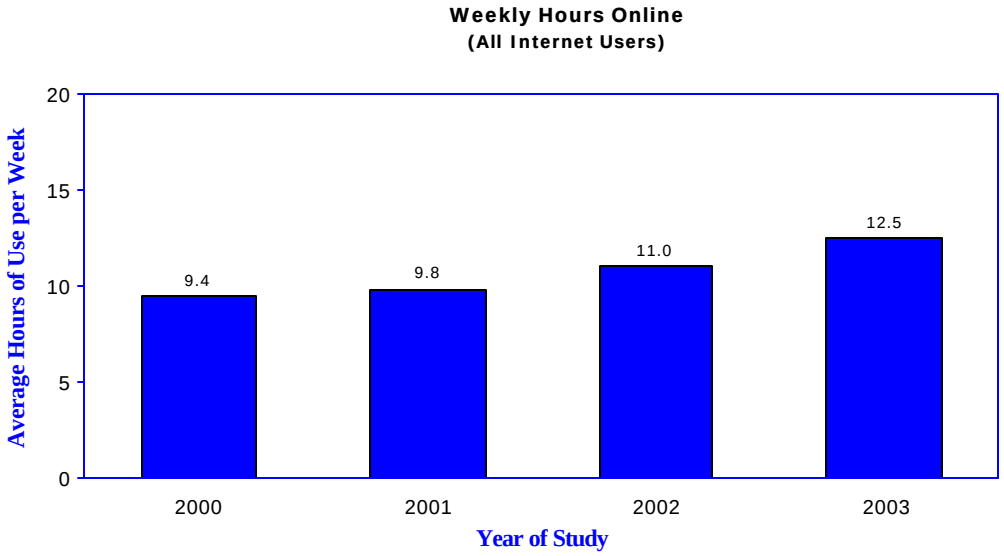
MEN AND WOMEN ONLINE

In each of the four studies, men and women in almost equal numbers use the Internet, with a marginally higher percentage of men going online.



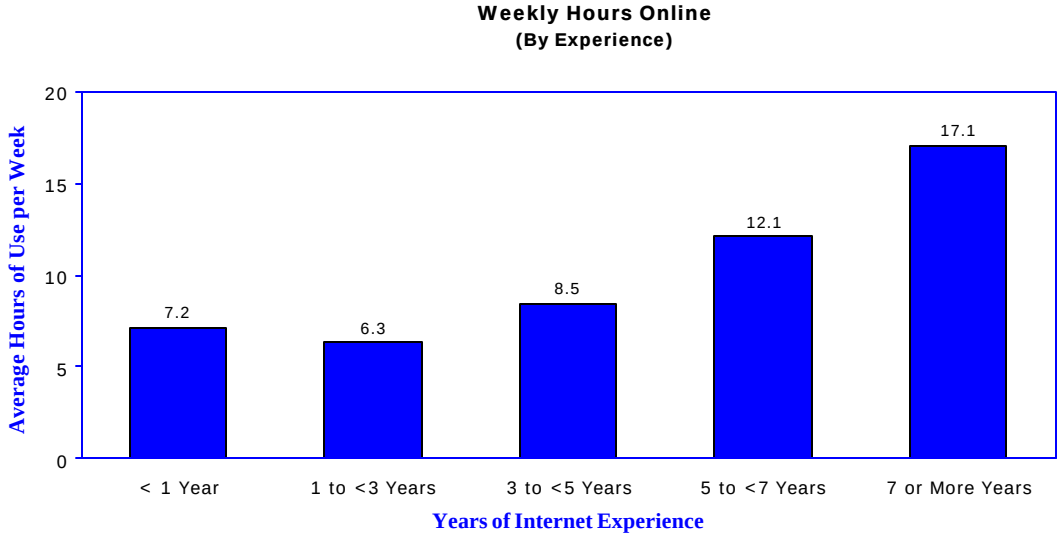
How Long Are You Online Each Week?

The average number of hours online per week has grown steadily since the Digital Future Project began in 2000. Users in Year Four of the study report an average of 12.5 hours online per week, up from 9.4 when the study began in 2000.



These studies continue to show that the more years of experience users have with the Internet, the more time they spend online. With each additional year of Internet experience, users' time online grows; very experienced users (seven or more years online) are online more than twice as long per week as new users (less than one year of experience).

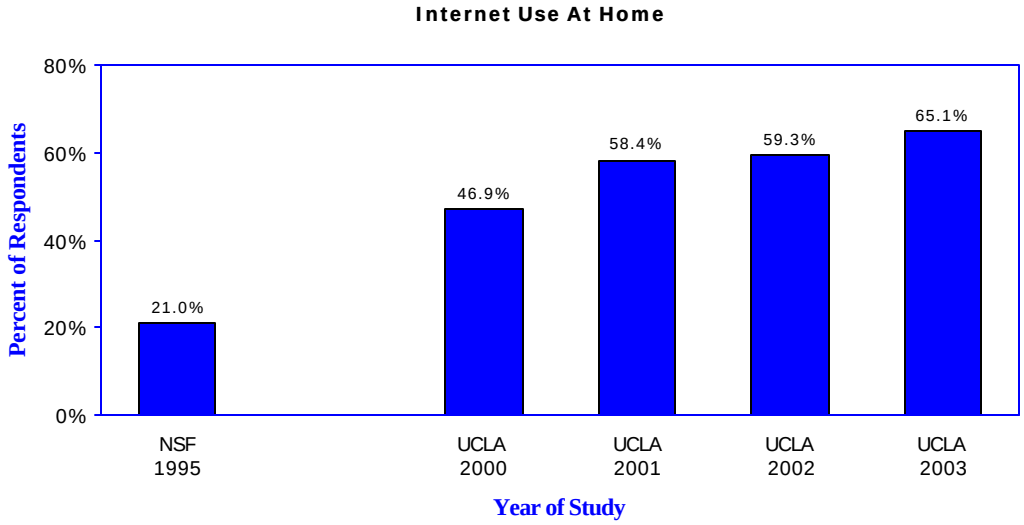
Yet, even the newest users devote substantial time to going online: currently, new users go online 7.2 hours per week, up from 6.1 hours in 2000.



USING THE INTERNET AT HOME

The use of the Internet at home continues to increase.

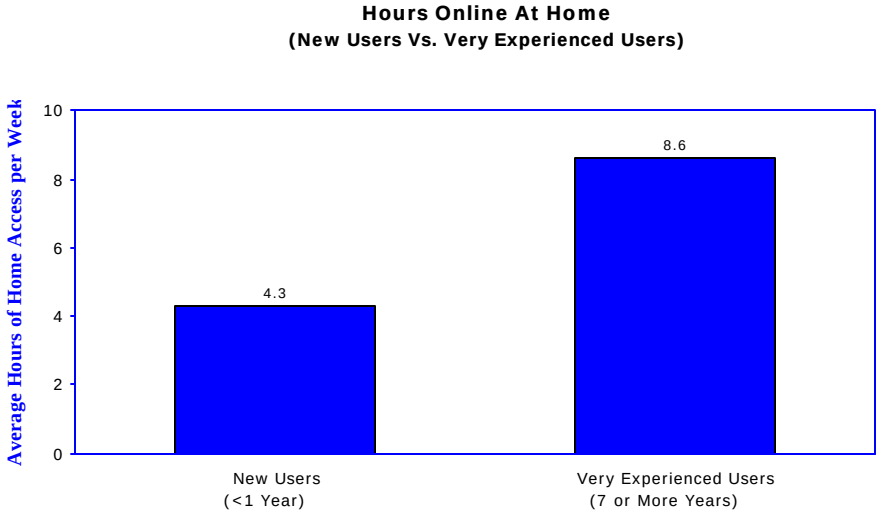
In 1995, a report by the National Science Foundation showed that only about one-fifth of users had access to the Internet at home. Five years later, the first study by the Digital Future Project found that home access had increased to 46.9 percent of users. In Year Four, home access has increased to nearly two-thirds of American households (65.1 percent).



THE INTERNET AT HOME: NEW USERS VS. VERY EXPERIENCED USERS

The number of hours online at home increases dramatically when comparing new users to very experienced users.

Very experienced users are online twice as many hours per week as new users (less than one year online).

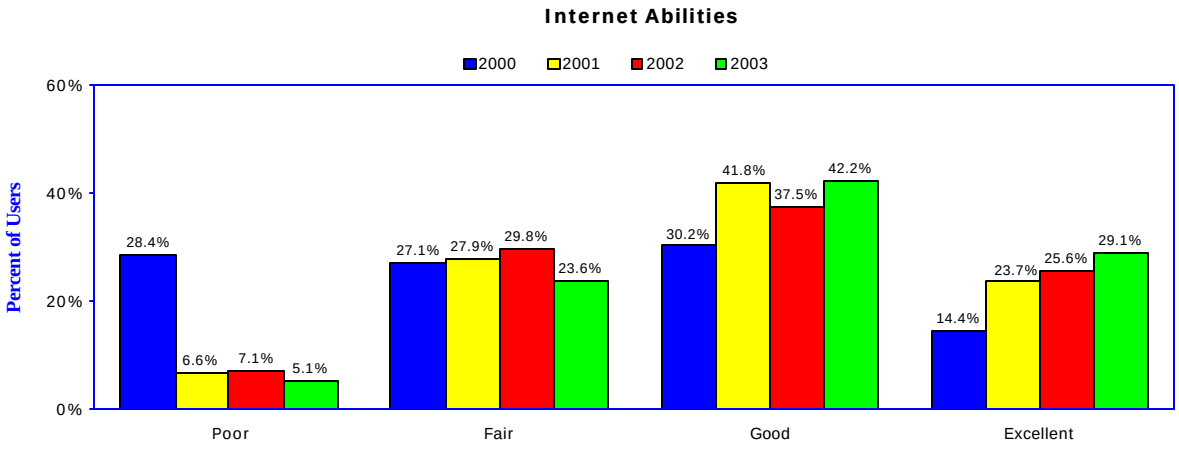


How Do You Rate Your Ability To Use The Internet?

Internet users' confidence in their online abilities is growing steadily.

In 2000, only 14.4 percent of Internet users rated their ability to use the Internet as excellent. In Year Four, more than twice that original number (29.1 percent) rate their online ability as excellent.

Overall, most users have confidence in their Internet abilities; in the current study, more than 70 percent of users say their skills are good or excellent, compared to 44.6 percent in 2000.

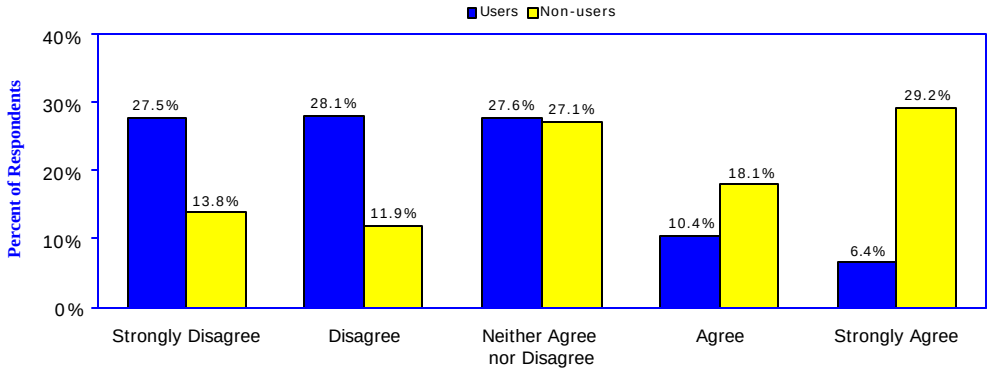


IS MY KNOWLEDGE OF TECHNOLOGY OBSOLETE?

While large percentages of Internet users are confident in their online abilities, substantial numbers of non-users are afraid that their knowledge of new technology is obsolete.

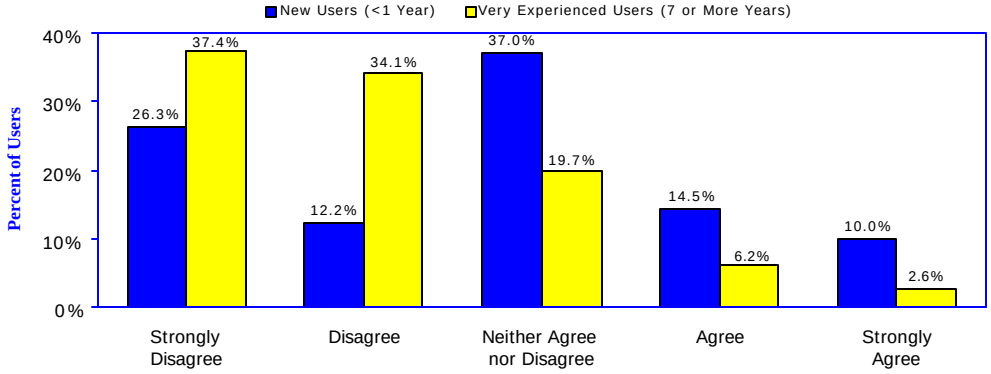
Almost half of non-users (47.3 percent) agree or strongly agree that their knowledge of new technology may be obsolete.

Overall, I'm Afraid That My Knowledge Is Obsolete When It Comes To Today's New Technology (Internet Users Vs. Non-Users)



Much smaller but still notable percentages of new users (24.5 percent) and very experienced users (8.8 percent) say their knowledge of new technology may be obsolete.

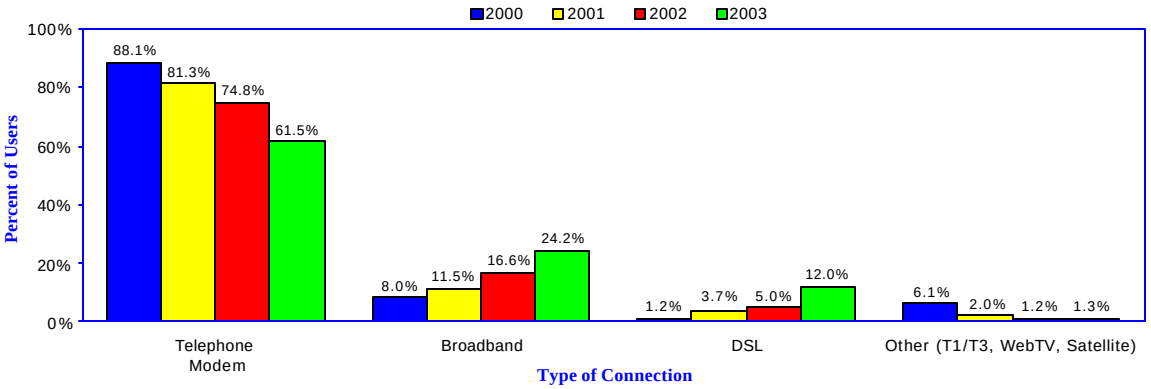
Overall, I'm Afraid That My Knowledge Is Obsolete When It Comes To Today's New Technology (New Users Vs. Very Experienced Users)



How Do You Connect To The Internet At Home?

While most households still connect to an online service with a telephone modem, the number who connect via modem continues to decline while access by broadband (either cable modem or DSL) has increased 300 percent.

Internet Access
(By Type of Connection)

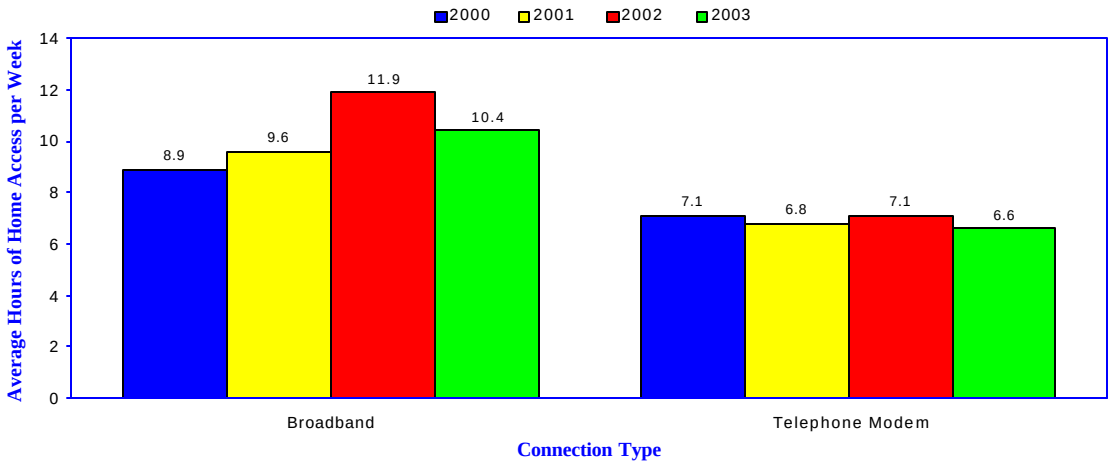


Broadband Vs. Modem: The Gap Continues In Hourly Use At Home

Broadband users at home (either cable modem or DSL) spend more time online than users who connect to the Internet by modem.

The number of hours online at home for modem users has remained about the same for all four years of the Digital Future Project. Even though online hours from home for broadband users dipped slightly in the current study after increasing for three successive years, the gap between the number of hours online from home per week by modem users and broadband users continues over all four years of the study (a 1.8-hour gap in the first year, followed by 2.8 hours, 4.8 hours, and 3.8 hours).

Internet Use At Home: Hours Per Week
(Broadband Access Vs. Modem Access)

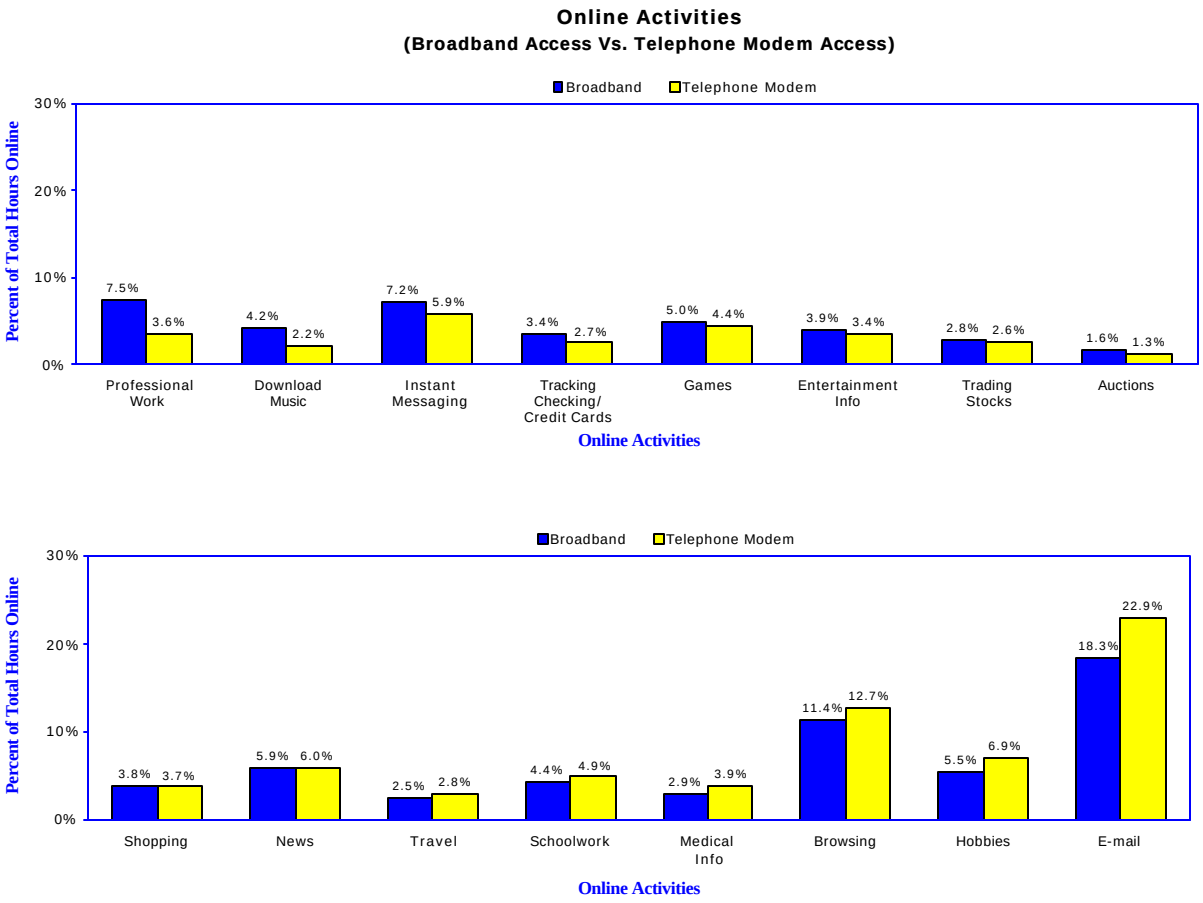


BROADBAND VS. MODEM: HOW DO THEY AFFECT ONLINE USE?

How does broadband use affect access to online activities?

Compared to modem users, broadband users spend more hours online working on their jobs at home, instant messaging, playing games, seeking entertainment information, using online auctions, and downloading music.

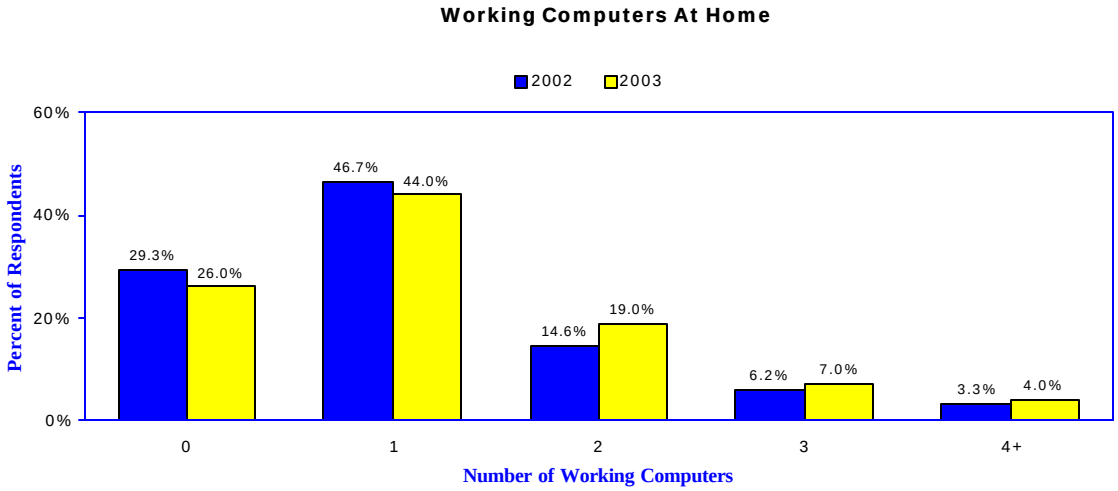
Compared to broadband users, modem users spend more hours online reading e-mail, seeking information on hobbies, Web browsing, schoolwork, and looking for medical information.



How Many Working Computers At Home?

The number of American homes with more than one working computer is increasing.

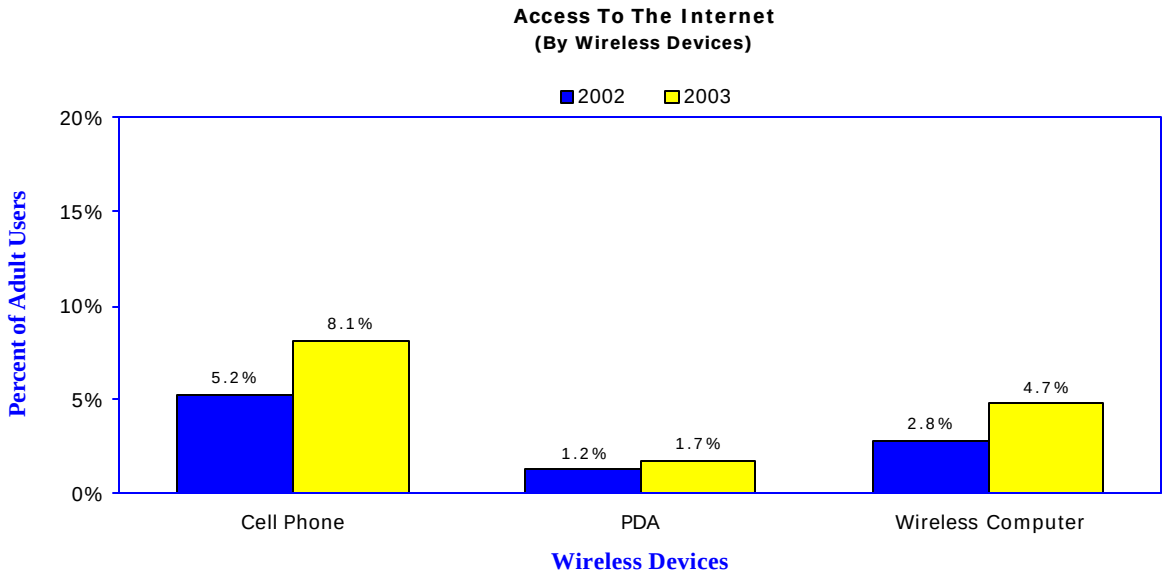
The number of homes with only one computer dropped slightly, while the number of households with two or more computers increased to 30 percent of households.



