RE-VISUALIZING THE DIGITAL DIVIDE
AS A DIGITAL SPECTRUM

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ABSTRACT

Most analyses of the digital divide have conceived of Internet access as binary – either someone is an Internet user or is not. Using data from a 2002 national random digit dial survey, this article visualizes online access as a continuum. Internet access may be intermittent for some users, nearby for others (such as nonusers household in which another person uses the Net), and a remote possibility for others (given their preferences, perceptions and concerns about the Internet).

This article then proceeds to analyze the social, demographic and psychological predictors of Internet users and nonusers. Demographic factors (being white, well educated, and having a high income) are associated with more Internet adoption, as are high levels of trust, social contentment and media use. Controlling for other variables, Hispanics and African-Americans are less likely to be online, as are people who report frequently socializing with family and friends and being members of social groups or clubs.

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Differential rates of Internet access across demographic groups continue to persist in the United States, even as the Internet has diffused more widely in the population in recent years. As calculated from Appendix A, overall Internet penetration grew from 49% of Americans over age 18 in March 2000 to 58% by the end of 2002. Still, the least connected groups continue to lag behind their more connected counterparts, and the raw size of the divides between them has generally remained static from 2000 to 2002. High group minus low group differences in Internet penetration in 2002 continue at almost 60 points (82%-23%) for education, 56 points (74%-18%) for age, 48 points (86%-38%) for income, and 15 points (60%-45%) for race. The situation for race is shown graphically in Appendix Figure 2; access gaps for Hispanics have narrowed in the past few years, while those for blacks have remained much the same since 2000. Community size and gender differences are smaller, but they also remain much as they were in 2000

Beyond these numbers, however, closer examination of the group lumped together as "nonusers" of the Internet reveals a picture of Internet access that is more nuanced than captured by the historic metaphor of the digital divide. Nonusers are hardly a monolithic group on one side of a sharp divide, but rather a varied group characterized in part by instability and inconsistency in use. Certainly, the majority of Americans who use the Internet can be visualized as following a standard progression or hierarchy, as they move from non-user to novice user to experienced user, and then taking the leap into broadband (remaining consistently online from their first steps on the Internet to their present connection).

However, some nonusers may never go online, rejecting Internet use all together, perhaps citing lack of time, desire or need. Others they may find themselves still wishfully peering across the divide, stymied by economic or personal circumstances. Others do try the Internet—but stop for a variety of reasons—some eventually to return, others not. Still others are content to remain nonusers, but indirectly access the content and communications on the Internet through family members or friends—who do research or agree to send and receive email on their behalf.

Thus, in order to recast and refine the image of a binary digital divide that has dominated previous research and policy, the image of a digital *spectrum* of access is proposed. Within this spectrum, different types of nonusers can be clustered to provide policy makers, researchers, governments and non-profit agencies, among others, with more specific information about the differing outlooks on the Internet, social contexts and demographics among subgroups of nonusers. This can allow for more tailored policies, products and programs, as access becomes more fluid – both for individuals over time, and in how access itself is defined.

More accurate understanding of the qualities of Internet behavior is crucial, since how an issue is imagined or labeled constrains and shapes how society responds to it. In the words of Mehan (1997: p.250):

"Language has power. The language that we use in public political discourse and the way we talk about events and people in everyday life makes a difference in the way we think and act about them. Words have constitutive power; they make meaning. And when we make meaning, the world is changed as a consequence."[1]

The data presented below reflect one attempt to overcome these labeling and definitional constraints.

METHODS

In 2002, the Pew Internet & American Life Project undertook a national survey to re-examine the population of nonusers and their demographic correlates as established by NTIA and earlier Pew Internet studies. The core of that study was a random-digit-dial (RDD) telephone survey conducted between March and May of 2002, as well as six focus groups with new Internet users conducted in the Summer of 2002. This article summarizes the findings from that study, with a focus on two types of research questions: I) Who is not online, why are they not online, and among those people who were once Internet users, why do they no longer have online access, II) What drives the adoption of the Internet beyond socio-economic factors, factors such as the respondent's social networks, social capital, media behavior, technology use, personality and general outlook. This is intended to yield a more detailed perspective on online access than traditional binary visions of Internet use being an "on/off" phenomenon. Finally, a discussion of some policy implications of viewing the digital divide as a spectrum or continuum, rather than a clear divide, is presented.

