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Chinese Academy of Social Sciences

Surveying Internet Usage and Impact in Twelve Chinese Cities

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SURVEYING INTERNET USAGE AND IMPACT IN TWELVE CHINESE CITIES

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Surveying Internet Usage and Impact in Twelve Chinese Cities

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Executive Summary

Background

- Internet use in China is growing rapidly, with the number of users having reached 68 million as of July 2003.
- A partner in the UCLA-initiated World Internet Project (WIP), the CASS Research Center for Social Development started its Internet survey in five Chinese cities in 2000, and released those initial survey results in May 2001.
- Funded by the Markle Foundation in 2003, CASS conducted follow-up Internet research in twelve Chinese cities, including Beijing, Shanghai, Guangzhou, and four provincial capitals and five small cities with urban populations of less than 150,000.
- This research was designed to explore Internet usage and its social impact in China. It represents the most extensive academic research conducted thus far: this is the first time that such a large population, spread across such a wide geographic region, has been surveyed on Internet impact in China.
- Based on door-to-door household interviews, about 4,100 people aged 17 to 60 were randomly chosen for the survey. The number of final valid cases was 3,941, including 2,457 Internet users and 1,484 non-users.

Perceptions and Attitudes toward the Internet

- **Perceptions of the Internet** vary significantly between users and non-users. Because of their experience on the Internet, more users (59.4%) than non-users (41.4%) think of the Internet as a library; more users (48.2%) than non-users (36.8%) think of the Internet as a meeting place; and more users (24.8%) than non-users (14.1%) think of the Internet as a post office. These findings suggest that non-users have received a very distinct-and perhaps less positive-impression of the Internet from the traditional media; the concern is that this impression will keep them from going online.
- **Attitudes toward the Internet:** More users (51%) than non-users (42%) believe the "Internet will make the world a better place," and the more Internet experience a person has, the more he or she believes that the Internet will make the world a better place. This suggests perhaps that media coverage focuses too much on the shortcomings of the Internet, leading those without direct Internet experience to adopt a negative view of the medium. Further analysis of the twenty questions pertaining to popular attitudes once again reveals a significant difference between users and non-users: users tend to be more positive about the Internet than non-users, indicating that access to the Internet may transform people's negative views about the Internet.
- Most people **trust** Internet content: 54.6% of the respondents think online content is reliable, 36.5% of the respondents think it is half reliable and only 9.9% of respondents think that it is not reliable. Internet users (57.5%) trust online content significantly more than non-users (48.9%).
- More than 50% of respondents think that it is necessary to **manage and control** the Internet, and another 36.2% think that it is somewhat necessary. As compared to surveys conducted by CASS two years ago, more people now think it is necessary to manage and control the Internet; this may be due to the fact that the traditional media is increasingly full of dark stories about the Internet and its perceived dangers.
- Most people think pornography (86.7%), violence (71.2%) and junk message (68.5%) should be controlled. A smaller number think online advertisement (34.1%) and content related to politics (12.9%) should be controlled.

Adoption of the Internet

- The demographic composition of Internet users differs from that of non-users.

  Gender: 56% of Internet users are male; 44.4% of non-users are male.

  Age: 58.2% of the interviewed users are between 17 and 24 years old; only 11% of the non-users fall into this age group.

  Education: 57% of users have had at least a two-year college education, whereas only 20.6% of Internet non-users have had this level of education.

  Income: 39.2% of users do not have a monthly income because they are students or unemployed. But among those who have monthly income, 61.3% of users have average monthly incomes of more than US$100 for each person in their household, whereas only 33.4% of non-users have a similar monthly income.

  Marital status: Compared with the 82.7% of the Internet non-users who are married, only 32.6% of users are married.
- In order to have a better understanding of the factors driving Internet adoption, we developed Logistic Regression Model of Internet Use, which indicates the important role played by users' region and their attitudes toward the Internet. This scale also suggests that the digital divide is not only driven by economic factors, but that cultural, social and regional factors also play an important role.
- 46% of Internet non-users reported that they had no reason to go online; 27% said that they do not go online for economic reasons; and 23% said that they do not go online due to technical reasons.

Internet Use

Duration: People in large cities do not necessarily spend more time online than people elsewhere. For example, Internet users in Yima (a relatively poor city where individuals have an average annual income of about US$550) spend 16.11 hours per week online, the second highest number of hours after users in Beijing. Young people (17-24 years) tend to spend more time online than older people, and well off, single, and male users are also likely to spend more time online.

Location: 62.8% of users have home Internet access, and spend average 5.35 hours on the Internet per week. 41% of users access the Internet in Internet cafés, for an average of 2.84 hours per week. 28.6% of users access the Internet at their work place, for an average of 1.79 hours per week. 22.3% of users access the Internet at school, for an average duration of 1.3 hours per week. Only 23.5% of users in large cities use Internet cafés. The most frequent users of Internet cafés reside in provincial capitals (69.7%) and small cities (46.8%).