Internet Access And Wireless Devices

Access to the Internet through wireless devices continues to grow.

In Year Four, 14.5 percent of respondents say they access the Internet through a wireless device, including cell phones, PDAs, and wireless computer connections – up from 9.2 percent.

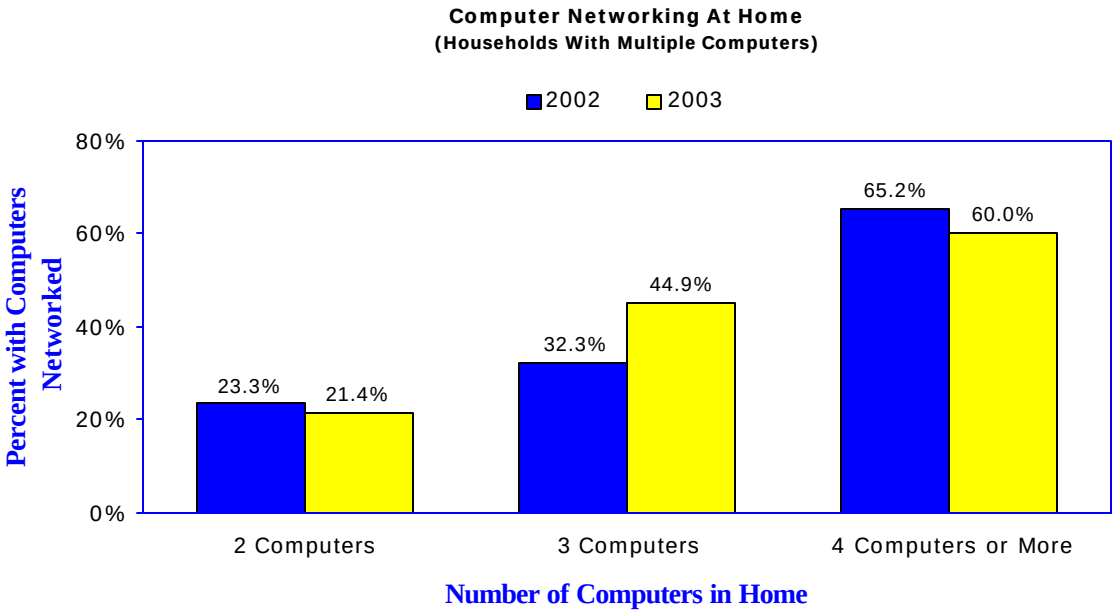


ARE YOUR COMPUTERS AT HOME NETWORKED TO EACH OTHER?

Home networking of computers is increasing.

While the percentage of homes with two computers or four or more computers networked together has declined slightly, homes with three computers networked together has increased substantially, to almost 45 percent of those households.

Even with the slight decline in networking within homes with four or more computers, 60 percent of those households have home networks.



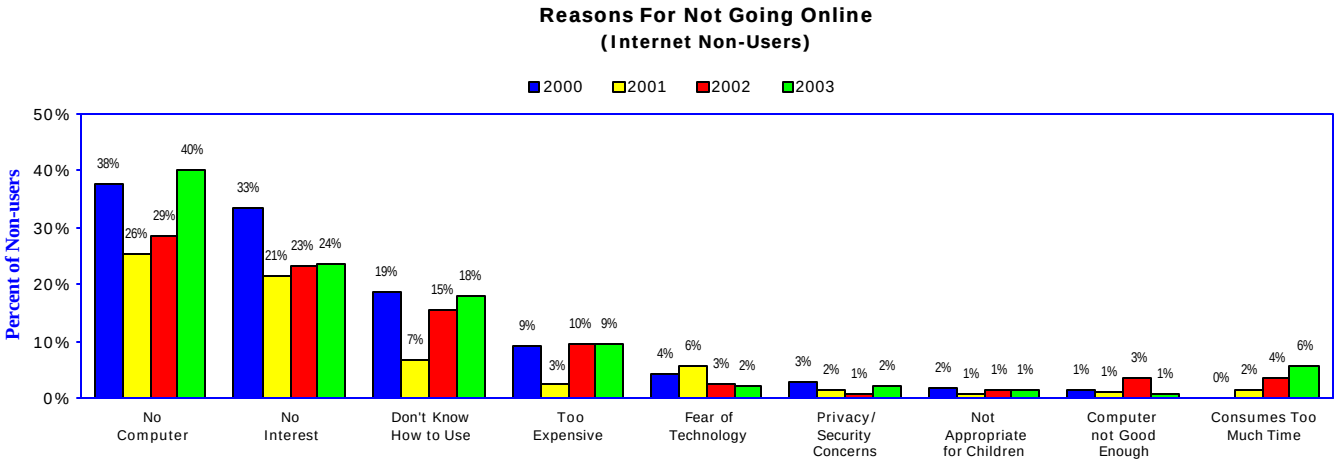
NON-USERS: WHY NOT ONLINE?

The 24.1 percent of Americans who do not use the Internet express a range of reasons for not being online. In Year Four of the Digital Future Project, the single most-cited reason by far is the lack of a computer; more than 40 percent of non-users say they do not have a computer or their current computer is not good enough for Internet use.

Lack of interest in the Internet remains the second most cited reason, followed by lack of knowledge of the Internet, and concerns about the expense of going online.

Less-frequently cited responses have remained relatively constant from year to year, including fear of technology, concerns about privacy and security, and worries about appropriateness of the Internet for children.

A notable – and growing – number of non-users say they don't go online because the Internet "consumes too much time."



ELECTRONIC DROPOUTS: WHY DO USERS STOP GOING ONLINE?

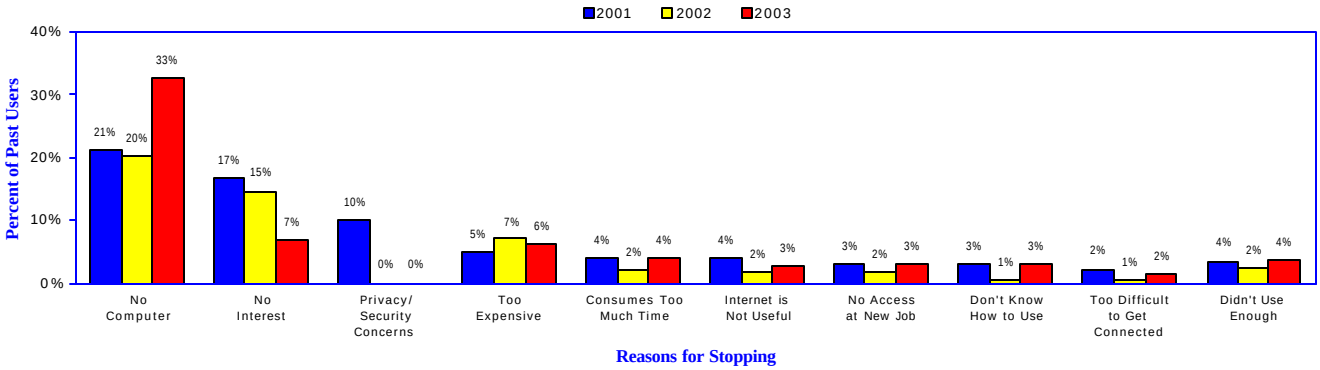
Internet non-users who were once users – the "electronic dropouts" – continue to report a wide variety of reasons for no longer going online.

In Year Four, a much higher percentage of electronic dropouts than in previous years reports their reason for not being online is "no computer available" – the same response as given by those who have never been online.

Other major reasons for dropping out: "no interest," "too expensive," and "it consumes too much time."

Notably, in neither of the last two years of the Digital Future Project did any electronic dropouts cite privacy or security concerns as their reason for no longer using the Internet.

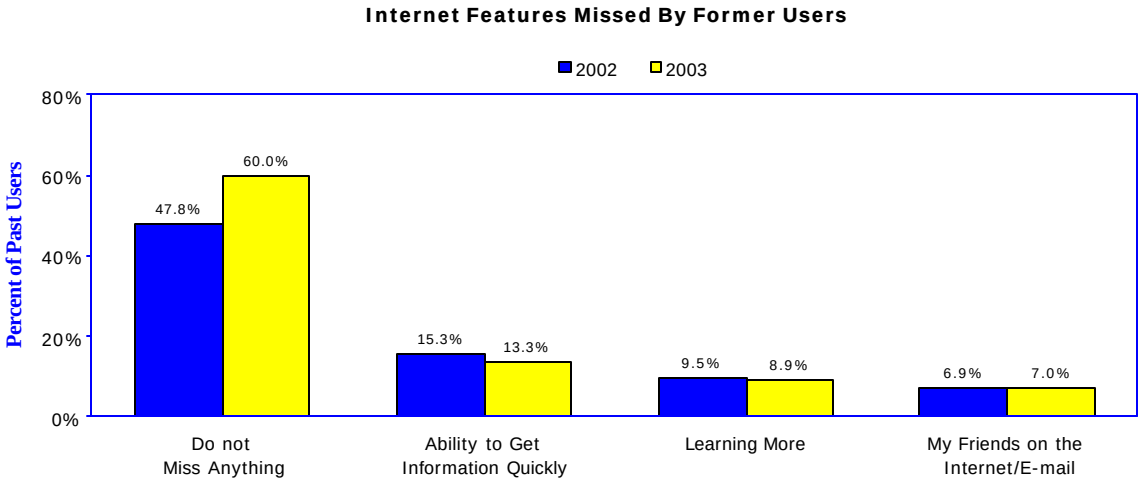
Electronic Dropouts: Reasons Why Former Internet Users No Longer Go Online



WHAT DO YOU MISS BY NOT USING THE INTERNET?

A growing number of electronic dropouts – now 60 percent – say they miss nothing about the Internet.

The percentage of electronic dropouts that miss other principal features of the Internet remains about the same in Year Four.



WILL ELECTRONIC DROPOUTS EVER GO BACK ONLINE?

Even though a majority of electronic dropouts say they miss nothing about the Internet, most of them say they will eventually go back online.

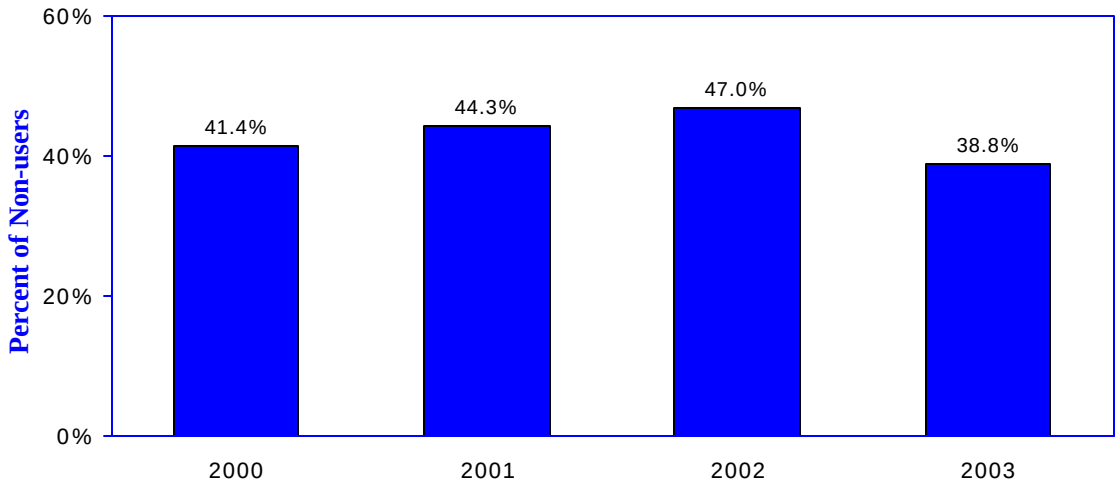
When asked "do you think you will ever go back to using the Internet," almost three-quarters of electronic dropouts (73.7 percent) say yes.

NON-USERS: WILL YOU LOG ON SOON?

Are Internet non-users in 2004 likely to become users? The number of non-users who say they are somewhat likely or very likely to go online within the next year has declined to its lowest level in the four years of the Digital Future Project.

Of the 24.1 percent of respondents who do not currently use the Internet, 38.8 percent say they are somewhat likely or very likely to go online next year – down from 47 percent in the previous study. This also means that more than 61 percent of non-users say they are not likely to go online in the next year.

How Likely Will You Be To Use The Internet Within The Next Year?
(Somewhat Likely Or Very Likely)



How Has Communication Technology Affected The World?

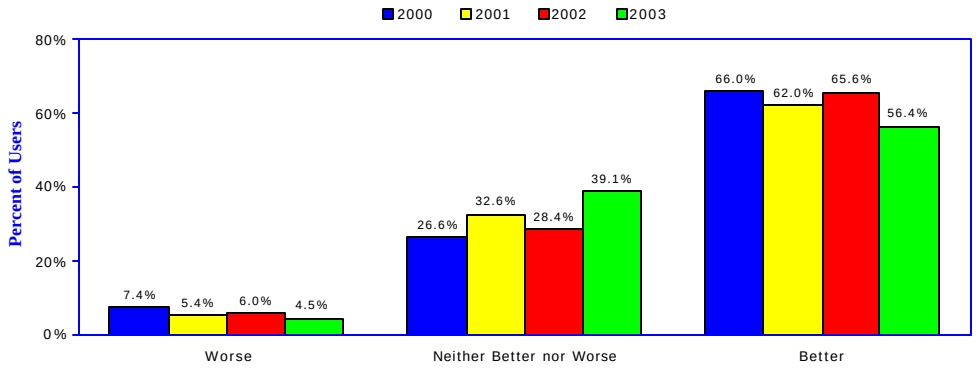
The positive views about the effect of communication technology on the world remained generally stable across the first three years of the Digital Future Project, but declined in the current study for both users and non-users.

In Year Four, 56.4 percent of users say that communication technology, including the Internet, makes the world a better place – the lowest level in the four years of the project.

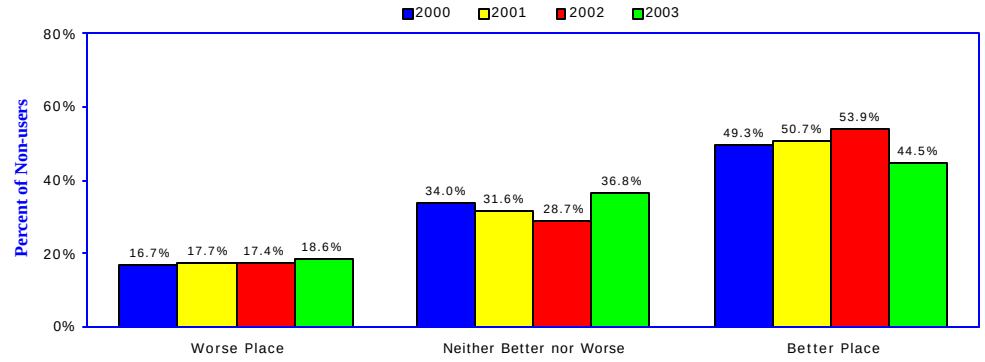
Among non-users, 44.5 percent say that communication technology makes the world a better place – a substantial drop from the peak in 2002, and, as with the views of Internet users, the lowest level for non-users in the Digital Future Project to date.

Almost all of the change in the direction has been the result of a shift toward the view that communication technology makes the world neither better nor worse. The views of users and non-users alike who think communication technology makes the world a worse place has remained generally consistent in all four years of the project.

Has Communication Technology Made The World A Better Place
(Internet Users)



Has Communication Technology Made The World A Better Place
(Non-Users)



MEDIA USE AND TRUST

In Year Four of the Digital Future Project, did hours spent on the Internet continue to replace time spent using other media – especially television?

Are users' opinions changing about the importance of the Internet as a source of information?

How is broadband access affecting Internet use?

Do Internet users trust what they find online? Which Web sites do they trust the most?

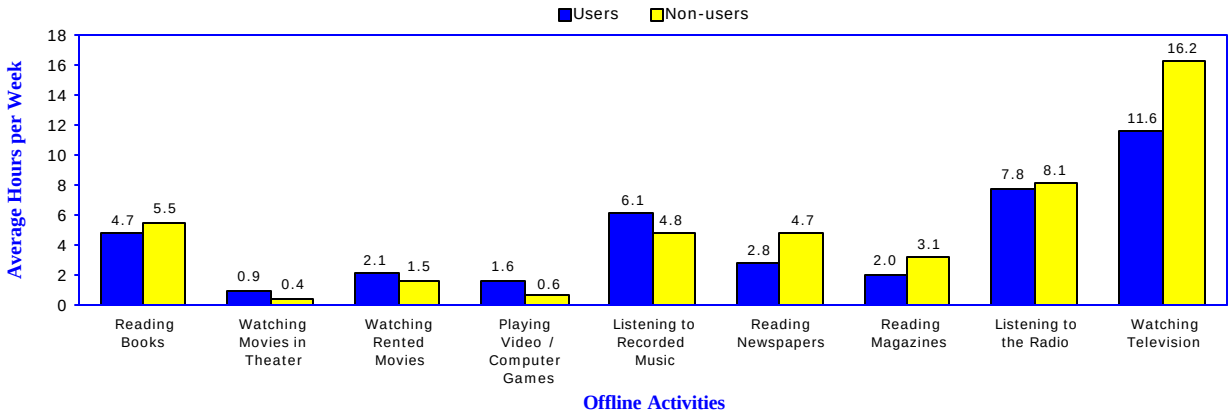
TELEVISION: VIEWING CONTINUES TO DECLINE AMONG INTERNET USERS

The biggest gap in media use between users and non-users continues to be the amount of time they watch television.

Overall, Internet users watched about the same amount of television in Year Four (11.6 hours), as in the previous year (11.2 hours).

In the current study, Internet users watched about 4.6 hours of television less per week than non-users – this compared to 4.8 hours the previous year.

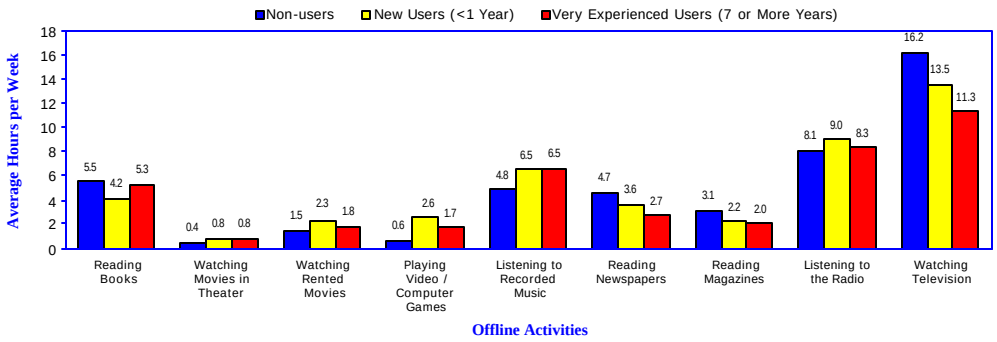
Leisure Activities: Weekly Hours



As in previous years, differences in the amount of television viewing become even more evident as Internet experience increases.

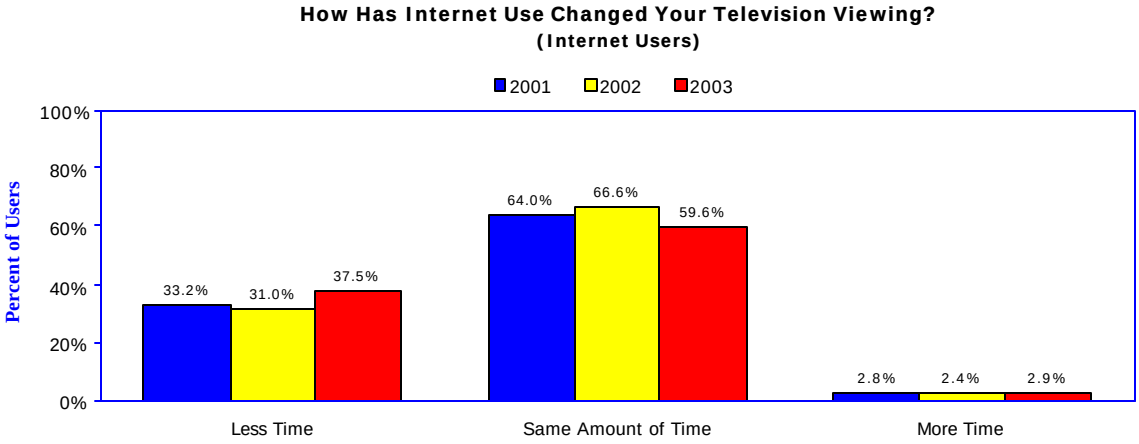
Comparing time spent with various types of media by Internet non-users, new Internet users, and very experienced users, most usage (except for watching television and reading newspapers) varies by only about an hour or less per week. When comparing non-users to very experienced users, television viewing drops 4.9 hours per week.

Leisure Activities: Weekly Hours
(By Internet Experience)

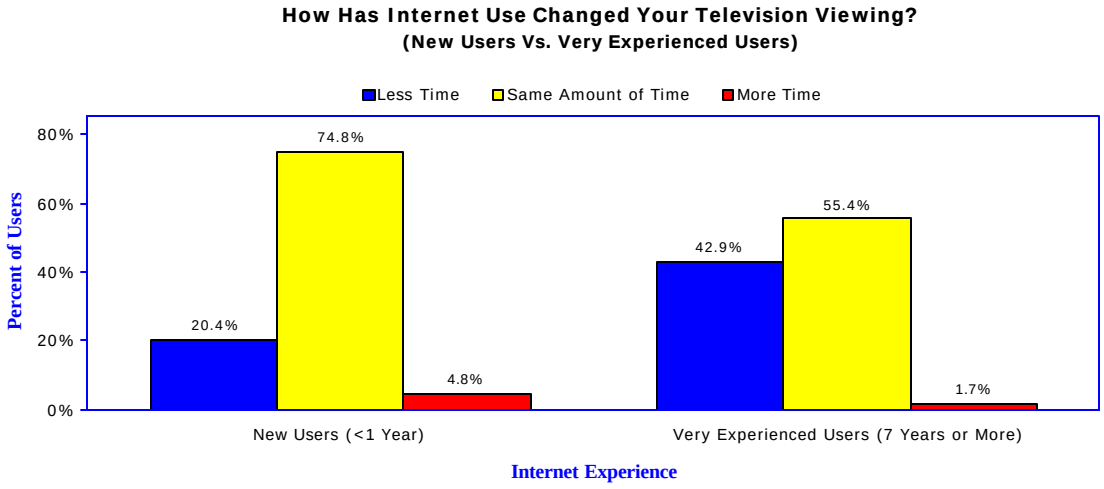


VIEWS ABOUT THE EFFECT OF THE INTERNET ON TELEVISION VIEWING

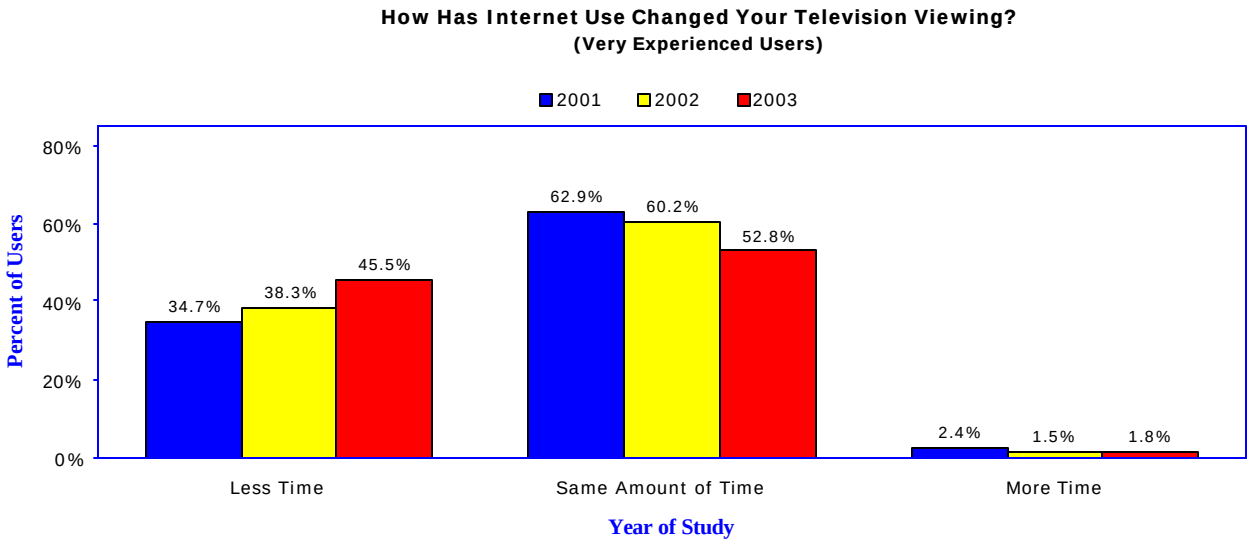
Internet users continue to "buy" their time to go online from hours previously spent viewing television.