RESULTS

I) THE SPECTRUM OF NONUSERS AND USERS

The overall picture of results can perhaps best be reflected in the continuum of use as visualized in Figure 1: This spectrum distinguishes between the six types of respondents emerging from the Pew Internet Project survey, with broadband users (13% of all Americans) and uninterrupted dial-up users (20-30% of all users) separated on the right side of the figure from the nonusers on the left. On the left are shown the four main subgroups of nonusers within the spectrum that exemplifies its fluidity and behavioral implications: Intermittent Users (16-28%), Net Dropouts (10%), Net Evaders (8%) and the Truly Unconnected (24%).

Figure 1: The Spectrum of Access
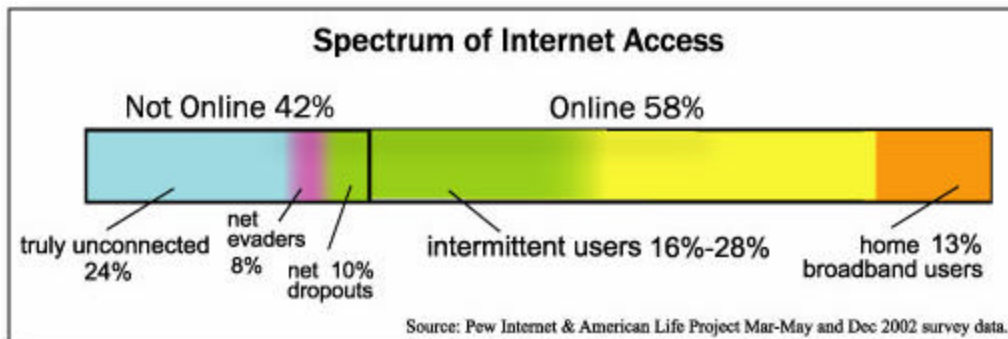
The survey results indicate these four groups can be usefully characterized as follows:

1)   *Intermittent Users*

This group includes the 44% of the nation's current Internet users in the Pew March-May 2002 survey who have gone offline for extended period[2], suggesting that access to the Internet is discontinuous for a large percentage of the online population. People get fed up, cut off, or other aspects of life get in the way of their use of the Internet, although eventually, they return to the Internet when life circumstances permit[3].

Demographically, Intermittent users are disproportionately young, single, students, minorities, and not full-time workers. Intermittent users are evenly divided between men and women and are somewhat overrepresented among users who live in rural or urban areas. They also disproportionately live in households with lesser income and educational attainment. Most are dial-up users.

Previous Pew Internet Project research has found that the longer people have used the Internet, the more likely they are to go online frequently, to spend several hours on any given day online, to participate in many online activities, and to say the Internet makes a difference in their lives. This "experience effect" also seems to play out among Intermittent users, with newest Internet users being most likely to be Intermittent users and the most experienced Internet users least likely to be Intermittent users. In all likelihood, relative newcomers to the online world have not built Internet use into their lives to the same degree that more experienced users have.[4]

Overall Intermittent users dropped offline because of technology problems or because they were not finding much of use online. Most frequently, Intermittent users said they did not have the time to use the Internet or that it was not a good use of their time. Some users cited illness in the family or small

children or other care-giving responsibilities that prevented them from using the Internet. Others cited workplace demands and some simply felt that there were other ways to spend their time that were more rewarding. The next most cited explanation given for tuning out were Internet Service Provider problems that include complete shut down of the ISP, slow service or connection, free services switching to a pay model, and frequent busy signals.

Only 7% of Intermittent users said they dropped offline for an extended period because they simply did not like or want it; another 7% said that they just didn't need the Internet at that time in their lives, and 7% said they stopped using the Internet because they moved and could no longer get local access; and another 3% said they could no longer get to the location where they used to go online (friend moved away, no longer have a car, finished school), several respondents saying they lost access in their transition between college and the "real world." Other online Americans who interrupted their Internet use reported that computer problems or access problems keep them offline. For 6% the computer broke, 4% simply lost access to a computer, and another handful changed jobs or lost access at work. Some found it too hard to use, too confusing and too information-laden. Some 6% of Intermittent users said they went offline for a period out of fear of online crime. Fewer mentioned concern for their child's or children's safety and even fewer were worried about their privacy or found themselves disturbed by pornographic content. Others mentioned frustration with excessive amounts of spam, particularly pornographic spam, and pop-up advertisements as factors that drove them from the Internet for a time.[5]

2)   *Net Dropouts*

This group is defined as the 17% of nonusers (up from 13% of nonusers in March 2000) who have used the Internet in the past but have since stopped.