Frequency: 28% of men users use the Internet at least once a week, while only 23.6% of women users do the same; 33.4% of users aged between 17-24 use the Internet at least once a week, while only 22.2% of users aged 45-60 to do the same; 41.1% of people with at least a BA degree use the Internet at least once a week, while 20.5% of people with an education lower than high school use the Internet at least once a week; 54. 8% of users with at least 5 years of Internet experience use the Internet at least once a week, and 18.2% of users with less than one year of Internet experience use the Internet at least once a week.

Online activities: 57% of users said they usually go online to browse; the same number of users go online to read news; 51.4% said they go online for using e-mail; 49.1% for music; 36% for instant messaging; only 5.3% use the Internet for online shopping, and 2.5% for online banking.

Language/Content: On average, Internet users spend 79% of their online time accessing content from mainland China; spend 14% online time accessing overseas Chinese content; and spend 7% time accessing foreign language content.

Barriers to Access: The main problem for Internet users is related to Internet access: 61.6% of users think that the speed of their connection is too slow; 44.6% think that connection fees are too high; and 34.3% think that the main problem is that connections are frequently dropped. Only 7.2% of users believe that language is a barrier to access.

Web Address: Internet users in China are now concentrated on the five major portal Web sites: SINA, SOHU, NETEASE, YAHOO, and 21CN. The first three are especially popular. Although Google is very popular, more respondents chose SOHU as a search engine than Google.

E-mail:

- E-mail is not heavily used in China. 20% of Internet users do not have an e-mail account. Among those who do have e-mail accounts, 14% check their e-mail less than once a week, 20.6% check their e-mail once a week, and only 20% check their e-mail at least once a day.

- Most people appear unwilling to pay for e-mail accounts: 64.8% of e-mail users do not have paid accounts; 7.3% of e-mail users do not have free accounts (i.e., use only paid e-mail accounts).
- 72% of higher educated (college-level) users use e-mail. 77% of younger users (17-24 years) check their e-mail, while only 17% of older people (45-60 years) do so.

E-business:

- 79.5% of Internet users have never made an online purchase.
- Younger users (17-24 years), higher educated users (above college level), and those with more Internet experience (above 5 years) are most likely to make online purchases.
- The following goods or services are most likely to be bought online: books/magazines (20%), entertainment (CDs, DVDs, tickets for movies, etc.) (17.2%), computers (11.9%), and online learning (10.9%). Few users buy other services such as travel (4.8%), food (3.8%), and home service (2.4%).
- The average amount of money spent in 2002 by each user for online purchases was only US$50. Most users (60%) spent less than US$24.

Internet and the Media

Access to online news:

- **Time spent on other content:** Internet users tend to spend less time (2.25 hours) each week watching TV than non-users (3.04 hours), but spend more time (1.68 hours) reading books than non-users (0.88 hours), and spend more time (0.75 hours) listening to music than non-users (0.3 hours). In addition, those Internet users who have more than five years of Internet experience tend to spend less time watching TV but spend more time reading books and listening to music.
- **Age:** The most frequent online news readers are between the ages of 35 and 44 (68%), followed by those between the ages of 25 and 34 (64.9%), and between the ages of 45 and 60 (61.9%). Only 50.8% of people between the ages of 17 and 24 read online news.
- **Gender:** More male users (59.7%) than female users (53%) read online news.
- **Income:** It is significant (Sig=.000) that the more income people have, the more they read online news: 70. 8% of users who have monthly incomes of more than US$200 read online news, whereas only 50.9% of users who have monthly incomes of less than US$50 read online news.
- **Internet experience:** 56% of users who have more than five years of Internet experience read online news, whereas 41.1% of users with less than one year of Internet experience read news online.
- **Region:** More users in metropolitan cities (58.4%) read online news than those who live in provincial capitals (55.5%) or small cities (54.7%).
- **Internet cafés:** Fewer Internet café users (47.4%) read online news than those who access the Internet elsewhere (63.6%).

Online News Content:

- **General:** 71% of Internet users read news about entertainment, 59.8% read domestic news, 56.9% read international news, 46.3% read social news, and 41.9% of users read the sports news.
- **Internet café users:** Internet café users read more online news about entertainment (79%) and sports (47.6%) than other topics.
- **Gender:** More male users (55.3%) read sports news than female users (24.3%), and more male users (29.9%) read IT news than female users (18%). Although the gap between males (61%) and females (58.5%) regarding domestic news is negligible, more male users (62.1%) than female users (50.3%) read international news.
- **Age:** 81.6% of young users (17-24) read entertainment news, but only 45.6% of older users (45-60) do. It is significant that older users (71%) read either domestic news or international news than young people (about 50%).
- **Education:** There are gaps between those who have had at least a college education and those who have had less than a middle-school education. More users with a higher education read the domestic news (70.9%) than lower educated users (42.6%), and more users with a higher education (70.6%) read international news than lower educated users (40.2%).