In the current study, more than twice as many of the very experienced users compared to new users say that they spend less time watching television since using the Internet.



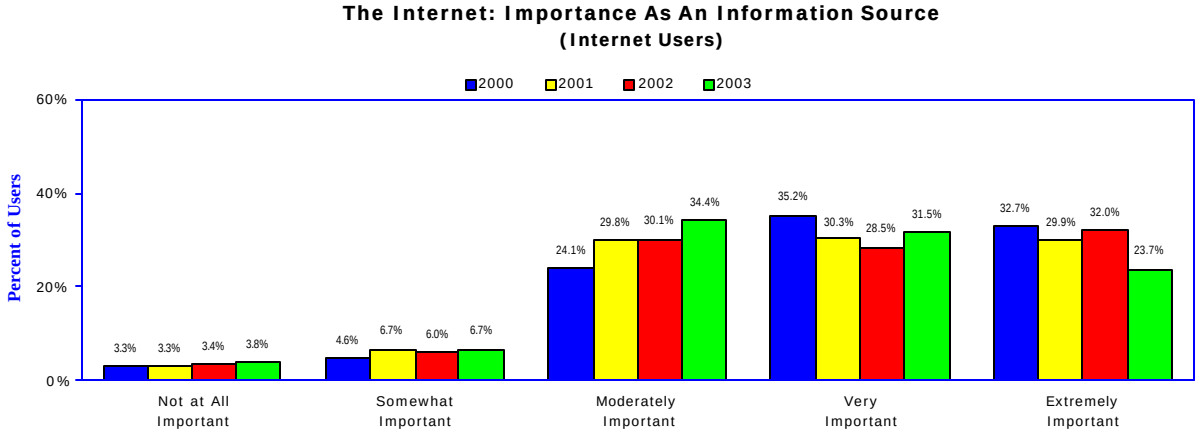
Very experienced users with home access in increasing numbers over three years of the Digital Future Project say that they are watching less television since they started to use the Internet.



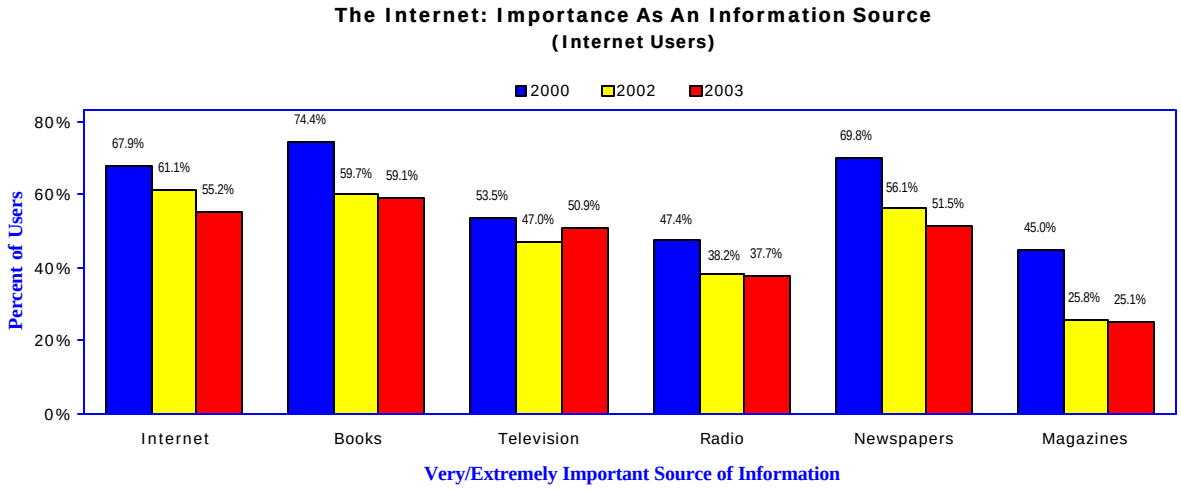
THE INTERNET: AN IMPORTANT SOURCE OF INFORMATION?

In the 10 years since online technology became generally available to the public as a communication tool, the Internet has become one of the most important sources of information for the vast majority of users. However, the importance of the Internet as a source of information appears to be declining – along with the importance of all other forms of media as well.

Among all users in Year Four of the Digital Future Project, 55.2 percent consider the Internet to be a very important or extremely important source of information for them. This number has been generally declining since the first year of the study.

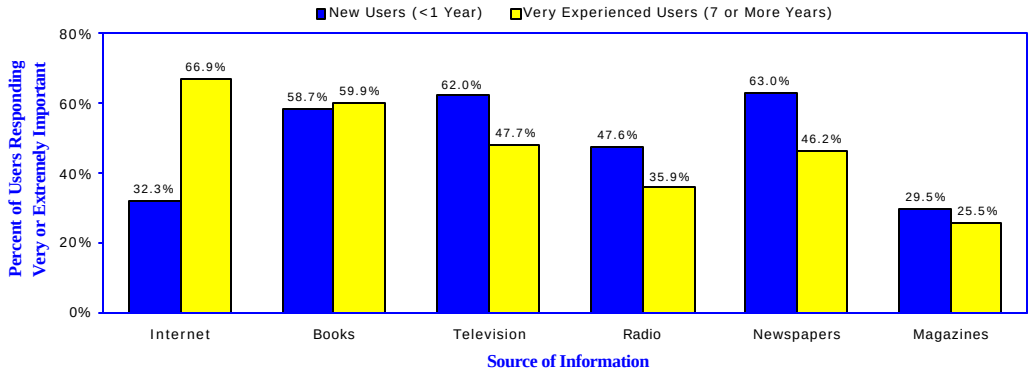


At the same time, fewer users rank all forms of media as very important or extremely important sources of information for them. Television increased slightly in importance in the current study, but all other information sources declined to their lowest level of importance since the beginning of the Digital Future Project.



However, among very experienced users in Year Four, the Internet outranks all other media as a very important or extremely important source of information.

Sources Of Information: Very Important Or Extremely Important

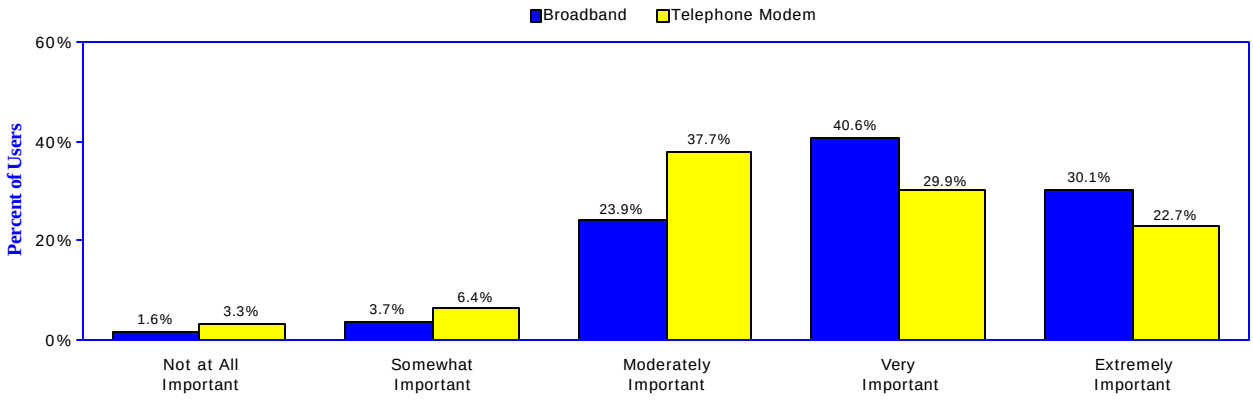


THE INTERNET'S IMPORTANCE AS AN INFORMATION SOURCE: BROADBAND USERS VS. TELEPHONE MODEM USERS

The Internet's importance as an information source is higher among those who access the Internet via broadband than those with telephone modem.

Of broadband users, 70.7 percent consider the Internet a very important or extremely important source of information for them, compared to 52.6 percent of those who access the Internet by telephone modem.

The Internet – Importance As An Information Source
(Broadband Vs. Telephone Modem)



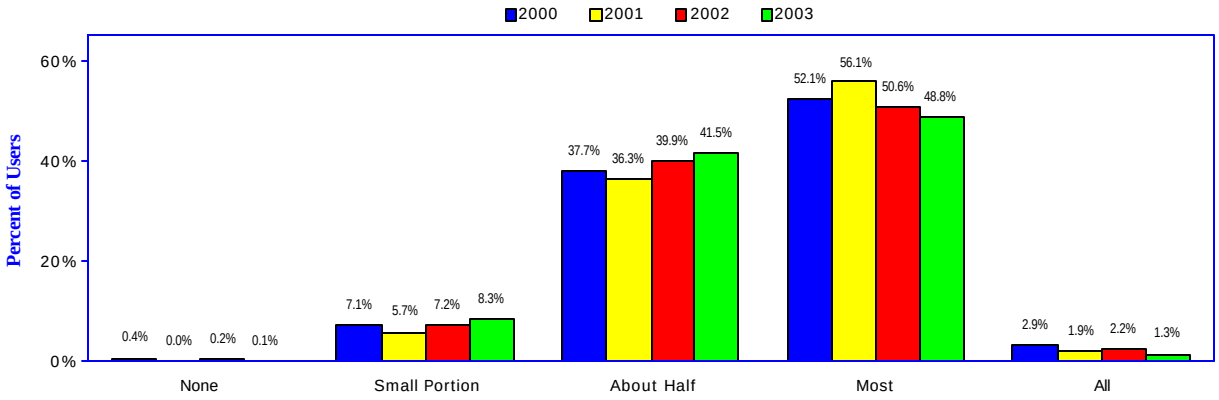
INFORMATION ON THE INTERNET: IS IT RELIABLE AND ACCURATE?

The number of users who believe that information on the Internet is reliable and accurate has declined slightly during Year Four of the Digital Future Project.

In the current study, 50.1 percent of users believed that most or all of the information online is reliable and accurate – a decline from the three previous studies.

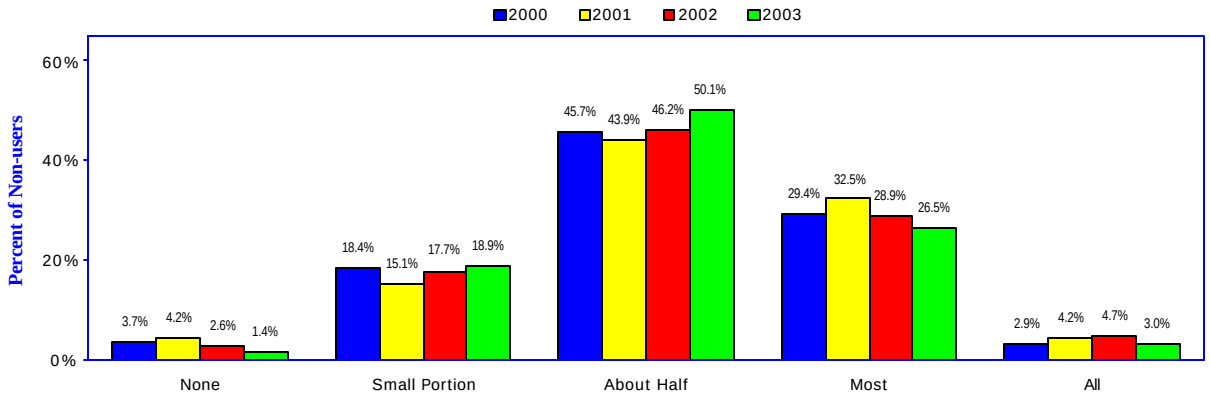
The number of users who believe that only about half of the information on the Internet is reliable and accurate is growing, and has now passed 40 percent for the first time in the four years of the Digital Future Project.

How Much Of The Information On The Internet Do You Think Is Reliable And Accurate?
(Internet Users)



Non-users continue to report much lower levels of belief in the reliability and accuracy of the information on the Internet; in the current study, only 29.5 percent of non-users believe that most or all of the information on the Internet is reliable and accurate.

How Much Of The Information On The Internet Do You Think Is Reliable And Accurate?
(Non-Users)



INFORMATION ON THE INTERNET: WHICH WEB SITES ARE RELIABLE AND WHICH ARE NOT?

Year Four of the Digital Future Project includes a new question about the reliability and accuracy of specific types of Web sites.

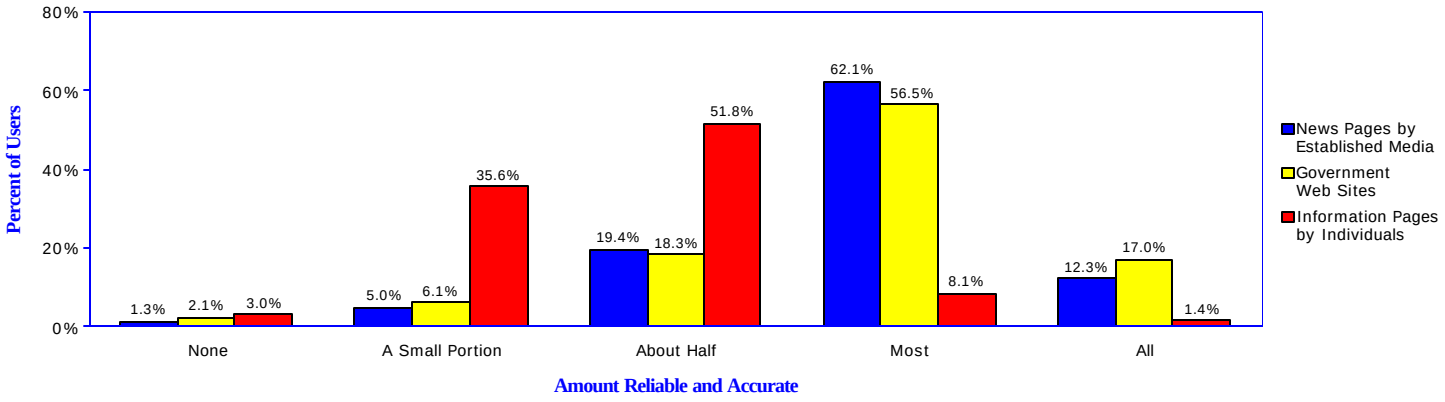
Web sites mounted by established media (such as nytimes.com) ranked highest in perceived accuracy and reliability; 74.4 of users say that most or all information on established media Web sites is reliable and accurate.

Government Web sites also fared well with users in the current study; 73.5 percent say that most or all of the information on government Web sites is reliable and accurate.

Information pages posted by individuals have the lowest credibility; only 9.5 percent of users say the information on Web sites posted by individuals is reliable and accurate.

Even though large percentages of users say that most or all of the information on Web sites posted by established media and the government is reliable and accurate, it is worth noting that significant numbers of users believe that only half or less of information on these sites is reliable and accurate; 25.7 percent of users say that about half or less of news sites posted by established media are reliable and accurate, while 26.5 percent of users judge that about half or less of government Web sites are reliable and accurate.

How Much Of The Information On Specific Types Of Internet Sites Do You Think Is Reliable And Accurate?
(Internet Users)



INTERNET RELIABILITY AND ACCURACY: OPINIONS BASED ON EXPERIENCE

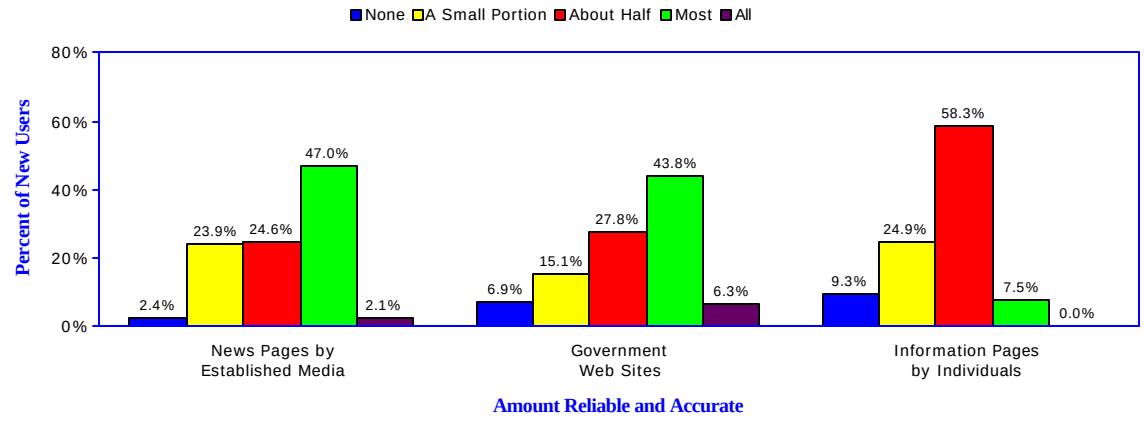
The Digital Future Project found significant differences between the views of new users and very experienced users about the reliability and accuracy of specific types of Web sites.

Of very experienced users, 83.5 percent say that most or all of the information on news pages posted by established media is reliable and accurate, compared to 49.1 percent of new users who provide the same response.

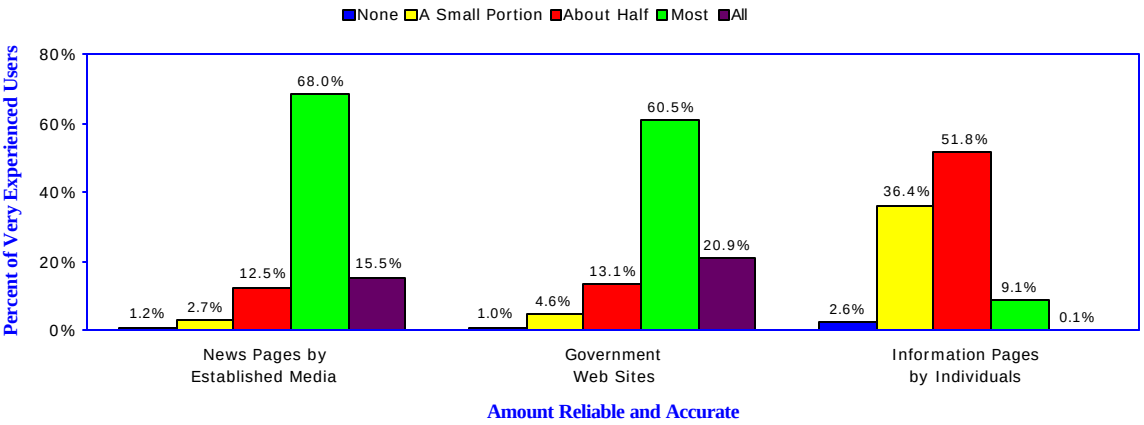
When asked about government Web sites, 81.4 percent of very experienced users, compared to 50.1 percent of new users, say that most or all of the information on those sites is reliable and accurate.

New users and very experienced users agree about the low credibility of information posted by individuals; only 9.2 percent of very experienced users and 7.5 percent of new users say that most or all of the information on pages posted by individuals is reliable and accurate.

How Much Of The Information On Specific Types Of Internet Sites Do You Think Is Reliable And Accurate?
(New Users)



How Much Of The Information On Specific Types Of Internet Sites Do You Think Is Reliable And Accurate?
(Very Experienced Users)

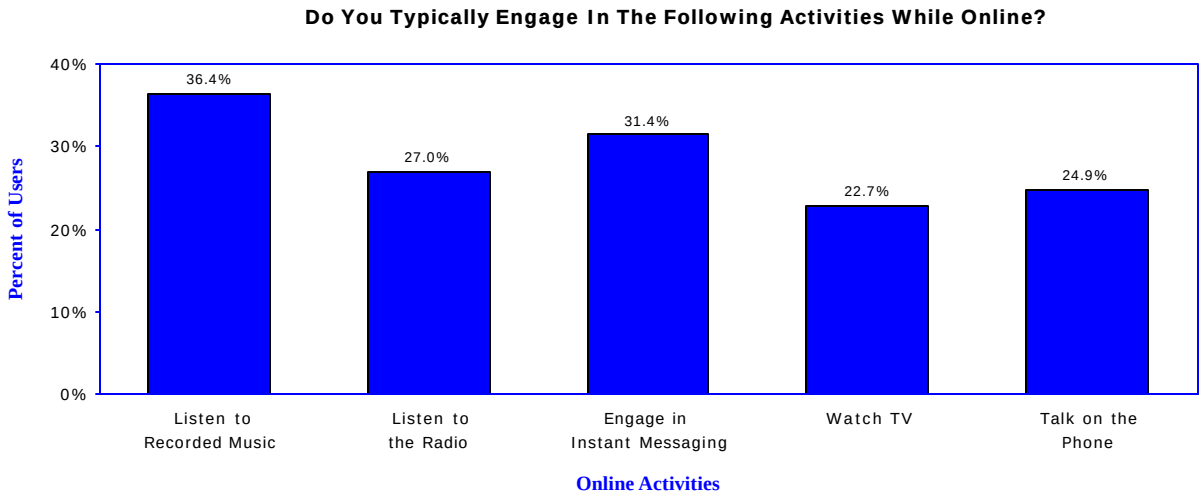


DO INTERNET USERS MULTITASK WHILE ONLINE?

Many Internet users engage in a variety of offline electronic activities while they are online.

The Digital Future Project found that nearly two-thirds of all users (65.4 percent) engage in other electronic activities while online – such as listening to recorded music or the radio, engaging in instant messaging, watching TV, or talking on the telephone.

Of the electronic multitaskers, the largest number (36.4 percent) listen to recorded music.



CONSUMER BEHAVIOR

In Year Four of the Digital Future Project, have users' attitudes about buying online changed? How does buying online affect traditional "brick-and-mortar" retail purchasing? Will online buying continue to increase?

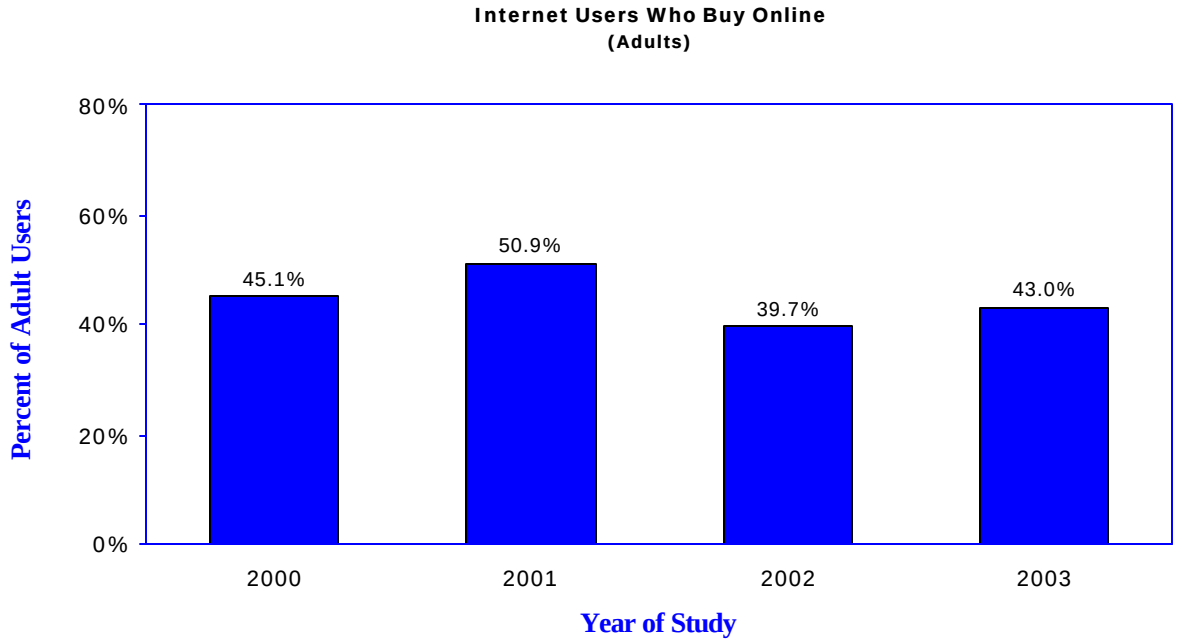
Are concerns easing about online privacy and credit card use? Would Internet users pay for online privacy?