Demographically, they tend to be young Americans, many of whom have had recent trouble with Internet access or their computer. A disproportionate number are parents, citing burdens on their time as a reason they do not want to go online. Additionally, a surprisingly large group of them are employed in comparison to other nonusers. Like other nonusers of the Internet, Net Dropouts are more often members of minority groups. They more frequently live in households with lower levels of annual income, which suggests that the burden of paying for Internet access and maintaining a computer is likely a factor in their decision to drop their Internet connection. Net Dropouts are also markedly more likely to be urban residents than suburban or rural.

Qualitatively, Net Dropouts cite a variety of voluntary and involuntary reasons for their departure from the Internet population, the biggest being that they no longer had a computer (a problem cited more frequently by younger adults, those in rural areas, those in households with modest incomes, and men.) Another related access issue is loss of Internet connectivity, as they

moved, changed or lost jobs, or could not get to the place where they usually had access. Some cited the cost of an online connection becoming too expensive. More frequently 18–29 year olds, high school graduates, and women tend to break off from the Internet because of Internet access problems. While many Net Dropouts reported that loss of a computer and/or Internet access was a main factor in going offline, some 79% of Net Dropouts knew of a convenient public place, like a library, where they could to access the Internet. Some 83% said that it was "very" or "somewhat" easy to get to places in their communities with public Internet access.

Net Dropouts may no longer be physically connected to the Internet but they remain socially connected to it. Most Net Dropouts use computers and know other people who are online. They are twice as likely to use computers as other nonusers; some 57% say that they use a computer on at least an occasional basis. Nine-tenths of Net Dropouts have close friends or family who use the Internet, and 86% say that at least some people that they know go online. In comparison, 69% of nonusers say that some or most of the people they know go online.

A general dislike of the Internet was another oft-cited reason for dropping out. Dropouts who found the Web unhelpful and uninteresting were often minorities, older Americans, those in high-income households, those with high levels of education, and men. Problems with online content and design issues were less important to Net Dropouts than problems of access and preference. Those who expressed concerns with Internet content or design tended to be suburban residents, male, white, and between the ages of 30 and 49.[6]

3)   *Net Evaders*

This group is defined as that 20% of all nonusers who do not themselves use the Internet but who live with someone who goes online from home.

Demographically, Net Evaders resemble Internet users, an unsurprising finding given that their households also contain at least one Internet user and have already overcome many of the economic and technical hurdles to access. Indeed, more than half of Net Evaders are likely to believe that they will go online someday. Net Evaders are fairly evenly divided by sex: 48% are men, 52% are women. Age-wise, they are slightly more likely than other nonusers to be between the ages of 30 and 49 than in other age groups – and are not very likely to be senior citizens. Net Evaders are predominantly suburban and urban and are more frequently found in the Northeast, and less prevalent in the Midwest. Compared to those who don't use the Internet, Net Evaders are likely to have relatively high levels of education and household income. Indeed, close to half of all nonusers in households earning over $75,000 are Net Evaders.

Qualitatively, data gathered both over the phone and in a series of focus groups and personal interviews revealed that lack of time was a major reason

given by Net Evaders to explain why they were not online. Many Evaders felt that it was not a good use of their time, that they did not need or want it and that they were not missing much by nonuse. Others expressed fears—of "addiction" to the Internet, or of not being able to master the skills necessary to use the technology (particularly in front of others who were more knowledgeable). Others self-defined themselves as nonusers of technology, preferring to gather information and communicate with others via the other avenues of face-to-face or phone conversations. These nonusers also described the "work-arounds", by which family members or friends would research items online or send and receive email on their behalf, thus rendering these Evaders "secondhand" users. Some were proud that they did not use the Internet, viewing themselves as less dependent on technology and more self-sufficient. They saw use of the Internet as a form of weakness, being pleased that they do not "need" the Internet.