How do these changes affect consumer behavior online?

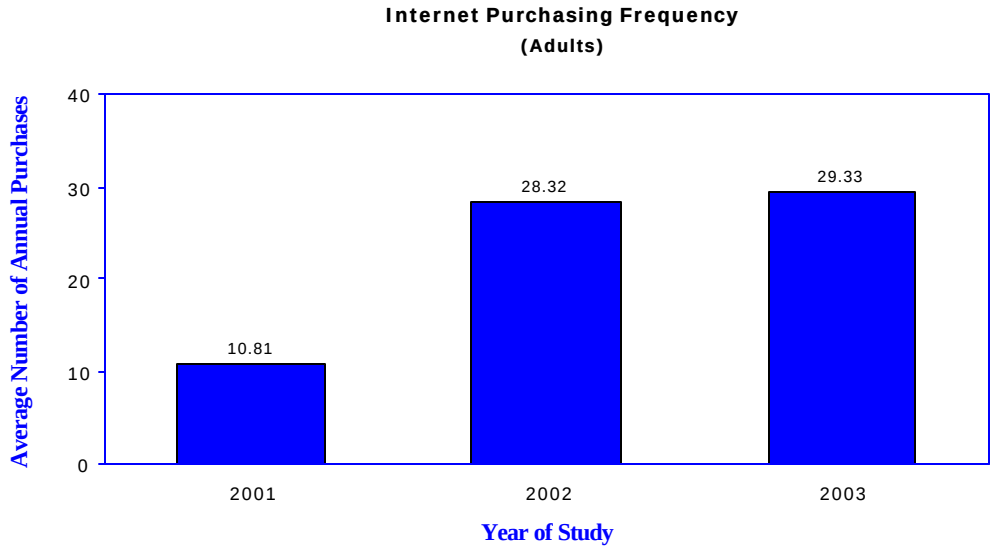
INTERNET PURCHASING: DO YOU BUY ONLINE? HOW MUCH? HOW OFTEN?

The Digital Future Project continues to track key findings about purchasing online in Year Four of the study:

- The percentage of adults who bought online in Year Four increased slightly over the previous year, after dipping in 2002.

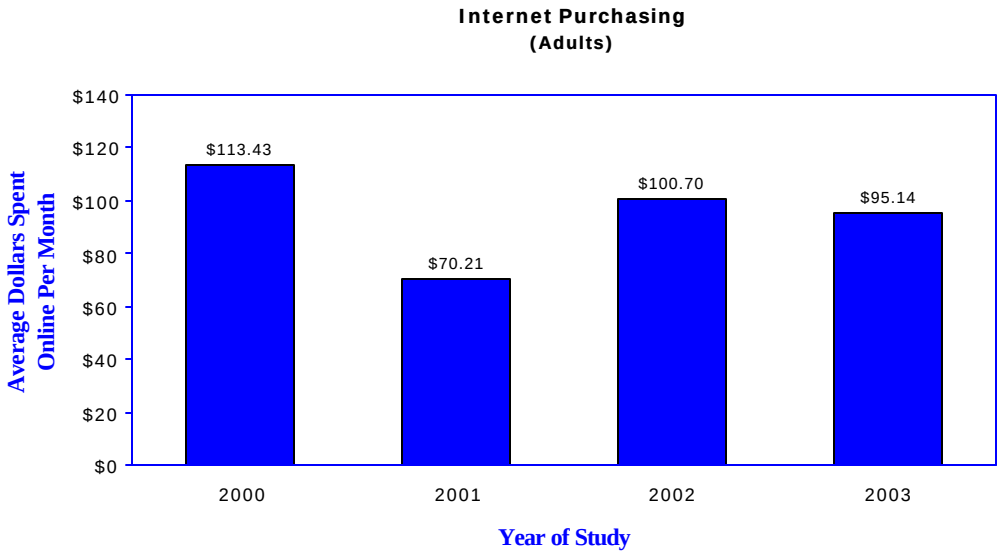


- The annual number of purchases continues to increase.



(This question not asked in 2000)

- The average dollars spent online by adult buyers dipped slightly in Year Four.



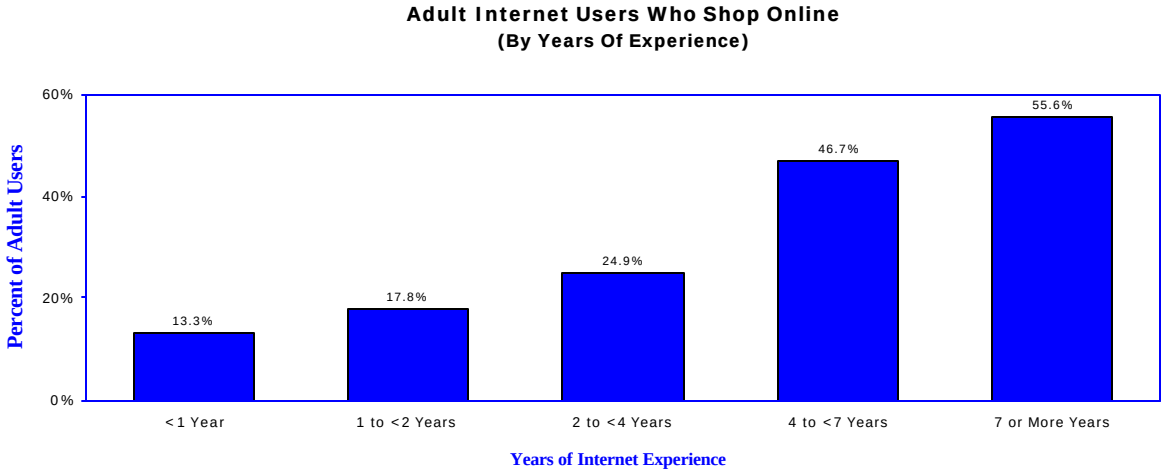
AS INTERNET EXPERIENCE INCREASES, BUYING ONLINE INCREASES

Internet users don't necessarily become Web shoppers as soon as they begin going online.

Much higher percentages of very experienced users compared to new users shop online.

The percentage of Internet users who buy online increases steadily as years of online experience increase.

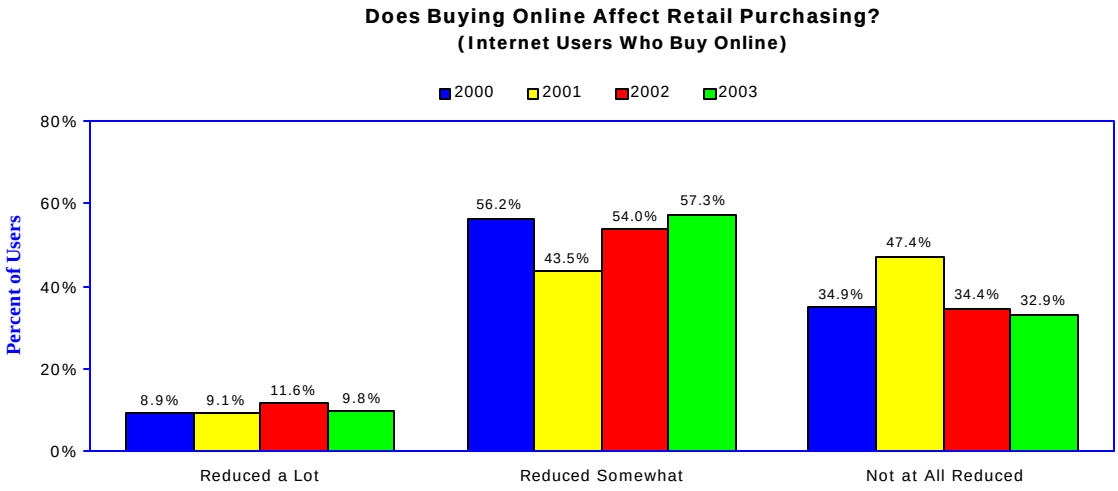
In Year Four of the Digital Future Project, more than half of very experienced adult Internet users (55.6 percent) shop online.



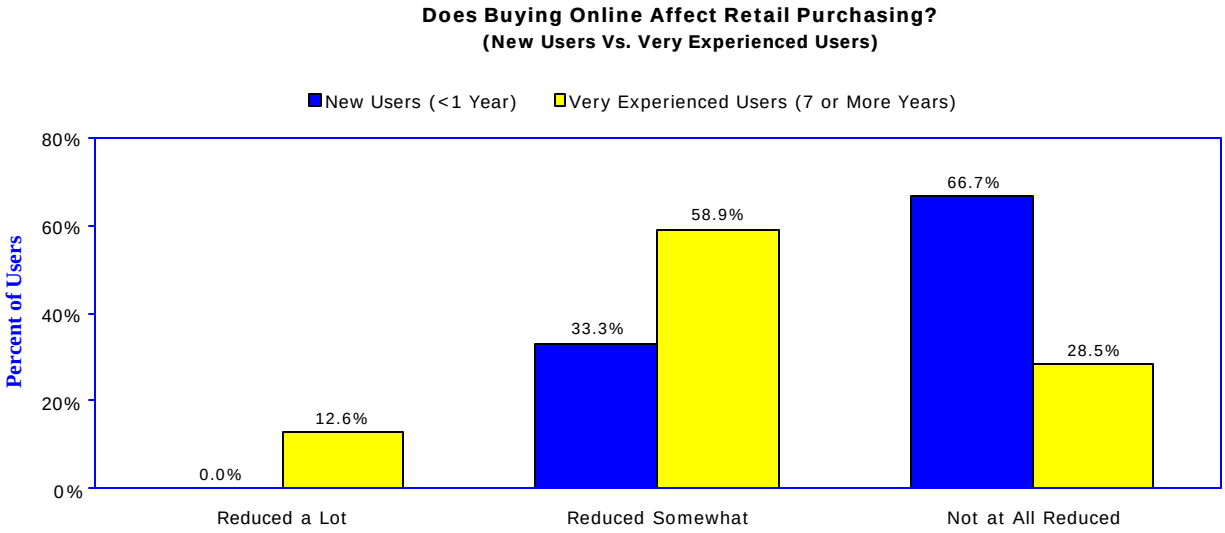
INTERNET PURCHASING: DOES IT AFFECT BUYING IN RETAIL STORES?

How does buying online affect purchasing in traditional "brick-and-mortar" stores?

In Year Four, Internet buyers in growing numbers report that buying online reduces some purchasing in retail stores. More than two-thirds of Internet users who buy online (67.1 percent) say their retail purchasing has been somewhat reduced or reduced a lot.



And, as Internet experience grows, buying online increasingly reduces purchasing in retail stores. In the current study, 71.5 percent of very experienced users who buy online say their retail purchasing has been somewhat reduced or reduced a lot – compared to one-third of new users.

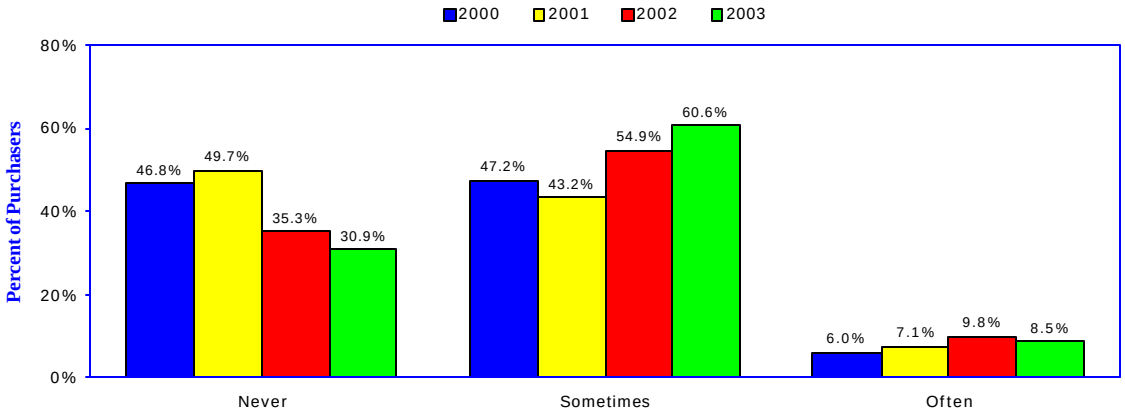


SHOP IN STORES, THEN BUY ONLINE; SHOP ONLINE, THEN BUY IN STORES

Internet purchasers use online sources and retail stores to both browse and purchase; the number of online purchasers who say they shop in local stores and later buy online increased in Year Four of the study.

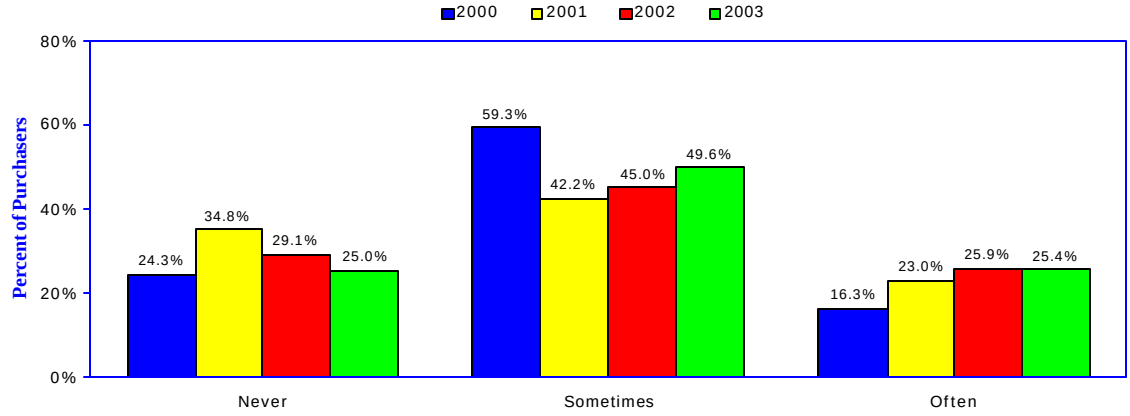
In the current study, 69.1 percent of Internet purchasers say they sometimes or often browse in traditional retail locations and then buy online – up from 64.7 percent in the previous study.

Internet Buyers Who Shop In Stores, Then Buy Online



Even higher percentages use the Internet as a merchandise browsing tool. In the current study, 75 percent of Internet purchasers say they shop online and then buy in retail stores.

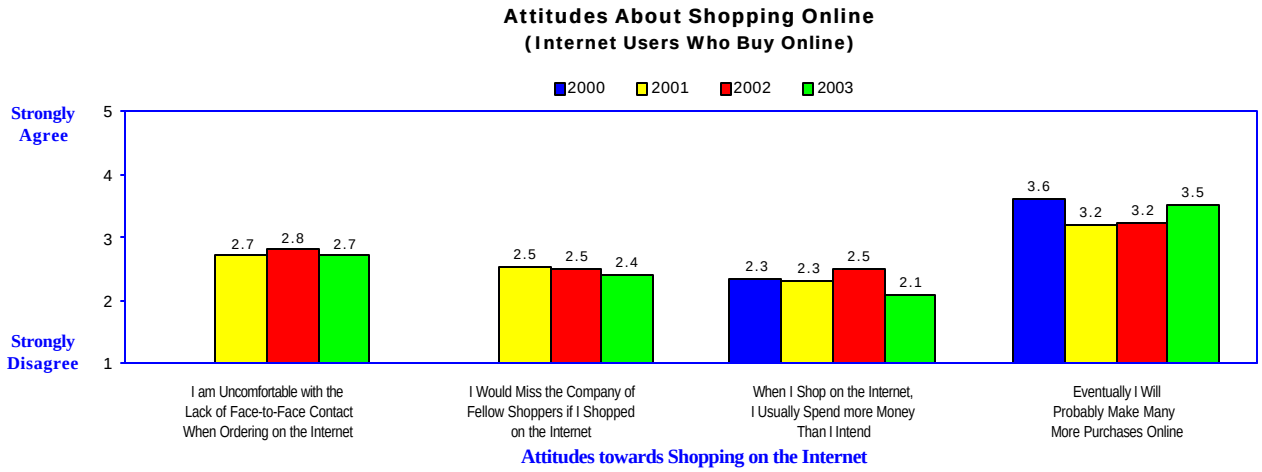
Internet Buyers Who Shop Online, Then Buy In Stores



ATTITUDES ABOUT BUYING ONLINE

When asked to respond to the comment, "I am uncomfortable with the lack of face-to-face contact when ordering on the Internet," users who buy online responded with an average of 2.7 on a scale of one (strongly disagree) to five (strongly agree) – about the same in three years of the study.

On the same scale, users averaged 2.4 when asked, "I would miss the company of fellow shoppers if I shopped on the Internet" – about the same response in the previous two years this question has been asked.



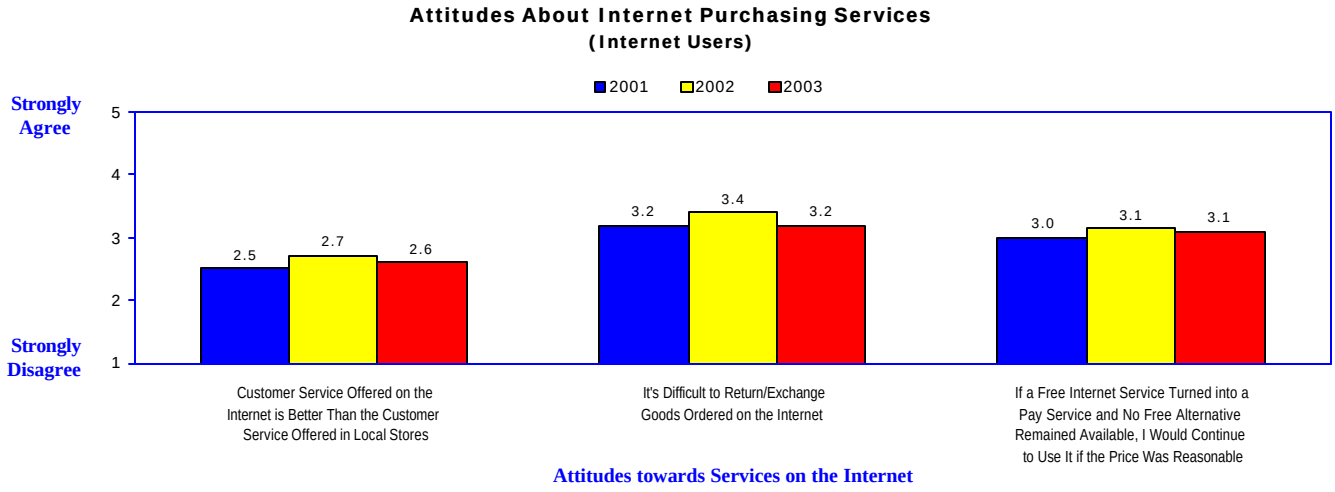
When asked, "When I shop on the Internet, I usually spend more money than I intend," users in the current study averaged 2.1 – down slightly, and now at the lowest level in the four years of the study.

Internet users agree at higher levels that they will eventually make many more purchases online.

ATTITUDES ABOUT INTERNET PURCHASING SERVICES

Internet users who buy online do not express high levels of either agreement or disagreement with statements about services associated with online buying (customer service, exchanging products, or free services becoming pay services).

These attitudes have remained generally consistent for the three years these questions have been asked in the Digital Future Project.



ARE YOU CONCERNED ABOUT YOUR PRIVACY WHEN BUYING ONLINE?

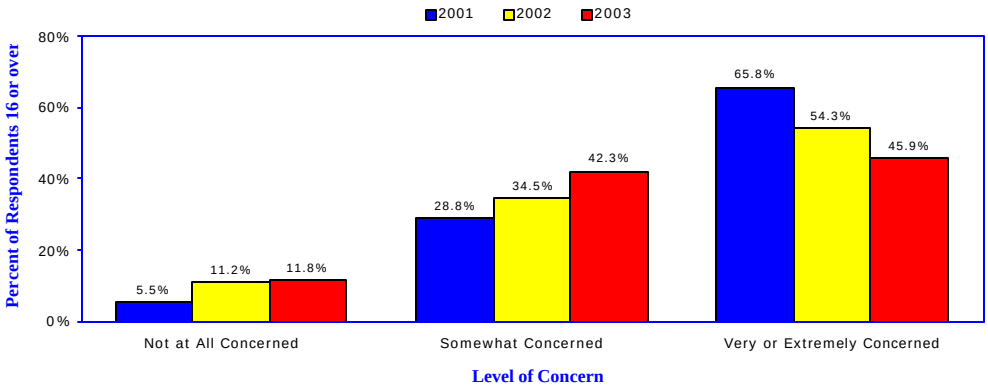
In one of several questions in the Digital Future Project that explore the issues of privacy and security online, most respondents continued to report some level of concern about the privacy of their personal information when or if they buy on the Internet. However, the intensity of that concern has declined steadily in the three years these questions have been asked in the study.

Overall, 88.2 percent of all respondents age 16 or over in the current study express some concern about the privacy of their personal information when or if they buy on the Internet – down only marginally from 88.8 percent the previous year and 94.6 percent in 2001.

However, the number of users who express the highest level of concern is declining. In Year Four, 45.9 percent of respondents age 16 or over say they are very concerned or extremely concerned about the privacy of their personal information when buying online – a decline from 54.3 percent the previous year, and down from nearly two-thirds of respondents (65.8 percent) the first year the question was asked.

Overall, the number of respondents who are not concerned grew marginally to 11.8 percent, more than double the number in 2001 (5.5 percent).

Concerns About Privacy Of Personal Information When Buying Online
(All Respondents, Age 16 Or Older)



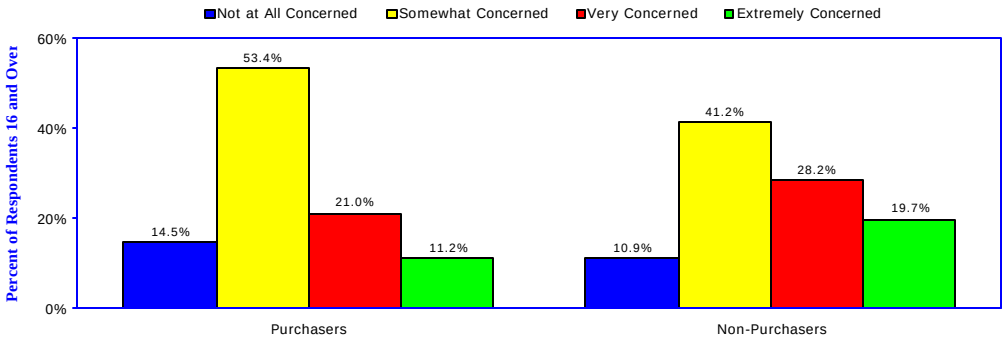
CONCERNS ABOUT PRIVACY: PURCHASERS VS. NON-PURCHASERS

Comparing Internet purchasers to non-purchasers shows much higher percentages of non-purchasers than purchasers who are concerned about the privacy of their personal information when or if they buy online.

Among purchasers, less than one-third (32.2 percent) are very concerned or extremely concerned, compared to almost 47.9 percent of non-purchasers.

Worth noting is the decline in concerns from year to year among non-purchasers about the privacy of their personal information when or if they buy online; in the previous year's study, 58.3 percent of non-purchasers said they were very concerned or extremely concerned.

Concerns About Privacy Of Personal Information When Buying Online
(Purchasers Vs. Non-Purchasers, Age 16 Or Older)



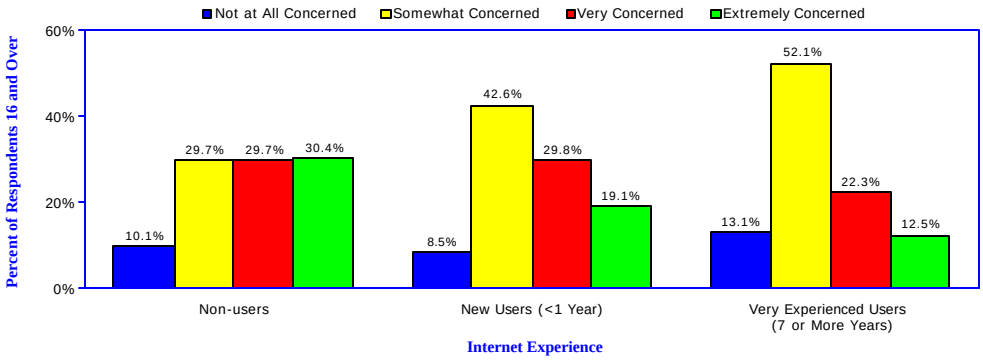
CONCERNS ABOUT PRIVACY: NON-USERS, NEW USERS, VERY EXPERIENCED USERS

Comparing Internet non-users, new users, and the most experienced users shows that concerns about privacy of their personal information when or if they buy online continue to decline as Internet use increases.

In Year Four, slightly more than one-third of very experienced users (34.8 percent) are very concerned or extremely concerned about privacy of personal information when or if they buy online – this compared to 48.9 percent of new users and 60.1 percent of non-users.

And, concerns among all three of these groups have declined since the previous year's study, when 46.6 percent of very experienced users, 64.6 percent of new users, and 68.4 percent of non-users said they were very concerned or extremely concerned about privacy or personal information when or if they buy online.

Concerns About Privacy Of Personal Information When Buying Online
(Non-Users, New Users, Very Experienced Users, Age 16 Or Older)



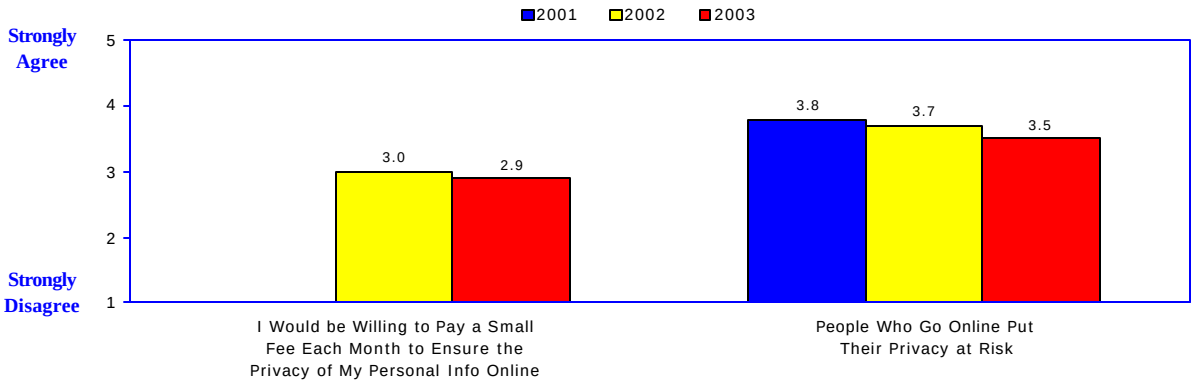
PRIVACY: WILL INTERNET USERS PAY FOR IT?

Although Internet users in large numbers express high levels of concern about the privacy of their personal information when they go online (see the previous three pages), users aren't convinced that paying for increased privacy is a solution to the problem.

Users age 16 and older express modest levels of agreement that "people who go online put their privacy at risk," although at slightly lower levels than in each of the two most recent studies – in Year Four, an average of 3.5 on a scale of one (strongly disagree) to five (strongly agree).

However, Internet users are generally neutral (2.9 on the 1-5 scale) when asked "I would be willing to pay a small fee each month to ensure the privacy of my personal information online."

Attitudes About Online Privacy
(Internet Users Age 16 And Older)



Attitudes towards Privacy on the Internet

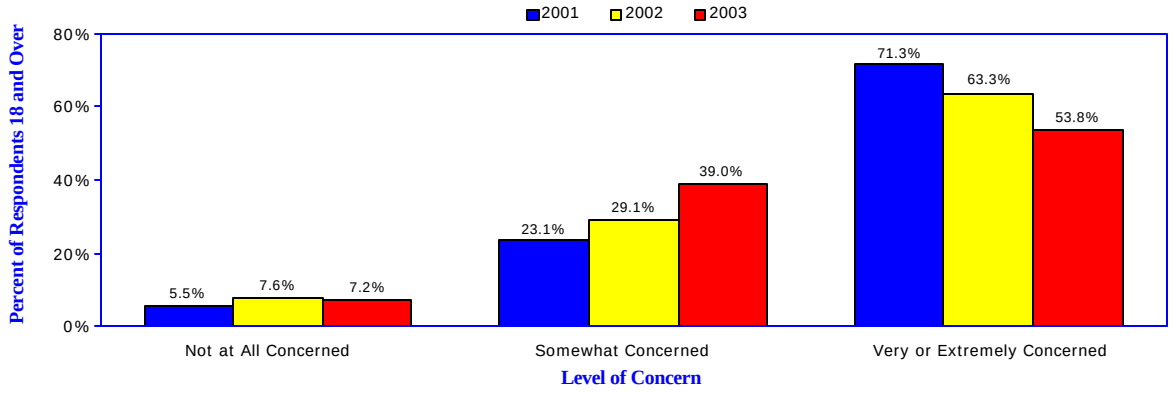
CONCERNS ABOUT CREDIT CARD INFORMATION: A CONTINUING PROBLEM, BUT DECLINING

As with issues of personal privacy, concerns about credit card security on the Internet remain high among non-users, new Internet users, and very experienced users. However, the intensity of that concern is declining.

Comparing three years of results from the Digital Future Project, the overall percentage of respondents age 18 or over who express some concerns about the security of their credit card information when or if they buy online has remained roughly the same: 94.4 percent in 2001, 92.4 percent in 2002, and 92.8 percent in 2003.

However, the percentage of those who say they were very concerned or extremely concerned has declined steadily, from 71.3 percent in 2001 to 53.8 percent in Year Four.

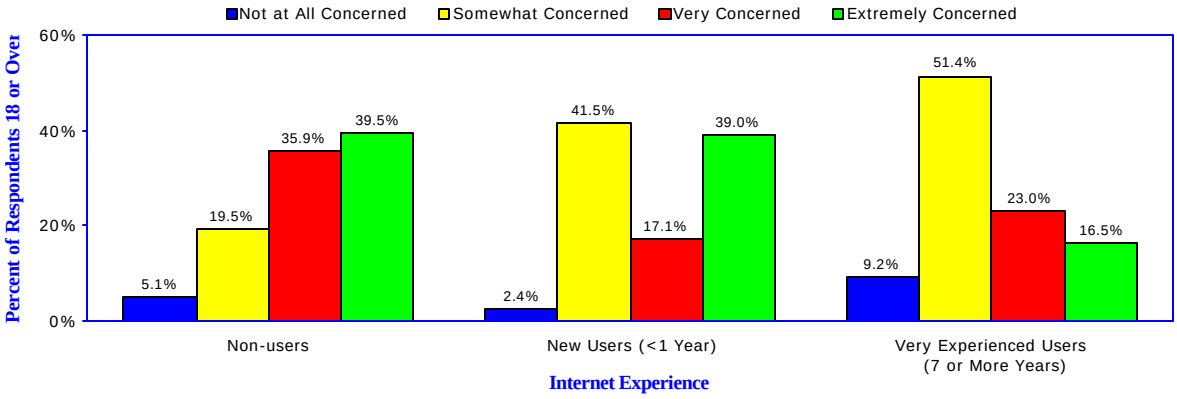
Concerns About Credit Card Security When Buying Online
(All Respondents, 18 or older)



Comparing concerns based on Internet use reveals lower – but still relatively high – levels of concern among very experienced users.

In the current study, less than 40 percent of very experienced users (39.5 percent) say they are very concerned or extremely concerned about the security of their credit card information when or if they buy online – compared to 56.1 percent of new users and 75.4 percent of non-users.

Concerns About Credit Card Security When Buying Online:
(Non-Users, New Users, Very Experienced Users)

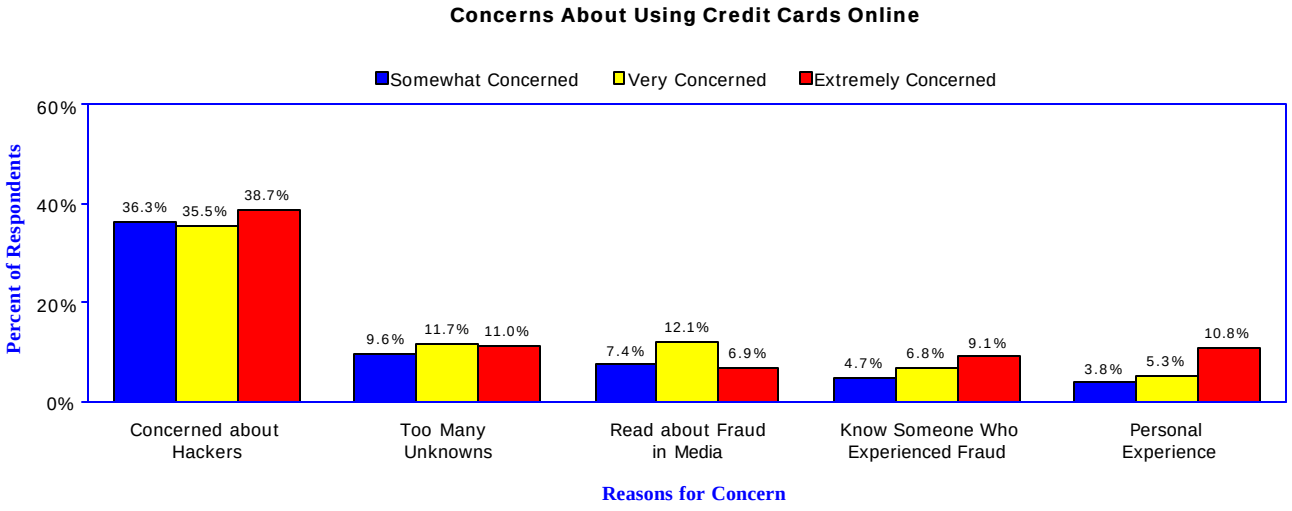


WHAT ARE YOUR CONCERNS ABOUT USING CREDIT CARDS ONLINE?

The reasons why respondents are concerned about using credit cards online remain the same from year to year, but some important increases in responses that relate to personal experience have appeared in Year Four.

Respondents most frequently cite "hackers" as their primary cause for concern; in the current study, nearly three-quarters (74.2 percent) of respondents were very concerned or extremely concerned about hackers.

Notably, however, the number of respondents who are very concerned or extremely concerned about using credit cards online because they know someone who has experienced credit card fraud has increased to 15.9 percent in the current study, up from 14.4 percent in the previous study. And, 16.1 percent of respondents say they are very concerned or extremely concerned because of personal experience – this compared with 10 percent in the previous study.



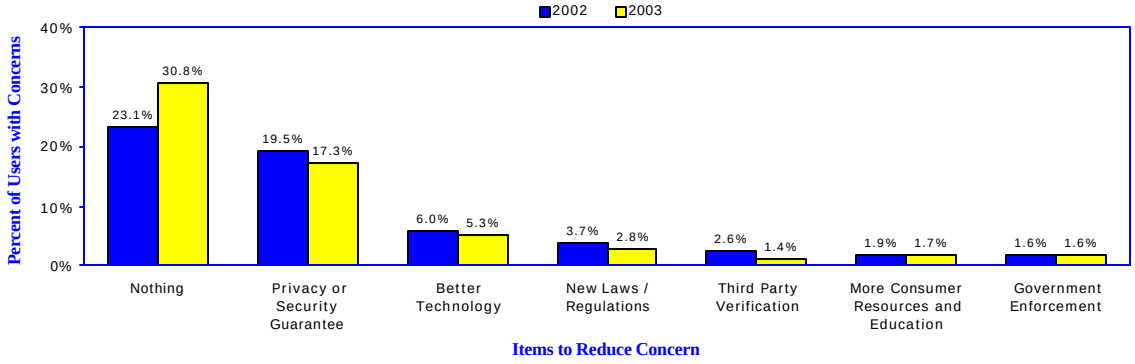
WHAT WOULD REDUCE YOUR CONCERNS ABOUT USING A CREDIT CARD ONLINE?

For a growing number of respondents who have some concerns about using their credit cards online, nothing will reduce those concerns.

In Year Four, 30.8 percent of all adult Internet users who have some concerns about using their credit cards online (somewhat concerned, very concerned, or extremely concerned) say nothing will reduce their concerns – up from 23.1 percent in the previous study.

The percentage of all adult users in the current study who believe that their concerns can be reduced by some method declined in every category except government enforcement – unchanged at a modest 1.6 percent from the previous study.

Methods To Reduce Concerns About Using Credit Cards Online
(Internet Users With Concerns)

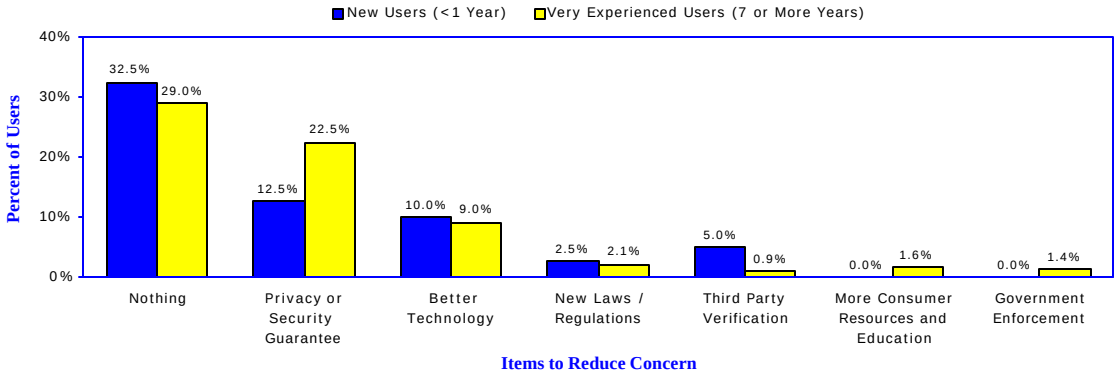


Very experienced users are slightly more optimistic about methods to reduce their concerns about using credit cards online; 29 percent of very experienced users who express some concerns say that nothing will reduce those concerns, compared with 32.5 percent of new users.

The largest percentage of very experienced users who cite a method that will reduce their concerns say that privacy or security guarantees will help (22.5 percent).

Only small percentages of Internet users cite new laws (2.1 percent of very experienced users and 2.5 percent of new users) or government enforcement (1.4 percent of very experienced users, and zero new users) as methods to ease concerns about using credit cards online.

Methods To Reduce Concerns About Using Credit Cards Online:
(New Users Vs. Very Experienced Users)



COMMUNICATION PATTERNS

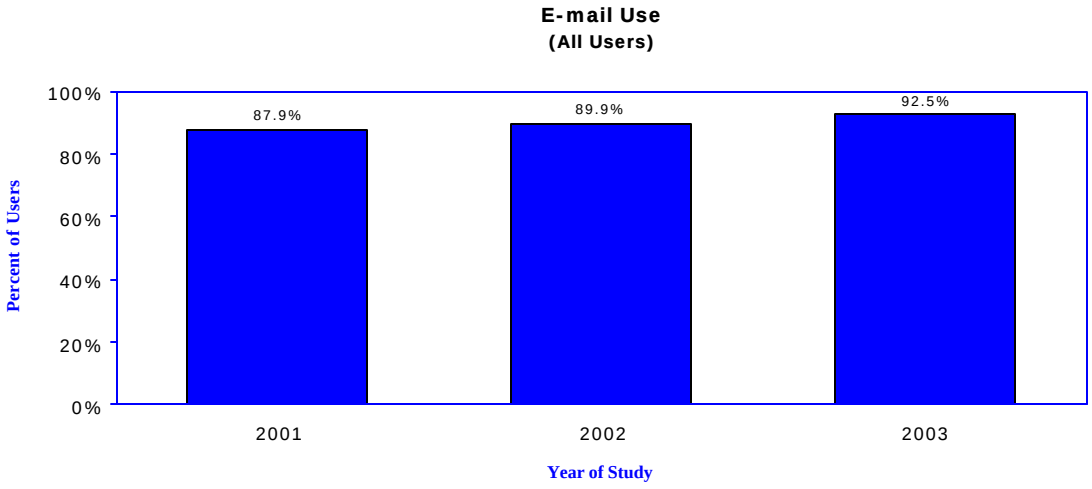
Is e-mail use, the number one online activity, changing as Internet use matures? How often do users check their e-mail? How often do they think others should check?

How is e-mail affecting communication with family and friends?

DO YOU USE E-MAIL?

E-mail use – the most popular online activity – continues to grow.

More than 90 percent of Internet users in the current study (92.5 percent) have e-mail.



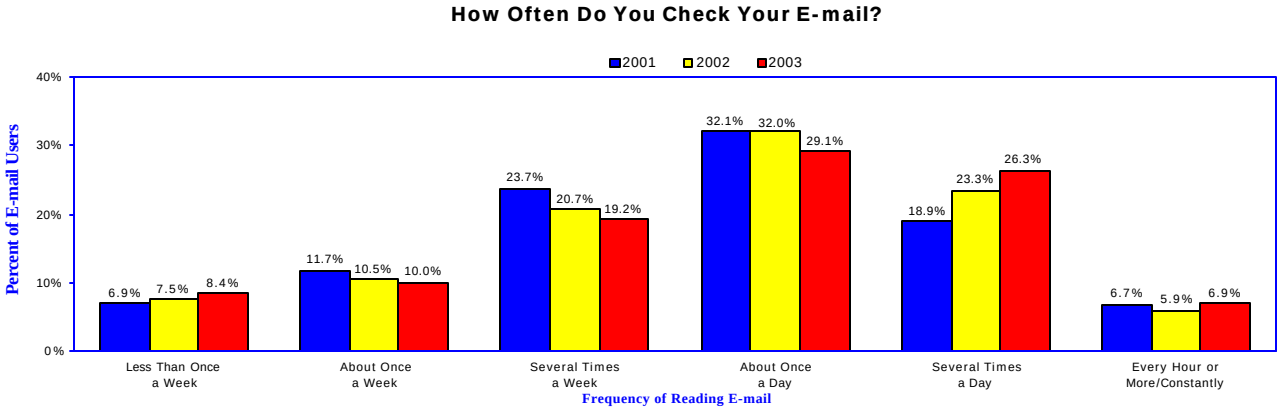
Given that 75.9 percent of all Americans go online, and 92.5 percent of them have e-mail, this means that 70.2 percent of Americans now use e-mail.

How Often Do You Check Your E-mail?

E-mail users in increasing numbers report that they check e-mail at least once a day or more.

Of all e-mail users in Year Four of the study, 62.3 percent say they check e-mail once a day or more, compared to 61.2 percent in 2002 and 57.7 percent in 2001.

Almost one-third (33.2 percent) of e-mail users say they check e-mail several times a day, or every hour or more, compared to 29.2 percent in 2002 and 25.6 percent in 2001.

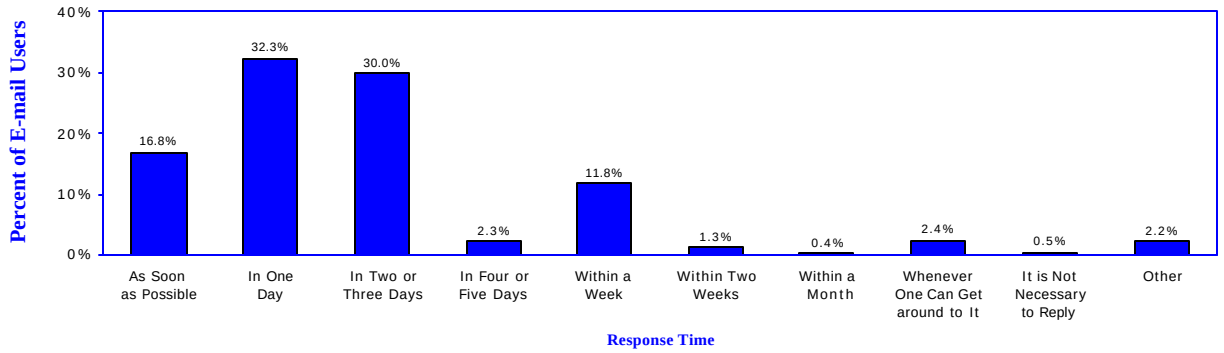


HOW OFTEN SHOULD USERS CHECK E-MAIL?

While a large percentage of e-mail users respond to messages within one day or less, many users believe that e-mail does not require such a timely response.

Slightly less than half of Internet users (49.1 percent) say that an e-mail reply should be sent as soon as possible or within one day. However, the majority of the rest that a reply should be sent within 2-3 days – or longer.

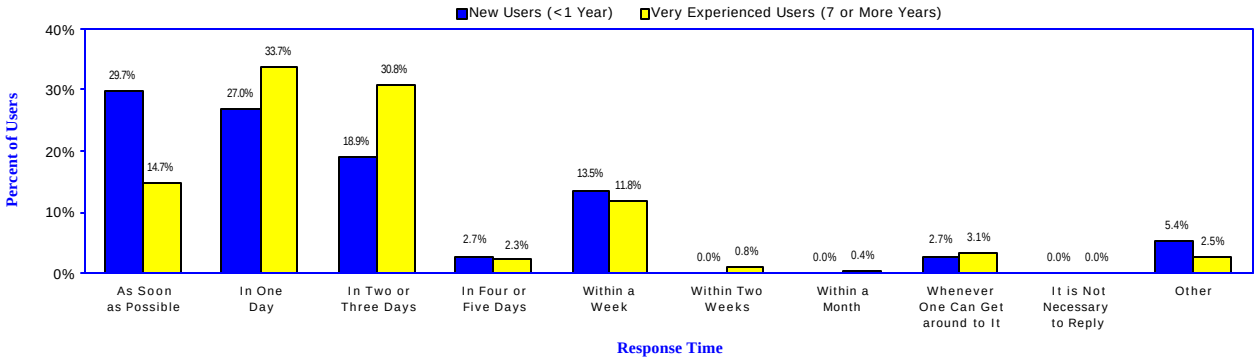
How Quickly Should One Reply To An E-mail Message?
(All Internet Users)



Attitudes about responding to e-mail vary considerably between new users and very experienced users.

More than twice as many new users compared to very experienced users say e-mail replies should be sent "as soon as possible." However, 64.5 percent of very experienced users say e-mail replies should be sent in 1-3 days, compared to 45.9 percent of new users.

How Quickly Should One Reply To An E-mail Message
(New Users Vs. Very Experienced Users)

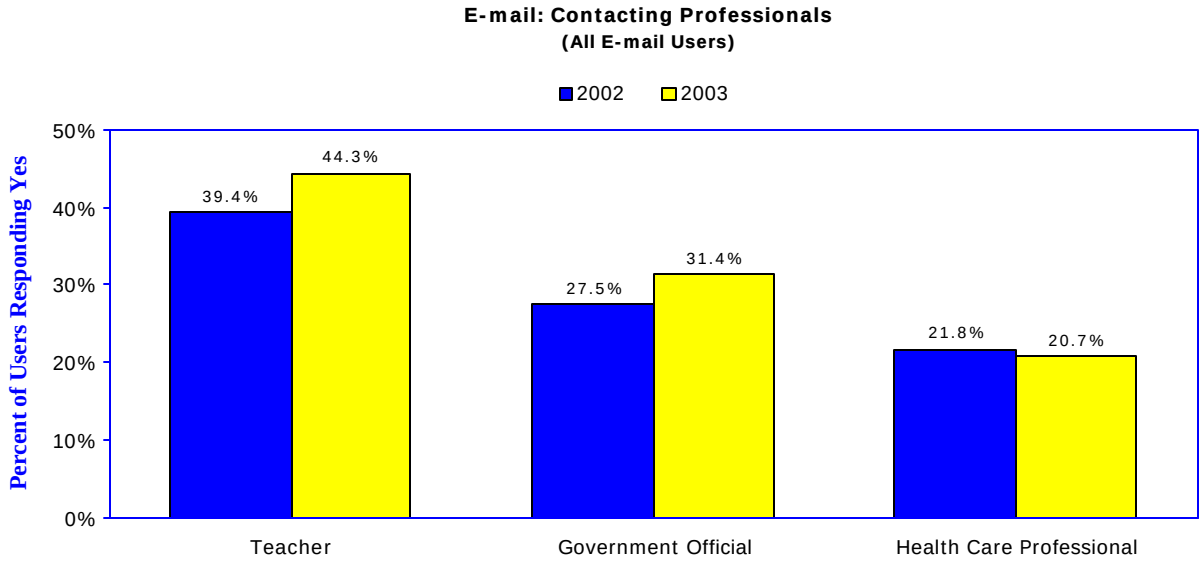


E-MAIL COMMUNICATION WITH PROFESSIONALS

The use of e-mail to communicate online with various professionals has increased slightly in Year Four of the Digital Future Project.

The study found that 44.3 percent of Internet users have contacted a teacher by e-mail, compared to 39.4 percent in the previous study. A smaller but growing number of users have contacted a government official by e-mail.

The number of users who have contacted a health professional online has declined marginally.



SOCIAL EFFECTS

After ten years as an increasingly commonplace aspect of daily life, online technology remains a prominent factor in shaping social life in America.

Year Four of the Digital Future Project continues to explore a range of social and personal issues, including questions about freedom of speech, government control of Internet content, and use of Web sites for finding health and medical information.