Notably, 28% of Net Evaders have used the Internet in the past, saying they dropped offline because they did not like the Internet, did not find it interesting or useful, or simply did not want to use the Internet any more. Computer and technology access issues were another major problem for them. Some 14% of Net Evaders reported computer *access* issues, perhaps because other members of their households were monopolizing their access to the family's wired computer. Other evidence suggests that even beyond their household connections, Net Evaders have social networks composed mainly of Internet users. A little more than half of nonusers in wired homes say that *most* of the people they know use the Internet. In comparison, only 35% of all nonusers say this. Net Evaders conduct the bulk of their lives in close proximity to the Internet.

4)   *Truly Unconnected*

These nonusers make up 69% of non-Internet users (and 24% of Americans overall) and encompass all nonusers who do not have another connection to the Internet, either through previous personal experience (as with the Dropouts) or through the secondhand experience of many Net Evaders. This group, which makes up the bulk of all nonusers, have lives a step or more removed from the online world and other people who use it. While many of the Truly Unconnected say they know family and friends who go online, a disproportionately large percentage (31%) of this group say that very few or none of the people they know go online. For this isolated-from-the-Internet subgroup, there are scant resources and no support structure of people to help them navigate the technical difficulties of getting hooked up and online.

Demographically, more than half (59%) of the Truly Unconnected are women. As a group, they have low incomes–43% live in households that earn under $30,000 yearly, and 29% earn under $20,000. They also tend to be older than other nonusers, with 62% over the age of 50. Seventy-four percent have a

high school education or less. About 75% are white, 15% black and 9% are Hispanic.

Many of the Truly Unconnected do know of public locations of Internet access in their community, though they are less likely than other groups to know of public access points. Some 56% of the Truly Unconnected know of public Internet access spots, compared to 69% of all Americans who know about such access points. Still, of the Truly Unconnected who know of access points, the vast majority say these places are easy to get to. So with easy public access nearby, the Truly Unconnected are offline because they lack social networks that would encourage them to build use of the Internet into their daily lives. A quarter say that their close friends and family don't go online, with 31% of the Truly Unconnected saying that "very few" or "none" of the people they know go online – compared to a mere 4% of Internet users. The Truly Unconnected further believe that they would not benefit from using the Internet, with 54% saying they don't need the Internet and another 53% said they do not want it. Other Truly Unconnected Americans say they are worried about online content: 44% say they are worried about pornography and other objectionable content, online theft and fraud. A somewhat smaller group, 33%, say that Internet access is too expensive, and another 28% say that they don't have time to use the Internet, or that it is not a good use of their time. Just over a quarter of unconnected respondents said that they thought the Internet was too complicated or hard to use, and another 12% said that simply not having a computer or an Internet connection kept them from logging on to the Internet.

The Truly Unconnected also tend to have a more negative appraisal of the Internet than their wired counterparts. While they do believe that email helps people keep in touch, and that the Internet would help them to find out about things that interest them more easily, they are less likely to agree with those statements than other users or nonusers. More than half of the unconnected believe that the Internet is dangerous, and almost half regard it as mostly a form of entertainment. More than half (55%) do not think they are missing anything by not being online. About 40% of the Truly Unconnected think the Internet is too expensive and they are slightly more likely than other nonusers to believe that the Internet is confusing and hard to use.[7]

*The Spectrum in Summary***:** These four groups suggest that the idea of a digital divide, defined by the simple idea of people being either online or offline, is a less accurate way of understanding adoption of the Internet than the idea of a spectrum of access. There is unevenness in people's use and non-use of the Internet and there seems to be great fluidity in the Internet population itself. As it turns out, as many as 31% of those who say they are not Internet users once used the Internet or currently live in close proximity to it. These Americans know how to use the Internet or know others in their immediate household who can use it on their behalf. They are not in the same position as the 69% of

nonusers who are much more distant from the online world because they live outside an Internet-connected home and have never sampled online life.