THE INTERNET, FAMILY AND FRIENDS

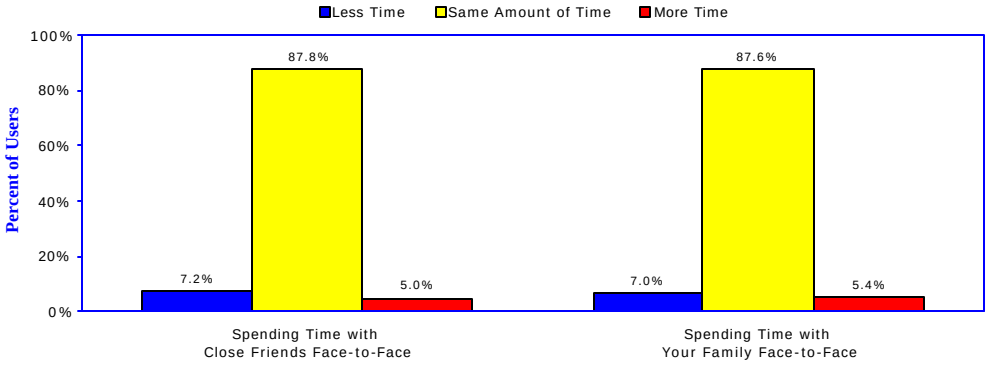
TIME WITH FAMILY, TIME WITH FRIENDS

Most Internet users continue to believe that the Internet has no influence on the amount of time they spend with their family. A near-identical number say that Internet use has no effect on the time they spend with friends.

In Year Four of the Digital Future Project, 87.6 percent of Internet users say that since going online, they spend the same amount of time with their family face-to-face (which is within two percentage points of the same response given in the previous three years).

Similarly, 87.8 percent of users say that since going online, they spend the same amount of time with their friends face-to-face – a statistically insignificant difference from the 88.4 percent reported in 2002.

Has Internet Use Changed The Amount Of Time Spent With Family Or Friends, Face-To-Face?
(Home Internet Users)



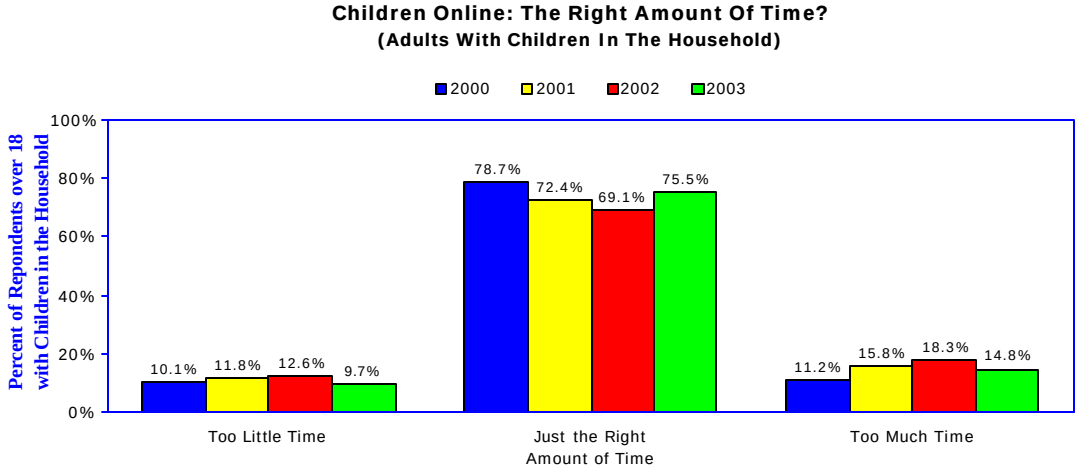
CHILDREN AND THE INTERNET

INTERNET AND WATCHING TELEVISION: THE RIGHT AMOUNT OF TIME FOR CHILDREN?

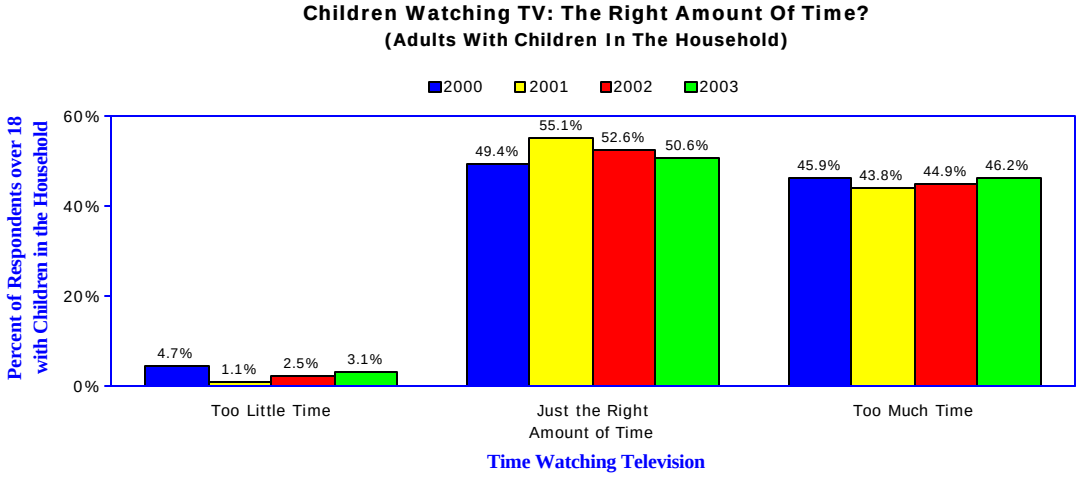
When adults are asked for opinions about the amount of time the children in their households spend going online or watching television, 14.8 percent say the children spend too much time on the Internet, while more than three times as many (46.2 percent) say children spend too much time watching television.

When asked about the time children spend using the Internet, about three-quarters (75.5 percent) of adults say the children in their household spend "just the right amount of time" online – an increase over 2001 and 2002.

And, the adults who say that children spend too much time online dropped slightly.



Regarding children and television viewing, about half of adults (50.6 percent) in the current study say the children in their households spend about the right amount of time watching television.

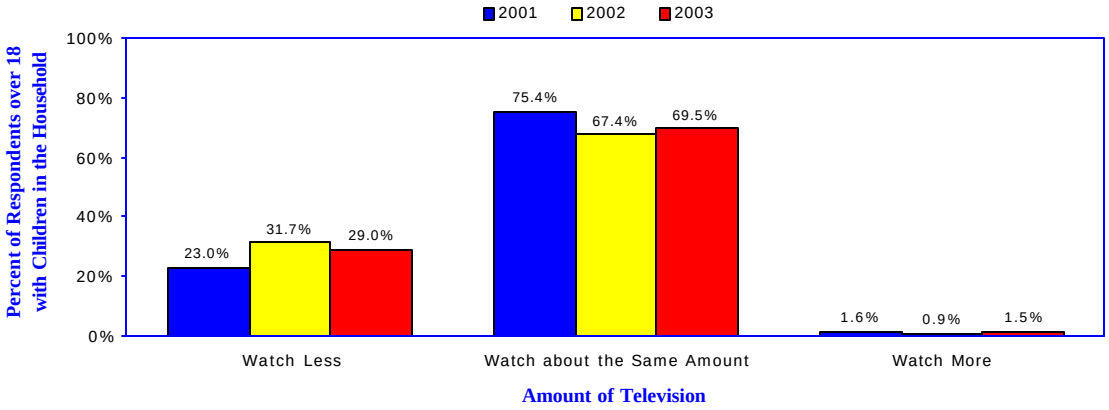


DOES USING THE INTERNET CHANGE CHILDREN'S TV VIEWING HABITS?

A large majority of adults continues to report that children in their households watch about the same amount of television since as they did before they began to use the Internet.

The number of adults in Year Four who report that the children in their household now watch less television has dipped slightly since 2002 (29 percent), but remains higher than in 2001.

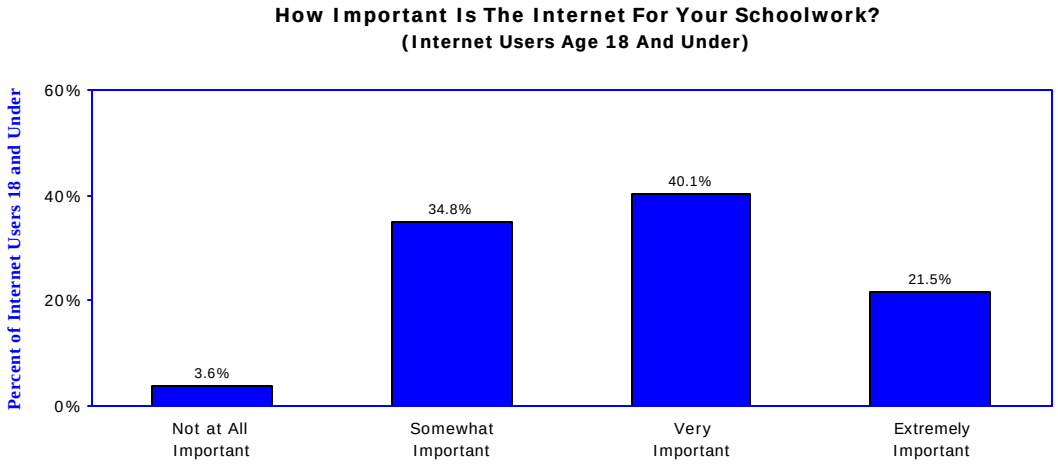
Internet Use: Does It Change Children's Television Viewing?
(Adults With Children In The Household)



SCHOOLWORK AND THE INTERNET

Do students think that the Internet is valuable for schoolwork? Do adults think that Internet use affects school grades?

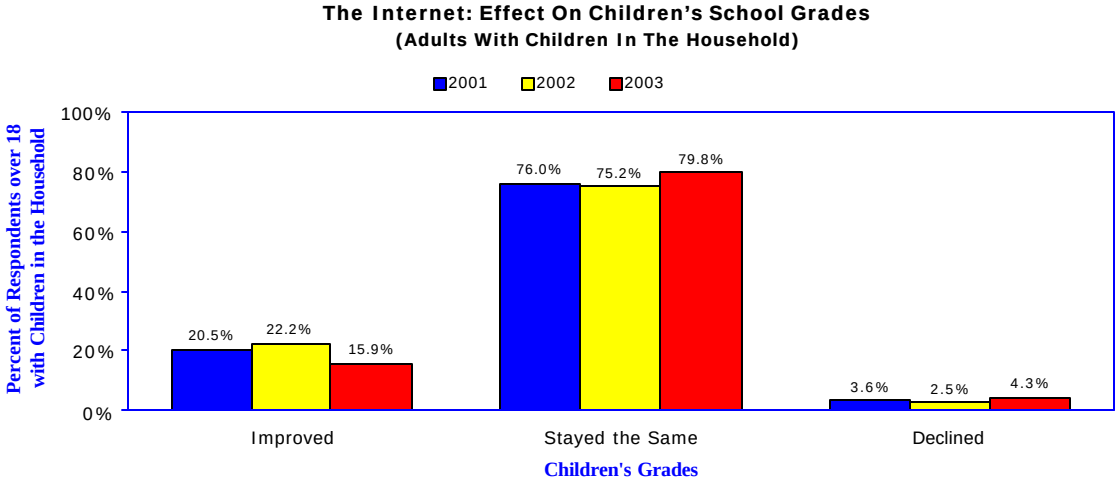
A large majority of Internet users age 18 and under say the Internet is important for their schoolwork; more than 60 percent of students (61.6 percent) say that the Internet is very important or extremely important for their schoolwork.



DOES INTERNET USE IMPROVE SCHOOL GRADES?

Although students consider the Internet important to their schoolwork, the Internet is not perceived by adults as having an effect on school grades.

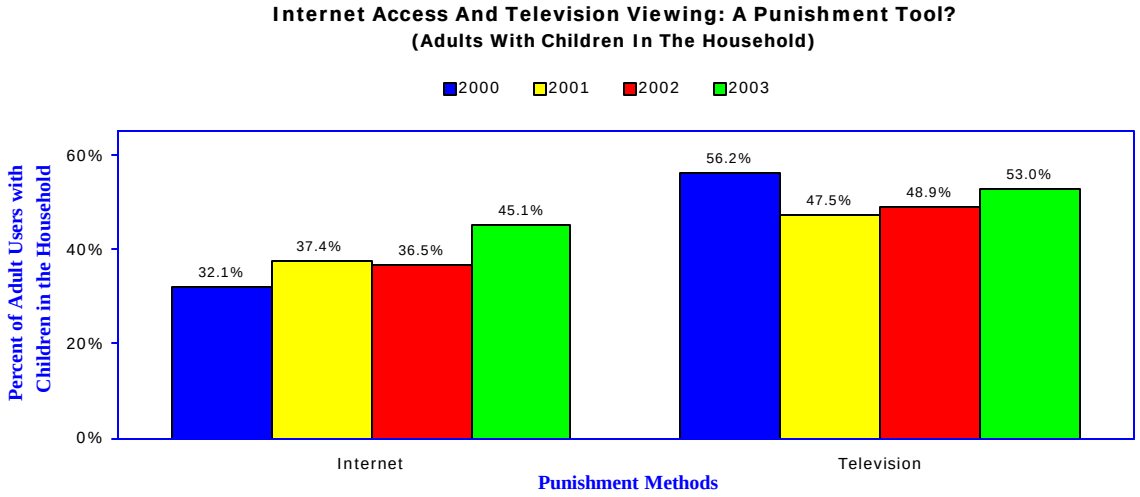
Almost 80 percent of adults in Year Four (79.8 percent) say that since their household acquired the Internet, the grades of children in their households have stayed the same – an increase over both 2002 and 2001. And, the number of adults who say that grades have improved has declined to its lowest point in the three years this question has been asked in the Digital Future Project.



INTERNET ACCESS AND TELEVISION VIEWING: PUNISHMENT TOOLS?

Denying Internet access as a punishment tool has increased substantially since the Digital Future Project began in 2000; 45.1 percent of adult users with children in their households say the children are punished by losing their online privileges.

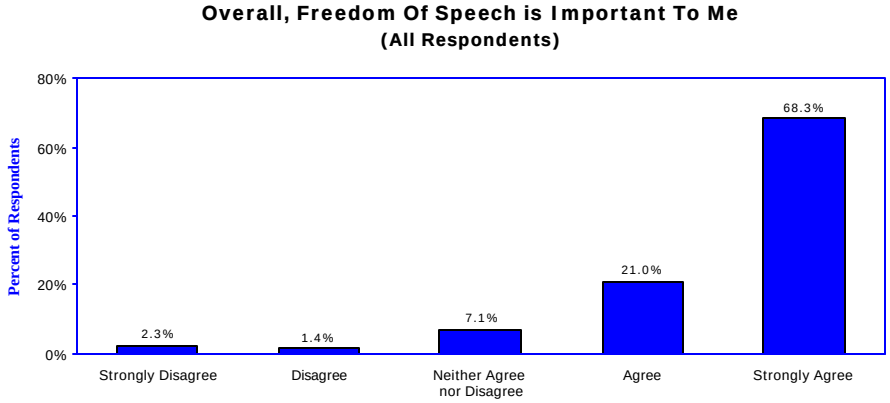
Denial of television is still used more often than denial of the Internet as a punishment, but the gap between the two has narrowed to its lowest level in the four years of the Digital Future Project.



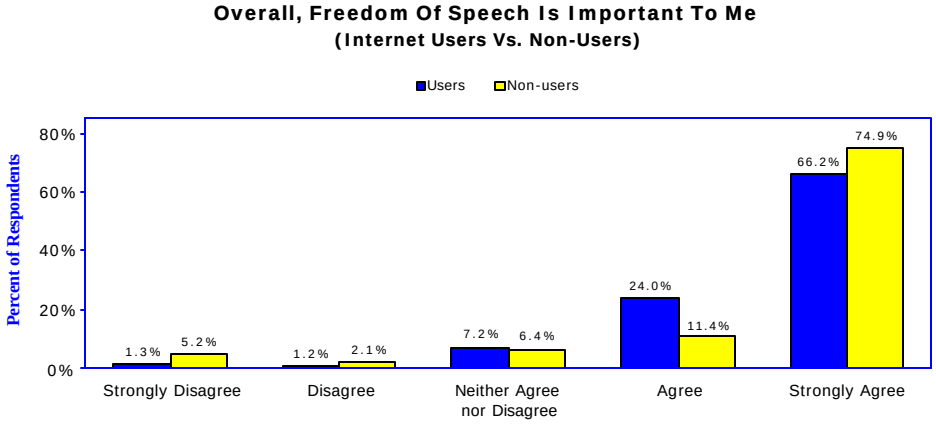
FREEDOM OF SPEECH, GOVERNMENT CONTROL OF INTERNET CONTENT

Respondents express conflicting views about freedom of speech and government control of Internet content.

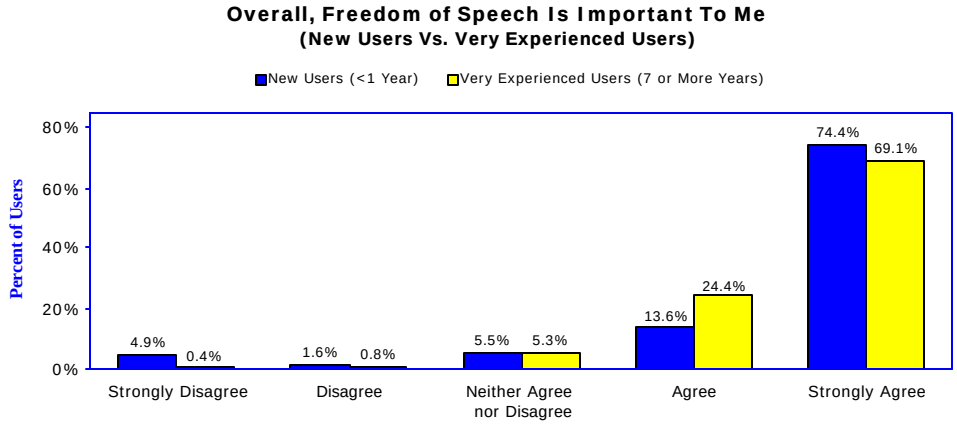
Regarding freedom of speech, nearly 90 percent of all respondents agree (agree or strongly agree) that freedom of speech is important to them.



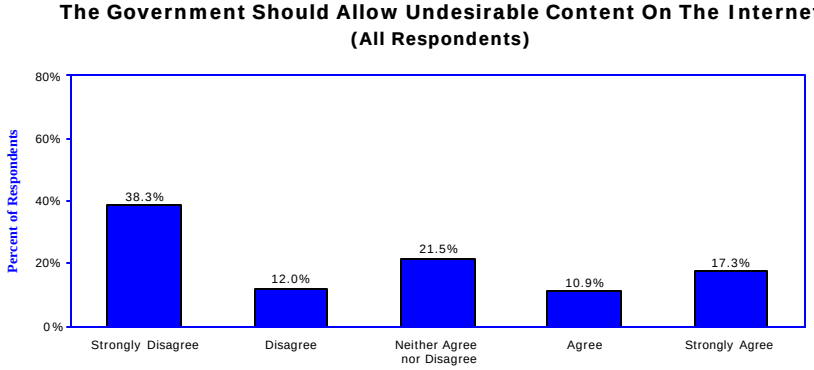
Internet users and non-users both agree in almost equal numbers that freedom of speech is important (90.2 percent of users, and 86.3 percent of non-users agree or strongly agree). . . .



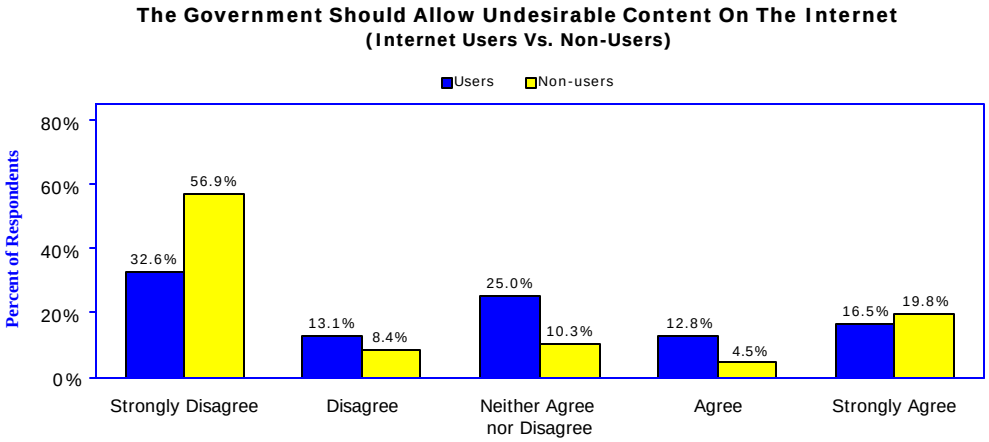
. . . .and agreement about the importance of free speech is very high for both new users (88 percent) and very experienced users (93.5 percent).



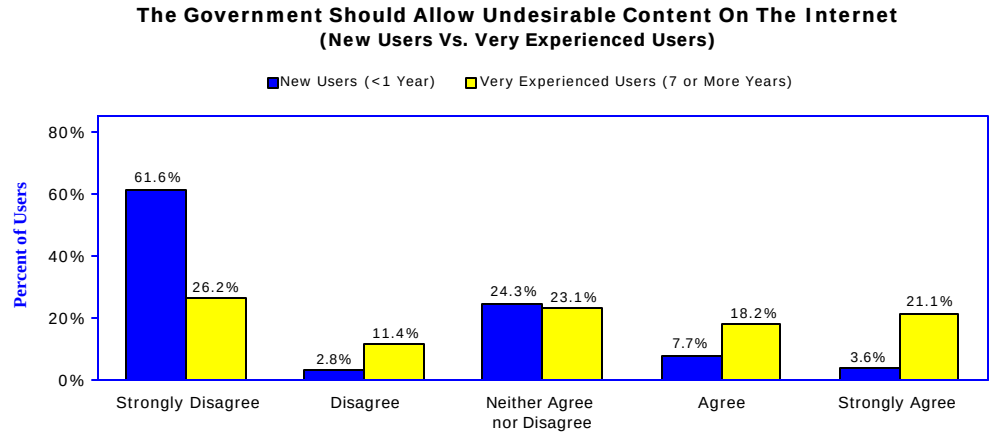
However, in spite of large majorities of users and non-users alike agreeing about the importance of freedom of speech, much lower numbers of all respondents (28.2 percent) agree that the government should allow "undesirable" content on the Internet. . . .



. . . .and these levels of agreement about government allowing "undesirable" content on the Internet are low for both users (29.3 percent) and non-users (24.3 percent). . . .



. . . .and while levels of support for the government allowing "undesirable" content are low for new users (11.3 percent), a much higher percentage for very experienced users (39.3 percent) express support.



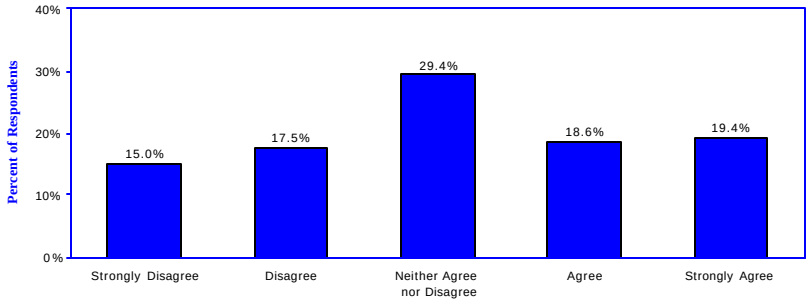
Clearly, respondents in the Digital Future Project have yet to connect their overwhelming support of freedom of speech with the concept that the First Amendment should prevent the government from regulating undesirable content on the Internet – even if that content is somehow "undesirable" to some.

CONCERNS ABOUT TECHNOLOGY'S EFFECT ON LOSS OF PERSONAL PRIVACY

Respondents in the Digital Future Project were asked for their opinions about the question: "I am concerned that all of this new technology will lead to the loss of personal privacy."

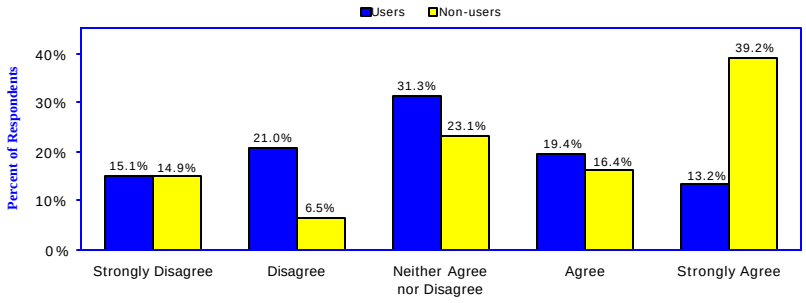
Overall, 38 percent of all respondents agree (agree or strongly agree) that new technology will lead to the loss of personal privacy.