The "sometimes on/sometimes off" character of Internet use by many Americans is consistent with historical patterns of technology adoption. Information services that require monthly payments by consumers and the development of infrastructure by industry typically diffuse unevenly. Telephone penetration actually declined during the Great Depression when people's incomes fell. In contrast, information goods that require a one-time purchase usually have steadily increasing diffusion curves. Americans continued to buy radios throughout the Depression; 46% of American households had radios in 1930 compared with 82% ten years later. Videocassette recorders tell the same story; 2% of U.S. households had VCRs in 1980 and 70% had them by 1990. The Internet is an information service that requires that infrastructures be built and that users make a periodic payment. One would expect it to be more like the telephone than the radio in its adoption patterns.[8] (Schement 2001)

II) DEMOGRAPHIC AND SOCIAL PREDICTORS OF INTERNET ACCESS

Even with an analysis of those without access, previous and intermittent users, it is helpful to examine the individual characteristics that are associated with a person's choice to go online. To do this, factor analysis and regression analysis are combined to assess more closely the psycho-social characteristics behind Internet adoption. The March-May 2002 survey explored a wide variety of hypotheses about what drives Internet use, including differences in people's personality and social outlook, differences in connections to the community, as well as racial and economic factors.

Factor analysis is a statistical technique that is very helpful in summarizing the wide-ranging phenomenon that the March-May 2002 data analyzed. With the data summarized in terms of a smaller number of demographic and social factors, regression analysis then enables one to see which factors predict whether or not a person is an Internet user. A number of variables relating to people's social outlooks and behaviors can be grouped together in statistically meaningful and intuitive ways, as shown in Table 1 below. The table defines the factors that were used in the regression model, as well as other variables included in the model, and shows whether each variable is a statistically significant predictor of Internet access. In reading the table, the row that says that "social contentment" is a positive predictor of Internet access, for example, means that those respondents who said that people can generally be trusted and are fair, and who also have many people to turn to for support, are more likely to be online than those who did not exhibit these traits – holding constant the other variables listed in Table 1. [9]

TABLE 1: PSYCHO-SOCIAL AND DEMOGRAPHIC PREDICTORS OF INTERNET ACCESS

Variable Name	Definition	Predictive Effect
Social/Personal Traits		
Personal Time	Satisfied with time spent with friends, family, for relaxation	Weakly positive
Social Network	Often visit with family friends, call to talk, dine with	Negative
Social Capital	Belong to community group or social club	Negative
Social Contentment	Think people are fair, can be trusted, and who have people to turn to for support	Positive
Extroversion	People who say they are generally outgoing	None
Belong to "Other" Groups	Belong to "other" unspecified groups	Positive
Church Goers	Regularly attend church	None
Media Use	Read paper, watch TV news on average day	Positive
Socioeconomic Variables		
Gender	Coded '1' for males	None
Education	Code '1' for college graduates	Strongly Positive
Student	Full or part-time students	Strongly Positive
Household Income	Coded '1' for greater than $75,000 per year	Positive
Employed	Full or part-time	Positive
Other Technology Use	Use cell phone, personal digital assistants.	Positive
Race/Ethnicity	White, Hispanic, Black	Positive for whites, negative for blacks & Hispanics

Source: Pew March 2002 national survey

Demographic predictors: In many ways, demographic factors continue to predominate when it comes to predicting who will go online.[10] Having a college degree, being a student, being white, being employed, and having a comfortable income each independently predict Internet use in these data. Notably, gender is not a significant factor. As for race, being white is a strong predictor of whether one is online (as in Appendix Figure 2), controlling for all the other demographic variables. When the model was run with blacks and Hispanics as the race variable, being black or Hispanic was a negative predictor of online

access. Race matters; holding all other things constant, blacks and Hispanics are less likely to go online than whites.

Attitude and lifestyle predictors: Factors pertaining to people's social outlook and behavior are important as well, even after taking demographics into account. Those whose worlds seem to be close around them are less likely to go online, as are people who belong to a community group or social club (i.e., those with traditional measures of social capital)[11]. Similarly, those with an active and immediate social network (i.e., those who frequently visit, talk, or dine with friends and family) are also less likely to go online. In contrast, those who are satisfied with the amount of time they can devote to family, friends, hobbies, and relaxation are slightly *more* likely to be online, although this variable's predictive power is small and significant in only one model. In sum, it seems that the physical proximity of people and groups that matter to these people leaves little room (or need) for the Internet.

People who exhibit a positive and outward orientation toward the world are more likely to be Internet users. Those who feel they have a more control over their lives, and who are also satisfied with the direction in which the United States is heading are more likely to go online than those who do not feel that way. The variable "social contentment" reflects a grouping of people who think other people are fair, can be trusted, have others to turn to for support, and are white. That variable is significant in two models, and it remains significant when the "white" variable is included. Since econometrically one would expect including both "social contentment" (which partially reflects race) and the race variable for white Americans to lessen the significance of each, this suggests that race *and* attitudes of social contentment are strongly related to Internet adoption. Finally, greater media users – those who watch TV news, read newspapers and regularly watch TV (arguably an indicator of an outward orientation) – also use the Internet more.

Of course, it is possible to have both an outward orientation toward the world, and a "close in" social universe (as measured by social capital and nearby social networks). According to the model, if one is such a person, the odds are in favor of one's being online. In other words, a person's outward orientation would outweigh a "close in" social universe and mean that a person possessing both characteristics is more likely than not to be online. One implication of these findings has to do with what could be called "social learning" and Internet adoption. One of the positive predictors of being online is "social contentment", a variable that includes having people to turn to for support. People who said they had a sense of control over their lives also were more likely to be online than those who didn't. Additionally, the college educated and students were more likely to be online, no doubt due to the often-free provision of access at educational institutions. All of these factors suggest that a comfortable environment, where people have a sense of safety and control, plays a role in whether people go online.

CONCLUSIONS AND POLICY IMPLICATIONS:

A number of state, local, and federal programs have recently been initiated to promote access to the Internet for those who lack it. At the federal level, for example, the e-Rate program provides discounts to schools for high-speed Internet infrastructure, so that school-age children have Internet access. The Technology Opportunities Program (TOP) in the U.S. Commerce Department is a grant program that funds demonstration projects to community groups or local governments that have innovative models for promoting access to low-income communities. Cities, such as Cleveland, fund community access projects using cable access fees, and states, like Texas, provide funding for projects that aim at promoting access to the Internet among low-income populations.

Viewing Internet access as a continuum rather than a dichotomous division may help policymakers sharpen their programs designed to promote access. One key finding from this research is that there is a portion of the not-online population that appears not to want the Internet – for whatever reason they believe it is not for them. This suggests that policy measures, no matter how well designed or intentioned, may not be able to reach this population – notwithstanding whatever individual or social benefits there may be to having online access.

The inner part of the spectrum may offer particular targets of opportunity for policymakers. "Net Evaders", those who are not online in online households, "Net Dropouts" who were once online, and "Intermittent users" each have unique public access needs that policy can separately address. In particular, Internet access sites that provide an environment for social learning may be key for a portion of these users. Some of these users express fears about how to use the technology, others worry that they may damage computers, while others say that they no longer use the Internet because their computers are broken or have problems connecting to an Internet service provider. Community technology centers or public access sites at libraries – especially if it attracts others from users' neighborhoods, may provide a safe social environment in which potential users can over come their "fear or shame factors" associated with access.

This suggests that public provision of access, at library and community centers, can address the varying access needs of nonusers across the access spectrum. By providing an environment where people can overcome their technological fears and gain a sense of knowledge of what the Internet can offer, these access points can help people who wish to move more to the right on the Figure 1 usage spectrum. While such programs are bound to come under budget pressures at all levels of government in the coming years, this research suggests the important roles they can play in encouraging adoption.

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APPENDIX A: A NEW LOOK AT THE DIGITAL DIVIDE: 2000-2002

How Internet access changed

The percentage of each group who have Internet access. For example, reading from the first line: in 2000, 51% of all American men had access; in 2002, 60% of men had access.

	2000	2002	Diff
Men	51%	60%	+9
Women	46	56	+10
Race/Ethnicity*			
Whites	50%	60%	+10
Blacks	34	45	+9
Hispanics	43	54	+11
Age			
18-29	69%	74%	+5
30-49	60	67	+7
50-64	45	52	+7
65+	14	18	+4
Household Income			
Less than $30,000	31%	38%	+7
$30,000-$50,000	52	65	+13
$50,000-$75,000	67	74	+7
$75,000 and above	78	86	+8
Education			
High school inc.	17%	23%	+6
High school grad	34	45	+11
Some college	63	72	+9
College +	75	82	+7
Community Size			
Rural	43%	49%	+6
Suburban	54	63	+9
Urban	53	58	+5

Source: Pew Internet & American Life Project Tracking Survey, April 2000 and March-May 2002. Margin of error is ±2.5 % for April 2000 and ±2% for March-May 2002. N=2,503 for April 2000 data, N=3,553 for March-May 2002 data.