I Am Concerned That New Technology Will Lead To The Loss Of Personal Privacy
(All Respondents)



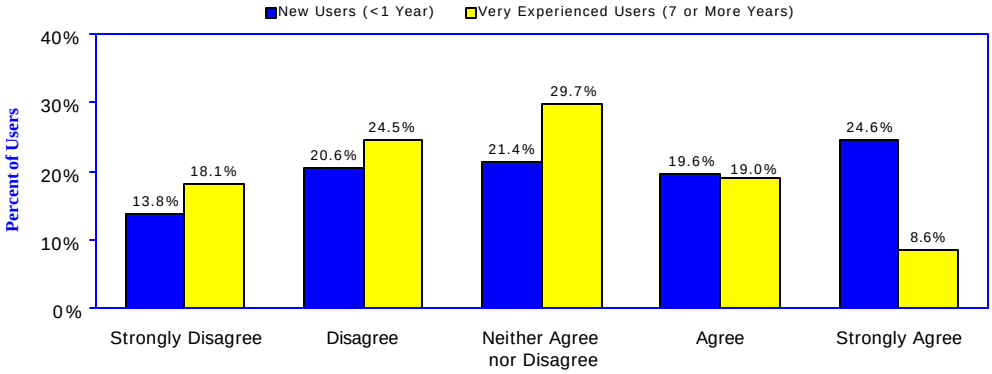
Users and non-users have differing views of this issue; 32.6 percent of users compared to more than half of non-users (55.6 percent) agree or strongly agree that new technology will lead to the loss of personal privacy.

I Am Concerned That New Technology Will Lead To The Loss Of Personal Privacy
(Internet Users Vs. Non-Users)



New users and very experienced users also differ in their opinions about the impact of technology on personal privacy; 44.2 percent of new users compared to 27.6 percent of very experienced users agree or strongly agree that new technology will lead to the loss of personal privacy.

I Am Concerned That New Technology Will Lead To The Loss Of Personal Privacy
(New Users Vs. Very Experienced Users)



POLITICAL POWER AND INFLUENCE

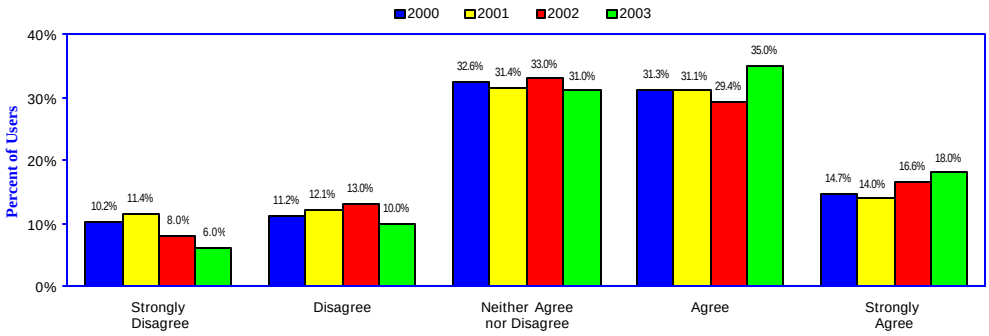
While users in substantial numbers believe the Internet improves political knowledge, users also say that going online does not give people more political power, nor does it allow for more input into government action.

DOES THE INTERNET HELP WITH POLITICAL KNOWLEDGE?

The Internet's role as a tool for learning about the political process is growing.

When asked, "by using the Internet people like you can better understand politics," more than half of Internet users (53 percent) in Year Four of the Digital Future Project agreed or strongly agreed – the highest level in the four years of the study (46 percent in 2002, 45.1 percent in 2001, and 46 percent in 2000).

Does The Internet Help People Like You Better Understand Politics?
(Internet Users)

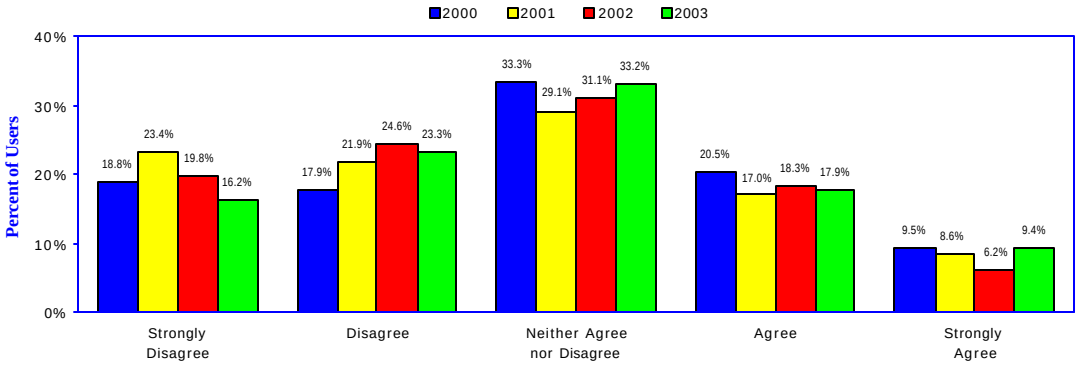


IS THE INTERNET A TOOL TO HELP GAIN POLITICAL POWER?

When asked, "by using the Internet people like you can have more political power," the percentage of users who agree or strongly agree has fluctuated only modestly in all four years of the study: 27.3 percent in Year Four, 24.5 percent in 2002, 25.6 percent in 2001, and 30.0 percent in 2000.

In the current study, 39.5 percent disagree or strongly disagree that the Internet can give people more political power.

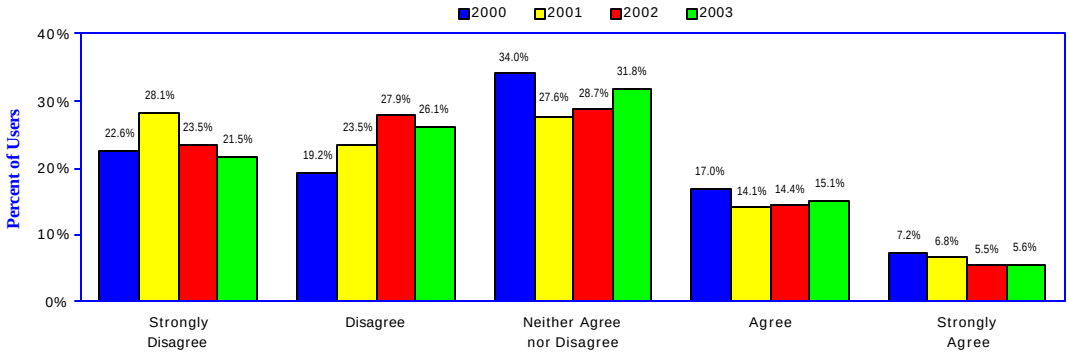
By Using The Internet People Like You Can Have More Political Power?
(Internet Users)



CAN THE INTERNET GIVE USERS MORE SAY ABOUT WHAT THE GOVERNMENT DOES?

When asked, "by using the Internet people like you will have more say about what the government does," 20.7 percent agreed or strongly agreed – about the same as the 19.9 percent of users in 2002 and 20.9 percent in 2001, and slightly less than the 24.2 percent in 2000.

Does The Internet Give People More Say About What The Government Does?
(Internet Users)



THE INTERNET AT WORK

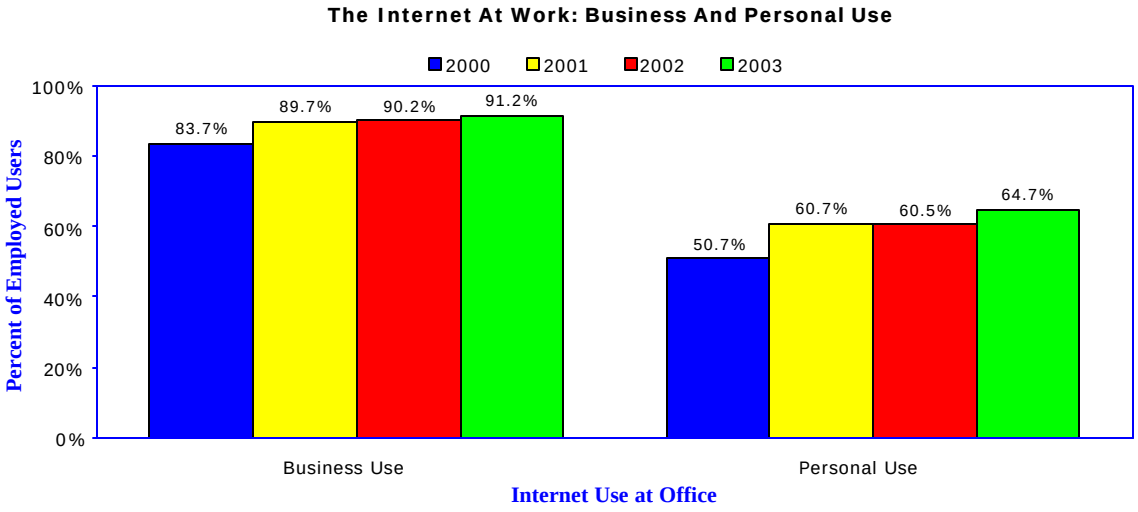
THE INTERNET AT WORK: BUSINESS AND PERSONAL USE

Internet users continue to report growing levels of Internet access at work for both personal and professional use.

Users who have the Internet at work say that when they are online at work, they are actively using the Internet almost five hours per week (4.85 hours).

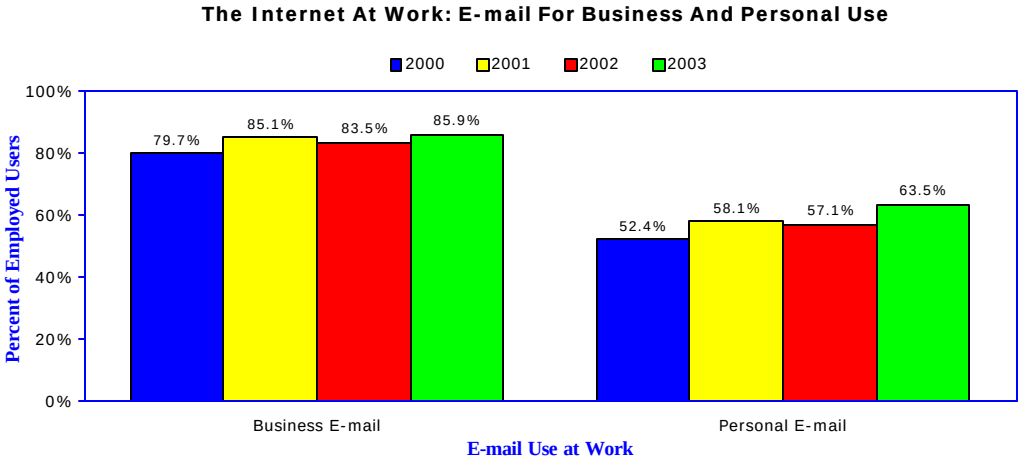
Of those who had access to the Internet at work in Year Four of the Digital Future Project, about 91.2 percent visited Web sites for business purposes, a gradual but steady increase over the four years of the study.

And, a steadily growing number of users who have Internet access at work report that they go online for personal use at work – its highest level thus far in the study.



E-MAIL AT WORK

Users in Year Four who have access to the Internet at work report the highest levels to date for using e-mail and visiting Web sites – for both business or personal use.



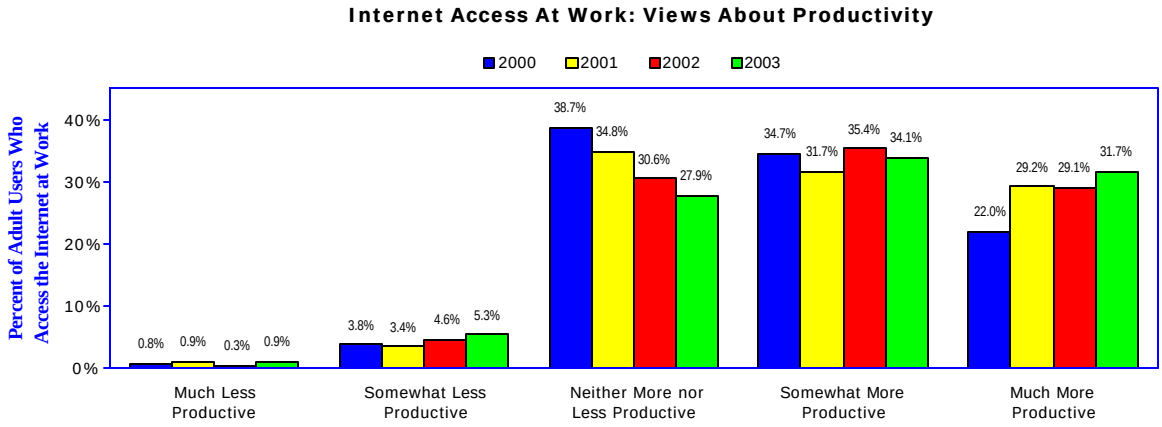
DOES THE INTERNET AFFECT PRODUCTIVITY?

The number of users who say the Internet at work makes them more productive has continued to increase for four years in a row.

In the current study, almost two-thirds of users who have access to the Internet at work (65.8 percent) say that going online at work makes them somewhat more productive or much more productive, up from 64.5 percent in 2002, 60.9 percent in 2001, and 56.7 percent in 2000.

The number of users who say that the Internet makes them neither more nor less productive continues to decline (27.9 percent in the current study).

Those who say the Internet makes them less productive has increased marginally – 6.2 percent in Year Four, compared to 4.9 percent in 2002, 4.3 percent in 2001, and 4.6 percent in 2000.



THE INTERNET AND MEDICAL ISSUES

The Internet has become a broadly used source of information for users with questions about health and medical issues. Consider that:

- Seeking medical information is the seventh most popular online activity in Year Four of the Digital Future Project, with 50.6 percent of Internet users saying they have accessed health care information within the last 12 months.

- More than two-thirds of Internet users who have accessed health care information in the last 12 months (68.1 percent) say they have used the Internet to look for health or medical information.

- 72.7 percent of users who have accessed health care information in the last 12 months say they have gone online to find health or medical information for a family member or loved one in the last 12 months.

How do users view the information they find online? Are they satisfied with this online health information and their ability to find it? What do users do with this information?

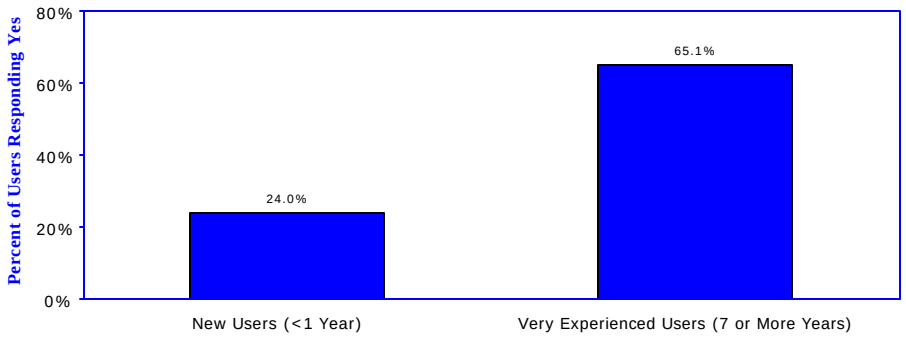
This year, the Digital Future Project explored a series of new questions about access and use of health and medical information found online.

HEALTH CARE INFORMATION ONLINE: USE VARIES BASED ON INTERNET EXPERIENCE

Using the Internet as a source of health or medical information varies widely among new users and very experienced users.

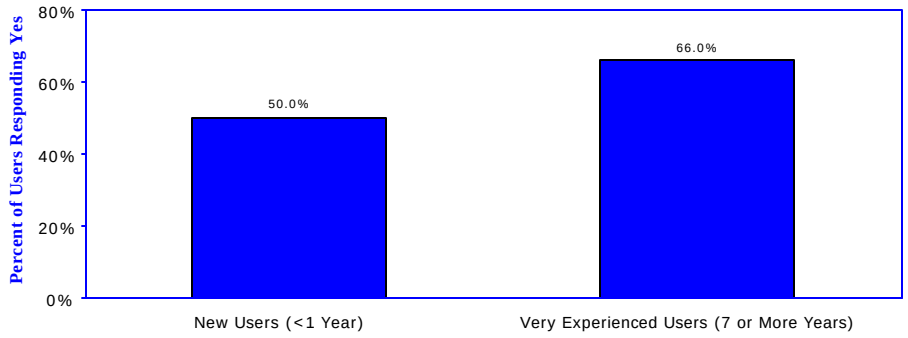
Almost two-thirds of very experienced users (65.1 percent) say they have accessed health care information online within the last 12 months, compared to less than one-quarter of new users (24 percent).

Do You Use The Internet As A Source Of Health Or Medical Information?
(New Users Vs. Very Experienced Users)



Of those who go online for health or medical information, 66 percent of very experienced users, compared to 50 percent of new users, go online to look for information about a personal health problem.

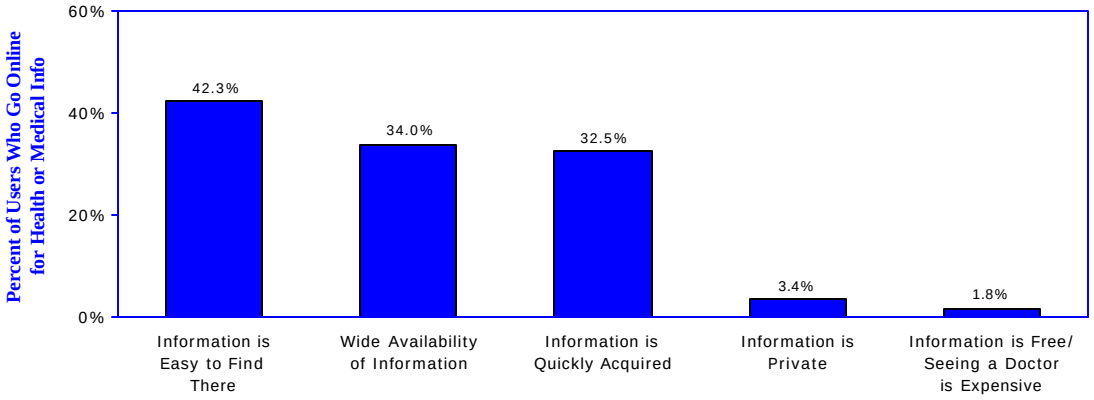
Do You Use The Internet As A Source Of Information About A Personal Health Problem?
(New Users Vs. Very Experienced Users Who Have Gone Online
For Health Or Medical Information Within The Last 12 Months)



WHY GO ONLINE FOR HEALTH AND MEDICAL INFORMATION?

Internet users seek information for a variety of reasons; among the most frequently cited are: the information is free, quickly acquired, private, easy to find, and widely available.

Reasons For Seeking Health Or Medical Information On The Internet
(Internet Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)

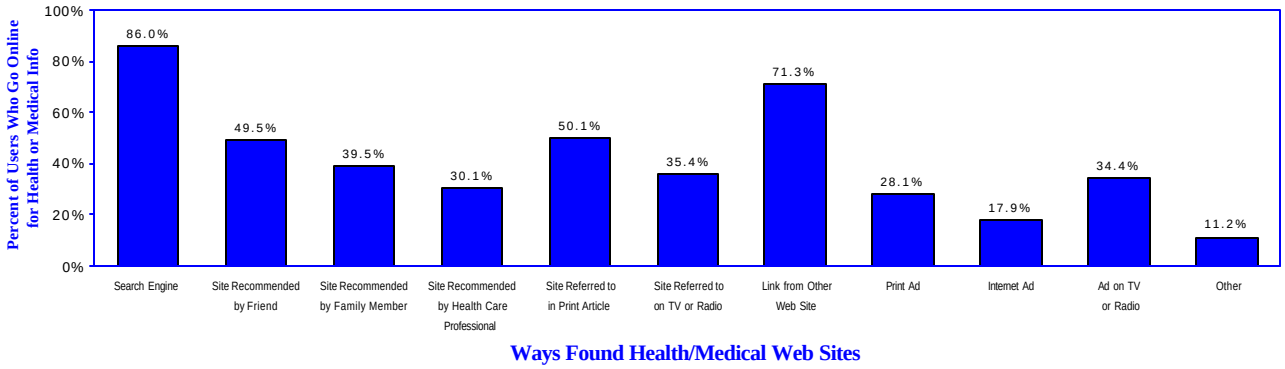


How Do You Find Online Information?

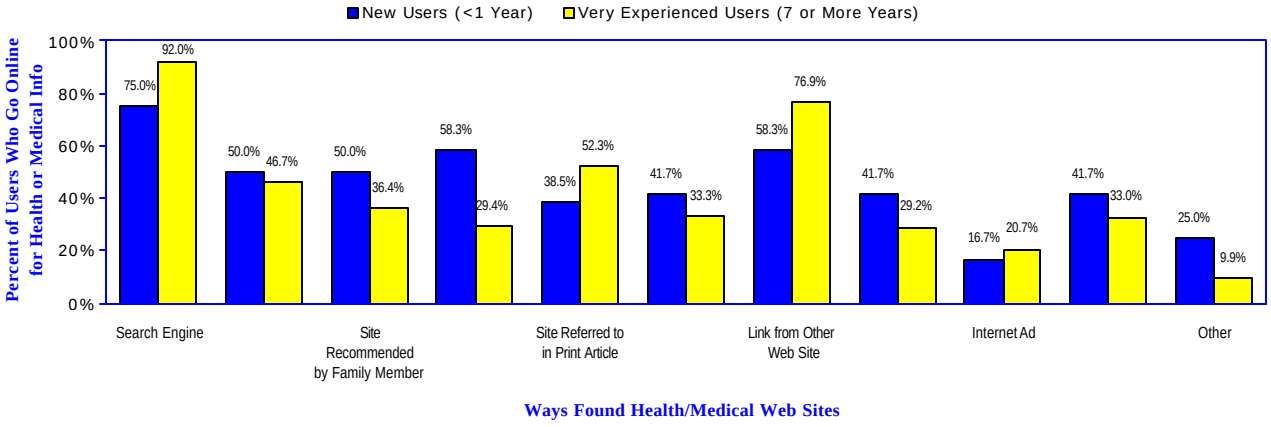
Not surprisingly, most users find health or medical information online through a search engine. However, a large percentage of users found health information through a link from another Web site, a referral from a print article, or a site recommended by a friend – experiences that were common among both new users and very experienced users.

Of special note is the large number of new users (58.3 percent) who looked at a Web site that was recommended by a health care professional.

Sources Of Health Or Medical Information Found Online
(All Internet Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)



Sources Of Health Or Medical Information Found Online
(New Users Vs. Very Experienced Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)

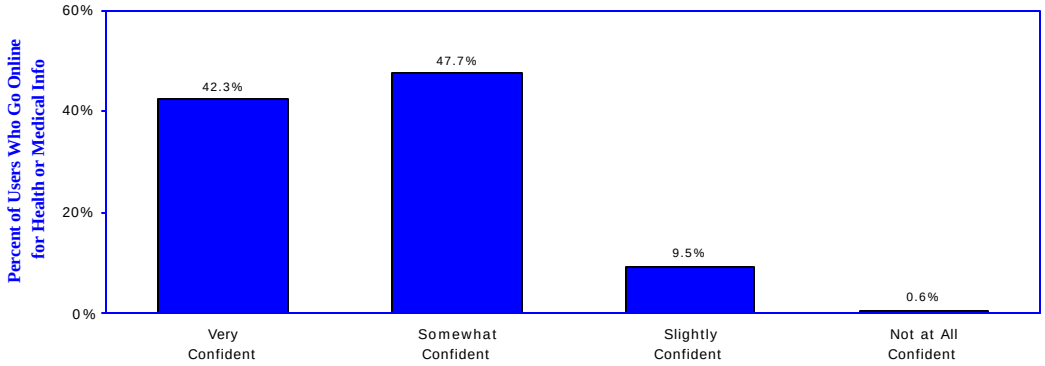


ARE YOU CONFIDENT IN YOUR ABILITY TO FIND HEALTH INFORMATION ONLINE?