* The 2000 numbers for the race category are based on the March, April and May-June 2000 data sets. Total n=10,642. Margin of error is ±1%
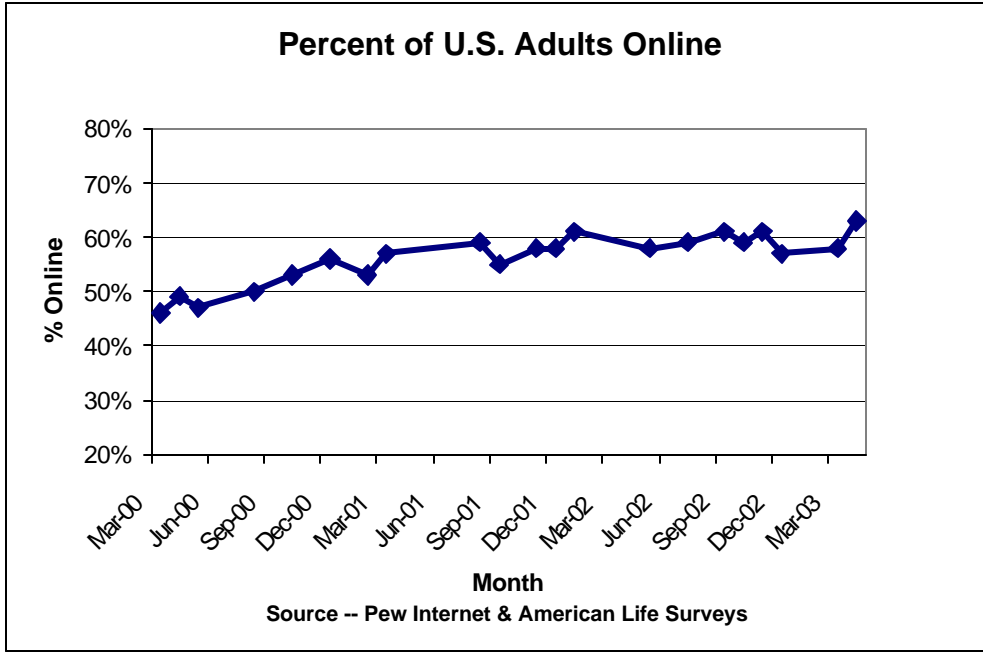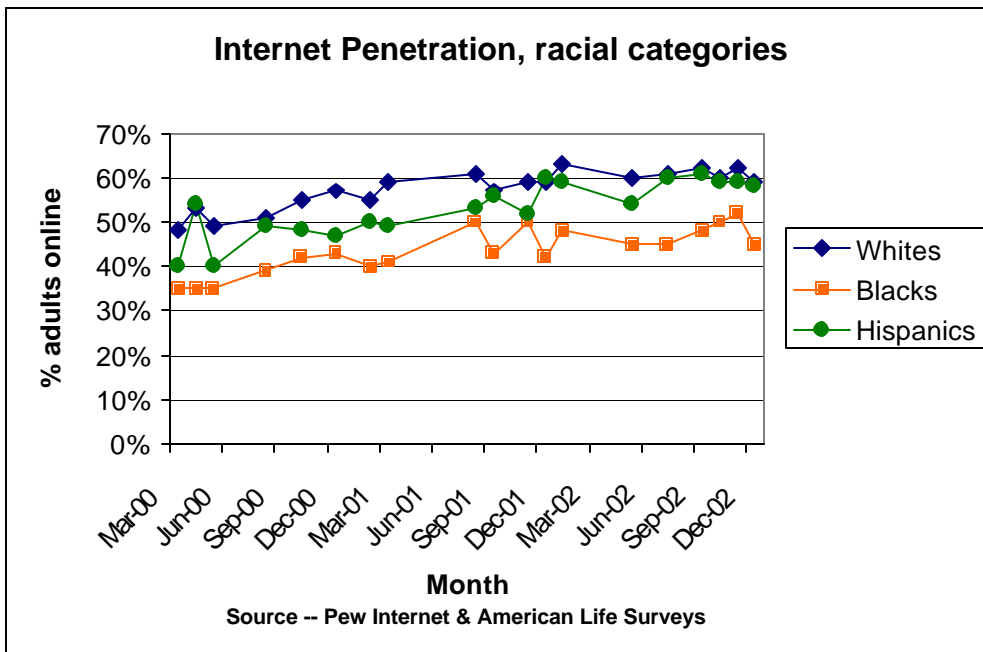
FIGURE 1