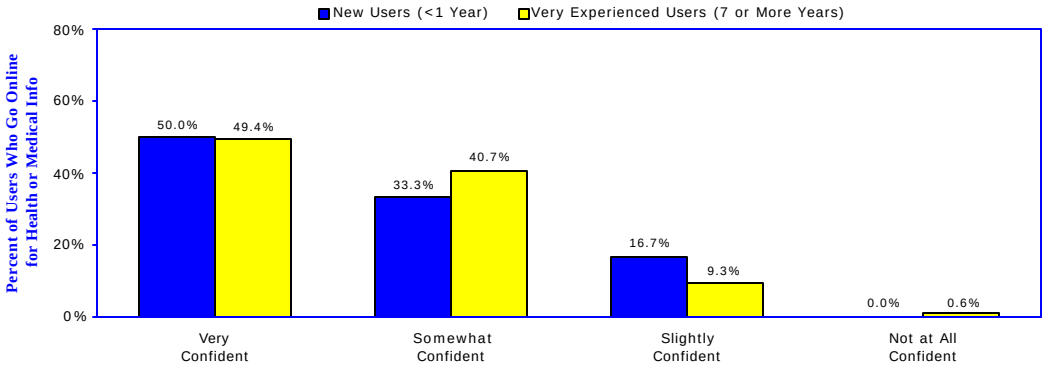
Internet users describe high levels of confidence in their ability to find health information online.

Overall, a large percentage of Internet users who have accessed health or medical information within the last 12 months (90 percent) are either very confident or somewhat confident that they can get health or medical information from the Internet if they need it, with similar responses for new users and very experienced users.

How Confident Are You That You Could Get Health Or Medical Information From The Internet If You Needed It?
(Internet Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)



How Confident Are You That You Could Get Health Or Medical Information From The Internet If You Needed It?
(New Users Vs. Very Experienced Users)



VIEWS ABOUT HEALTH INFORMATION ONLINE

Low numbers of users express concerns about their online searches for health or medical information.

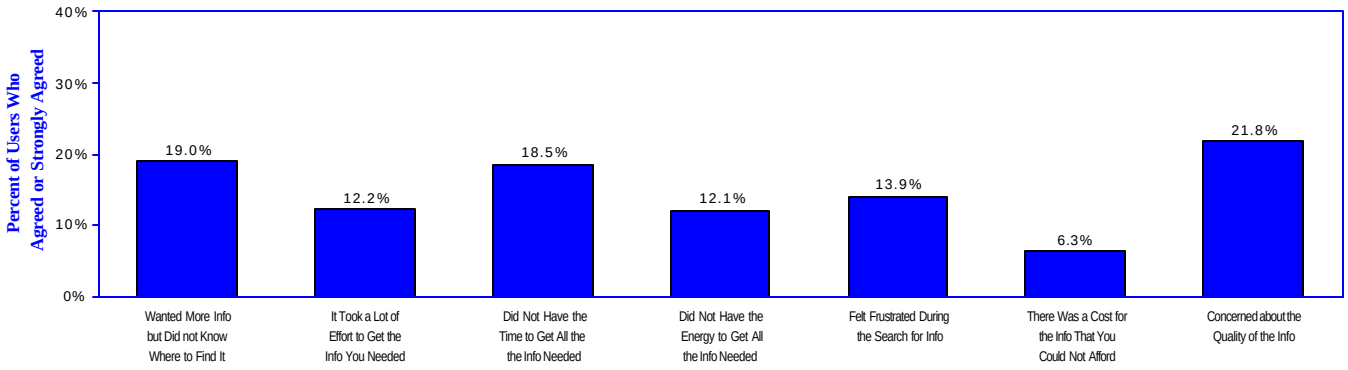
Fewer than 20 percent of Internet users who go online for health or medical information agreed or strongly agreed that they wanted more information but did not know where to find it, or did not have the time to get the information they needed.

Fewer than 15 percent of these users said they felt frustrated during their search for information, or that it "took a lot of effort," or that they "did not have the energy" to get the information they needed.

Only 6.3 percent agreed or strongly agreed that there was a cost for the information they could not afford.

Of special note is the relatively low number of these users (21.8 percent) who agreed or strongly agreed that they were concerned about the quality of the information they found.

Views About Internet Searches For Health Or Medical Information
(All Internet Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)



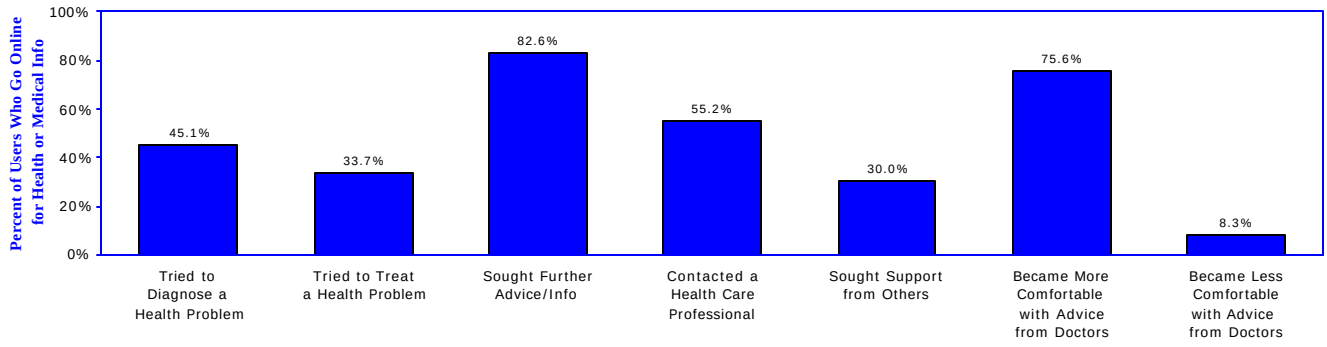
WHAT DO INTERNET USERS DO WITH THE HEALTH INFORMATION THEY FIND ONLINE?

Once Internet users find health information online, they have a variety of uses for it. Most frequently, this information leads them to seek further advice or more information – actions that are consistently high among all users, new users, and very experienced users.

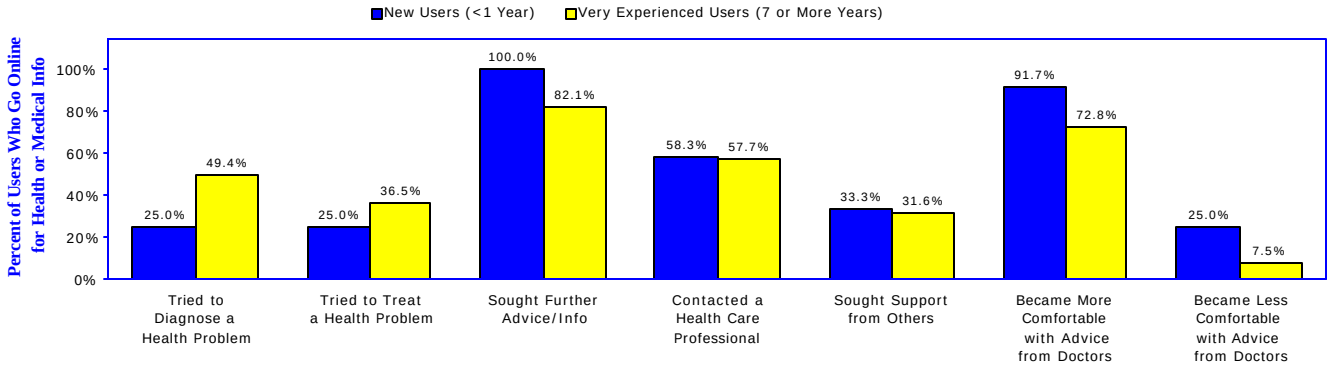
Large numbers use this information to increase their comfort level with advice they have received from doctors or other health professionals. More than half of users who have accessed health or medical information within the last 12 months say that the information they found online led them to contact a health care professional.

Large percentages of users who have accessed health or medical information within the last 12 months applied the information they found online to try to diagnose a health problem (45.1 percent overall, 25 percent of new users, 49.4 percent of very experienced users).

Result Of Finding Health Or Medical Information Online
(All Internet Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)



Result Of Finding Health Or Medical Information Online
(New Users Vs. Very Experienced Users Who Have Gone Online For Health Or Medical Information Within The Last 12 Months)



CONCLUSIONS

It is abundantly clear that today, 10 years after online technology became generally available to the American public, the Internet has thoroughly penetrated the American psyche, culture, and economy – an obvious statement in 2004, to be sure, just as it would have been indisputable to have stated in 1950 that the light bulb was an integral utensil in the American household, or in 1980 that the television was the primary medium for home entertainment.

To declare in 2004 the Internet's ascendancy serves to underscore two broader issues: how little we really know about the impact of the Internet on America, and a truly extraordinary opportunity exists to create a better understanding of American life through continued observation of the evolution of online technology and its role in our culture.

This potential would exist even if the Internet created effects on American society solely because of the sheer scale of its user base. Yet often lost in this discussion is recognition that going online for information and entertainment is not merely a passive activity (such as watching television or movies), but rather is an active, participatory process. There are no "digital couch potatoes" using the Internet; while users are online, they link, think, and interact with information and with other users. Simply, they are not merely watching – they are involved.

While the Internet may be subjected to criticism on a variety of fronts, it is unlikely that going online will ever suffer from the same type of scorn that television has received over the years ("the idiot box," "the boob tube," "the vast wasteland"). Nevertheless, the social impact of television is now routinely explored, but the Internet is not yet appreciated as the extraordinary social force that it is fast becoming – or in fact has already become.

The impact of the Internet – whether measured by the numbers of users or by the social change it is causing – cannot be overestimated. A technology that practically did not exist in American homes only a few years ago is now a standard feature in nearly two-thirds of homes. Television commercials for Internet Service Providers or broadband services are as routine as ads for breakfast cereals. Major fast-food chains give away certificates for music downloads from Web sites as incentives for children to buy french fries with their hamburgers. The companies that market products without a prominently featured Web site are the tiny exception to the digital rule. Time online represents a significant part of every day for most users, creating substantial changes in the use of other media (and, as these reports have revealed, with seemingly little or no negative impact on the social lives of users).

Yet in spite of the Internet's growing influence, it is still viewed by many social observers – in particular, mainstream media – either as a technical curiosity or just for its business potential. As evidence of this neglect, witness the meager coverage the Internet receives in most major media – other than in business section coverage of corporate developments and new technology, or in "gloom and doom" articles about privacy fears, hackers, and other viruses. We contend that this neglect occurs in large measure because people not only don't appreciate the true scope of the Internet, but also still don't "understand how to understand" its impact.

As a result, the Internet and its societal clout are still not explored as fully as they should be. Why is this issue so important? One reason prevails: simply, *a true understanding of the evolution of America in the late 20th Century and early 21st Century demands a comprehensive and continuing exploration of the Internet and its impact.* The Internet is a phenomenon that must continue to be studied and understood as it unfolds, and not just reviewed long after the impact has been felt.

In the introduction to each annual report from this project, we have emphasized how much could have been learned about the impact of broadcasting if comprehensive research had been conducted on the evolution of television as that technology emerged 60 years ago. The Digital Future Project is taking an important step to ensure that the opportunity lost during the emergence of television is not missed during the evolution of online technology. Now, ten years into the "life" of the Internet, we believe this mission is more important than ever.

The "Ten Years, Ten Trends" in this report contain only some of the overarching issues involved in the exploration of how the Internet is likely to affect and evolve in American culture. We need to continue to ask many questions:

- Will the Internet's potential as a tool for political power ever be realized?
- How will Internet users and online providers alike deal with "undesirable" online content?
- How will Internet users cope with the proliferation of e-mail?
- How will the Internet continue to shape life at home? At work? In school?
- How will television and other media continue to change because of the Internet?

As we point out in the "Ten Years, Ten Trends" section on page 19, even the method of accessing the Internet is creating important new questions: as modem access gives way to broadband – with its "always on" capability – how will this emerging form of online access create even more intriguing changes in American lifestyles?

And finally, it may well be that the most important questions of all about the Internet are those that have yet to be revealed about technological and social issues yet unknown.

On the next page is an article written for the Chronicle of Higher Education by Jeffrey Cole, director of the USC Annenberg School Center for the Digital Future and creator of this project, which sets the tone for the next stage of study of the Internet. The title says it all: *Now* is indeed the time to start studying the Internet Age. Ten years ago, it would have seemed wildly farfetched to have predicted that the Internet might become the most influential change agent to affect culture since the creation of moveable type; today, that idea seems not so unreasonable. In whatever ways the Internet shapes American life, we have everything to gain by continuing to carefully observe and study this extraordinary phenomenon, and working to comprehend the changes it will bring.

* * * * * * * *

Supplement 1

Now Is the Time to Start Studying the Internet Age

Chronicle of Higher Education
April 2, 2004

By Jeffrey Cole

The Internet today is at about the same level of development as the automobile was in 1920. In other words, we can expect to see important innovations that will move the Internet closer to the center of American life.

Even at this early stage, the Internet has had a profound impact on the social, economic, and political life of America and, increasingly, the rest of the world. Whether you date the birth of the Internet to the first signals sent over the Arpanet in the late 1960s or, more justifiably, to the introduction of the World Wide Web in the early to mid-1990s, since that birth we have seen enormous changes in the way we conduct research, make purchases, learn about the world, and live our lives.

Scholars need to begin comprehensive investigations of the current and long-term impacts of the Internet. A useful parallel to consider is research on the only other mass medium that has influenced every element of social and political life: television.

At its peak, television was Americans' primary source of both news and entertainment. It helped shape viewers' ideas of the world, attitudes about sex and violence, career aspirations, language, hair and clothing styles, and much more. Today many of television's key functions and much of its audience are moving to other media, especially the Internet.

Thousands of academic studies have examined the impact of television on viewers' lives, but researchers now realize that we missed a golden opportunity by not looking at Americans before they acquired television sets and going back to the same people year after year to see how exposure to the medium changed them. Such a study would have yielded invaluable data on how the lives of television viewers differed from nonviewers. An even stronger case can be made for the importance of looking at the Internet, which has already eclipsed television in its impact on the ways we work, learn, and play.

Realizing the importance of studying Internet users and nonusers from the technology's early days, the center which I direct began a panel study of 2,000 Americans, returning to the same people year after year. Our subjects are a national, representative sample. Each year we look at the effects of the Internet as nonusers go online, as modem users become broadband users, and as some users give up the Internet, usually when they lose access on leaving school or changing jobs. After only four years, we have collected irreplaceable data on how people use the Internet, its effects on their online and offline lives, and who does not use the Internet and why. Over the past three years, the project has expanded, and we are now also studying people in more than 20 countries.

Some facts are already clear:

* *The Internet is an important part of most Americans' lives.* Over 70 percent use the Internet at least once a month, and the average user is online for nearly 12 hours a week.

The so-called digital divide is closing: The fastest growing populations of users are Latinos and African-Americans. Only 4 percent more men than women use the Internet, one of the smallest gender differences among the countries that are part of the project.

* *For users, the Internet is now the most important source of information.* Almost all users report that the Net is the first place they go for information, whether to settle a bet, contemplate a purchase, or answer a complex question. The "always on" function of broadband has greatly accelerated that trend by making the Internet easier to use than a telephone or reference book. However, the Internet still trails television as a source of entertainment.

* *Users watch less television than do nonusers.* Since the 1960s Americans have spent the bulk of their time in front of the television, when they are awake and at home. From the beginning of our study, it was clear that Internet users watched less television than nonusers. In 2002 our subjects who used the Internet began to report spending less time with newspapers and magazines, too -- about 45 to 60 minutes a week less than nonusers. Some users report spending more time with online newspapers, however. So far, users and nonusers spend about the same amount of time each week with books.

* *Internet users have healthy social lives.* In the 1990s, some scholars feared that use of the Internet threatened people's ability to interact face to face. That does not seem to be the case. Internet users get about an hour a week less sleep than nonusers do, but they engage in about 30 minutes more of physical activity -- perhaps because they are a few years younger. Users also spend more time in person with friends than do nonusers and report slightly lower levels of depression, alienation, and loneliness.

* *Use of the Internet increases productivity.* Most users report that the technology has made them more or much more productive at work. However, that does not mean they spend less time working, as they report taking on more and more tasks and finding the line between work and home increasingly blurry. Many users say they work more and harder than ever before, including late at night or on holidays when they are home. And while e-mail is one of the most appealing elements of the Internet and the single biggest reason people go online in the first place, it is becoming an enormous burden to many people as their in boxes fill up with communications demanding answers.

* *E-commerce is becoming more common.* After a slow start, when many Internet users were afraid or unwilling to make a purchase online, e-commerce is expanding rapidly. Online purchasers like the wide array of goods and services available, and the ability to shop 24 hours a day. Users' reluctance to pay for digital content may also be beginning to ebb. However, purchasers and nonpurchasers alike report extraordinarily high levels of concern about online security and privacy.

That is just a sampling of some of the ways in which Internet use has changed Americans' lives. It has had equally important effects on political campaigns, dating, child rearing, crime, and dozens of other areas. And based on four years of our study and other researchers' work, certain predictions for the future seem safe:

* *More Americans will go online.* In 10 years, 80 to 85 percent of Americans will have access to the Internet, matching the percentages of Swedes, Finns, and South Koreans predicted to be online at that point. The rest of the industrialized world (Japan, Britain, and Germany, for example) will probably be under 75 percent. But it may well take 25 years before 90 percent of Americans are Internet users.

* *Wireless connections will become standard.* By 2014 the notion of an Internet connection permanently anchored in one spot will seem archaic. Users will expect the Internet to be in all areas of the home (including the garage and backyard), at work and school, and in the car.

* *Education will make greater use of the Internet.* In 2004 the Internet has already had an enormous, transformational effect on how Americans work and play. But its impact on how we learn, both formally and informally, has been minimal and limited to the periphery of education, in areas like Web sites for courses and small amounts of distance learning. Over the next 10 years, as children who grew up with the Internet become teachers and administrators, they will begin to apply the Internet to the foundations of learning.

* *Entertainment will not dominate the Internet.* Television, with its communal viewing and network programming that reaches all demographic groups in the nation, will always be a better medium than the Internet for entertainment. The real future of the Internet is in information.

* *It will become hard to do some tasks offline.* In 2014 most Americans will use the Internet to send letters, file tax returns, pay bills, and so forth. People who do not want to perform those chores online will find it increasingly difficult and expensive to avoid doing so.

It is easy to see that online technology will change how we communicate, buy goods, and search for information. It is clear that technology is creating a major transition in how political campaigns are waged and financed, in how crime occurs, and in the development of children raised with the Internet and e-mail. Less clear, but much more important, is technology's longer-range impact on creativity, national and individual self-concepts, and the quality of personal relationships.

The greatest changes will be not the obvious ones, but the subtle and unexpected shifts that we can understand only through longitudinal, scientific research. That is why it is so important for researchers to begin work on the Internet now.

* * * * * * * *

SUPPLEMENT 2

THE USC ANNENBERG SCHOOL CENTER FOR THE DIGITAL FUTURE

The USC Annenberg Center for the Digital Future is a forum for the discussion and development of policy alternatives addressing the leading issues in media and communication. Communication policy at its core begins with the individual and the family.

The Center conducts and facilitates research, courses, seminars, working groups, and conferences designed to have a major impact on policy at the local, national, and international levels. It also provides a base for visiting scholars who are engaged in efforts to examine and shape communication policy. The Center's goals include using the vast intellectual resources of USC to deal with some of the most important concerns of the day and to have a transforming effect on the issues.

The Center is based in the Annenberg School of Communication at the University of Southern California. Until July 2004, it was housed at UCLA in the Anderson Graduate School of Management.

In October 2000, the Center released the first report on the Internet, the beginning of an international, long-term exploration of the impact of the Internet on society. This work is part of the World Internet Project, which is organized and coordinated by the Center; included in the World Internet Project are the Center's work and partner studies in countries in Europe, the Middle East, South America, and Asia. The first report of the World Internet Project was released in January 2004.

Since the Center's creation in September 1993, it has been awarded a multi-million-dollar national research grant, held numerous national and local conferences, conducted three nationwide surveys with one of America's leading news magazines, and established a strong national and international identity in communication policy.

The Center for the Digital Future has become an internationally regarded policy studies center. The Center is committed to studying, through a variety of prisms, the important communication issues that transform our lives.

For more information about the Center, visit www.digitalcenter.org.

SUPPLEMENT 3

THE WORLD INTERNET PROJECT – INTERNATIONAL CONTACTS

UNITED STATES (ORGANIZER)
Center for the Digital Future
USC Annenberg School for Communication
www.digitalcenter.org

ARGENTINA
Institute of Applied Economics &
Fundacion de Investigaciones
Economicas Latinoamericanas
www.bancoempresario.com/ar/IEA_Web/
IEA.HTM

BOLIVIA
Universidad NUR
www.nur.edu

CANADA
Canadian Media Research Consortium
http://www.cmrcccrm.ca/

CHILE
P. Universidad Catolica de Chile
www.puc.cl

CHINA
Chinese Academy of Social Sciences
www.cass.net.cn

FRANCE
Theseus International Management Institute
www.theseus.edu

GERMANY
European Institute for the Media
www.eim.org

GREAT BRITAIN
Oxford Internet Institute
www.oii.ox.ac.uk

HONG KONG
City University of Hong Kong
www.cityu.edu.hk

HUNGARY
Technical University of Budapest
www.bme.hu

INDIA
Indian Institute of Technology, Bombay
www.iitb.ac.in

ITALY
SDA Bocconi, Bocconi University
www.sdabocconi.it/oii/

JAPAN
Toyo University
http://media.asaka.toyo.ac.jp/wip/
index.html

KOREA
Yonsei University
www.yonsei.ac.kr

MACAU
University of Macau
www.umac.mo

PHILIPPINES
Digital Filipino
www.digitalfilipino.com

PORTUGAL
ISCTE University
www.iscte.pt

SINGAPORE
School of Communication Studies
Nanyang Technological University
www.ntu.edu.sg/sci/

SPAIN
Servilab
http://www2.uah.es/servilab/

SWEDEN
World Internet Institute
www.worldinternetinstitute.net

TAIWAN
National Chung Cheung University
www.ccu.edu.tw

SUPPLEMENT 4

RESEARCH METHODS

In creating "Surveying the Digital Future," a primary goal of the Digital Future Project is to maintain a representative sample of users and non-users in the United States. Here is the methodology that was used to collect and maintain this sample:

- For Year Four of the Digital Future Project, interviews were conducted with 2,009 households throughout the 50 states and the District of Columbia.

- For both the original sample drawn in 2000, and the replacement samples selected in subsequent years, a national Random Digit Dial (RDD) telephone sample using an Equal Probability Selection Method (EPSEM) was used. This sampling methodology gives every telephone number in the 50 states and the District of Columbia an equal chance of being selected.

- In the initial call, an interviewer spoke to a person in the household 18 years of age or older to obtain a roster of all household members. At this point, a computer system ("CFMC Servent" CATI) randomly selected one individual from among those 12 years of age and over in the household to be the interviewee from that household.

- If the randomly selected individual was between 12 and 17 years of age, the interviewer asked a parent or guardian for permission to interview the child.

- In the initial contact, once the selection of a household member was made, only that individual was eligible to complete the interview.

- Eight call attempts were made to complete an interview. If a household refused twice, it was not contacted again.

- When contacting panel members from the original sample, up to 16 call attempts were made to reach them. The same household member who participated last year was interviewed again. The only condition in which a new household member was accepted was if the person interviewed last year was no longer a member of the household.

- Those participating in the survey for the second, third, or fourth year were paid a monetary incentive.

- Interviews were conducted in English and Spanish. Interviewing took place between July and September 2003.

- The data was compared to U.S. Census data to ensure that the sample was representative in terms of geographic distribution, race, age, gender, family composition, education, and household income.

- To correct for minor discrepancies between the sample data and Census data, the sample data was weighted. Sample size was preserved during the weighting process. The final sample for Year Four of the Digital Future Project was derived from two different sources, and this complicated the weighting procedure. The first portion of the sample consisted of respondents who had participated in the survey in the past. The second portion consisted of a new random sample that was recruited to replace dropouts.

- An examination of the profiles of each of these sample sources revealed differences from the most current U.S. Census results. Moreover, the differences varied depending on the sample source. As a result, the weighting for this year's survey consisted of two separate weighting adjustments, one for respondents that were repeats, the other for newly recruited respondents.

- Each of the different sub-samples was weighted to correct for their primary sources of deviation from the Census. After this, the two samples were combined.

- The following variables were used in the weighting adjustments, although in different ways for each of the two sample sources: age, gender and, race. In the final weighted blended sample, the largest deviation from current U.S. Census results occurred in the race category where the weighted total sample had 3.8 percent more whites then the national average. All other deviations were less than 3.6 percent from Census values.

- The data for the calculations was in most cases calculated to at least eight decimal places, and were then rounded to tenths. As a result, some totals may not add up to precisely 100 percent.

CENTER FOR THE DIGITAL FUTURE
WWW.DIGITALCENTER.ORG

USC ANNENBERG SCHOOL FOR COMMUNICATION
300 SOUTH GRAND AVENUE, SUITE 3950
LOS ANGELES, CA 90071

INFO@DIGITALCENTER.ORG