Percent of U.S. Adults Online

Source -- Pew Internet & American Life Surveys

FIGURE 2

Internet Penetration, racial categories

Source -- Pew Internet & American Life Surveys

ENDNOTES

[1] Mehan, Hugh. 1997. *Discourse and Society*, vol. 8. p. 250.

[2] This analysis excludes the 11% of Intermittent Internet users who said they had gone offline during a vacation

[3] This question was asked again in December 2002. However, in the later survey, a much smaller 27% of Internet users said they had gone offline for an extended period of time. The plan is to continue to probe on this issue because of the wide variance. Yet, it is clear that over a quarter of current Internet users at one time or another stopped using the Internet for an extended period.

[4] For more on the "experience effect," see Horrigan (2002)

[5] A small number of Intermittent users (3%) said the cost of access kept them offline, and a tinier group reported that a disability, illness or hospitalization forced them offline. Other smaller groups of respondents mentioned that they stopped using the Internet once they purchased a cell phone, while some mentioned that they went offline in the summertime, probably related to this group's greater proportion of young people and higher incidence of students in the population. Hispanic and black Intermittent Internet users tend to point to time crunches and relevance as limiting factors in their ability or inability to use the Internet, while whites tend to blame ISP problems and lack of time.

[6] Generally, Net Dropouts view the online world in a more positive light than other nonusers and that, most likely, is a product of their familiarity with it. Some 63% of Net Dropouts think that they are probably or definitely likely to start using the Internet or email again someday. Other non-user groups are more likely to suggest they will never go online. Nonetheless, Net Dropouts seem to have a more negative outlook on society compared to Internet users. Nearly half of Net Dropouts are dissatisfied with the way things are going in this country today, and over 60% say that one can't be too careful in dealing with people. Over half of Net Dropouts believe that most people would take advantage of others given the opportunity. Twice as many Net Dropouts as Internet users say that they have hardly any people they could turn to for support when they need help. Like all nonusers, Net Dropouts feel like they have less control over their lives, clustering into variables of "social contentment," and "trust" which tend to be lower among non-user than users (variables also directly and indirectly tied to race, gender and socio-economic status). While Net Dropouts describe the Internet in a variety of ways, they see it more as a tool for specific needs, rather than a resource with broad applicability to their lives.

[7] About 17% (the 31% of the Truly Unconnected mentioned above) of all nonusers are *totally* disconnected—they have no family or friends who go online, and have never used the Net themselves. For these Americans, the Internet is not even a part of the picture of their lives, except perhaps through exposure to it in the media (newspapers or TV), which itself exists at the periphery of their lives, due to lower levels of media and technology use in this group.

[8] Jorge Reina Schement (2001) "Of Gaps by Which Democracy We Measure", in Benjamin Compaigne, ed, *The Digital Divide*. Cambridge, MA: MIT Press.

[9] The nature of the cross sectional data used here places limits on making strong causal inferences from the data; panel data would aid greatly in making such causal statements. Still, the cross sectional data helps in separating out independent effects on the decision to adopt the Internet and their relative magnitudes.

[10] For the statistically inclined, the models run were logistic regressions in which the dependent variable was binary (people are defined either as Internet users or not), with most variables listed as significant being at a 1% confidence level and the overall percent concordant in the model being close to 80%.

[11] It is notable that, for those respondents who belong to "other" groups (only about 6% of the sample), group membership is a positive predictor of online access. Since the "other" groups are unspecified, it would be well worth exploring specifically what kinds of group activities may be associated with Internet use.