Trust in the Media:

In general, people still trust the domestic media. 85.2% Internet users selected “trust” or “trust a lot” on a question regarding attitudes to the domestic TV news. 77.5% selected the same for domestic radio news, 76.6% for

domestic newspapers, 63.5% for foreign TV news, 56.1% for foreign newspapers, 54.6% for foreign radio news, and only 42.4% for online news.

As for the online news providers, Internet users tend to "trust a lot" or "trust" the domestic traditional media (such as the People's Daily or CCTV) Web-sites (87%), domestic portal Web-sites (73.1%), overseas Chinese news Web-sites (63.4%), and foreign portal Web-sites (60.4%). People appear to have less trust in foreign traditional media Web-sites (48.2%), news in e-mail from domestic sources (48.2%), and news in e-mail from foreign sources (34.3%).

The Internet and Communication

On average, Internet users meet six friends in person per week (other than family members), but Internet non-users only meet 4.78 friends. This suggests that Internet users tend to be individuals who like to communicate with others, but it does not necessarily mean that the Internet itself is responsible for increased communication. Internet users make more phone calls (3.54 times per day) than non-users (3.05 times per day), and have more contacts in their address books (58) than non-users (39). In answer to the question "Has communication on the web increased the number of friends whom you frequently contact?" 40.5% of respondents said their contacts increased by 1-5 friends, 14.8% said their contact increased by 6-10 friends, and 7.4% said their contact increased by at least 11 friends. Only 37% of the respondents said their contacts had not increased.

The Internet and Politics

Generally speaking, the Internet is changing the map of politics in China because, to some extent, it provides common people with a platform to express their opinions and with a window onto the outside world. In this survey, we use four questions to understand the effect of Internet use on politics. We find that people highly expect the Internet to bring more freedom of speech and more political opportunities.

- 71.8% of Internet users and 69.7% of non-users "strongly agree" or "agree" that "by using the Internet, people have more opportunities to express their political views."
- 60.8% of Internet users and 61.5% of non-users "strongly agree" or "agree" that "by using the Internet, people have more opportunities to criticize government's policies."
- 79.2% of Internet users and 77.4% of non-users "strongly agree" or "agree" that "by using the Internet, people will have better knowledge on politics."
- 72.3% of Internet users and 73.3% of non-users "strongly agree" or "agree" that "by using the Internet, higher officials will learn the common people's views better."

The Internet and Openness

The Internet, based on its distribution network and packet switching technology, is an open system. We hypothesize that as Internet use mushrooms in China, the technology will change the attitudes and behavior of individuals and make them more open-minded. We further hypothesize that personal openness will potentially have an impact on social openness. In the survey, we use ten questions to identify people's openness; we find that Internet users are more open than Internet non-users. This does not necessarily mean that the Internet makes people more open-minded. However, based on our definition of openness, people with at least five years of Internet experience are much more open-minded than those who have less than one year of Internet experience. This result partly shows that Internet experience could make people more open.

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Guo Liang, November 2003

INTRODUCTION

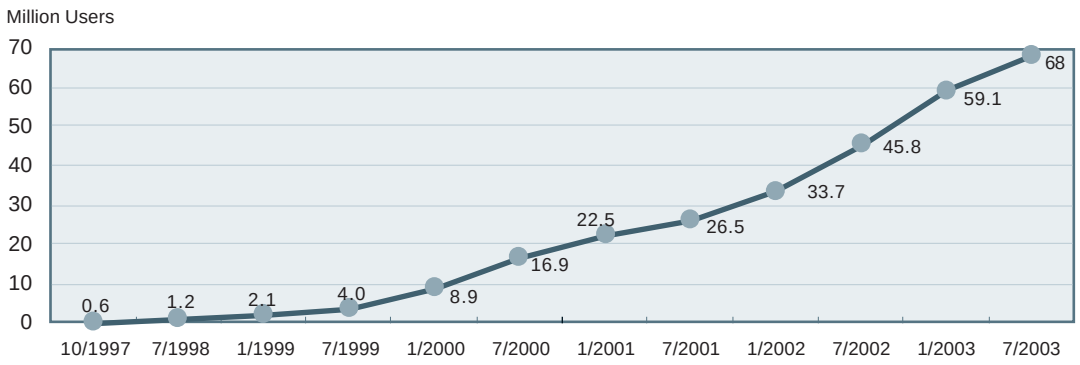
Since the early 1990s, the Internet has been growing rapidly throughout the world. Most people believe that the new technology will eventually have a profound impact on our social and cultural lives. Numerous books and articles have been published on the subject of the Internet, covering such themes as politics, economics, military affairs, morality, law, mass media, communications, etc.

Directed by Jeffery Cole, the Center for Communication Policy at UCLA launched "World Internet Project" (WIP) in 1999 (http://www.worldinternetproject.org or http://www.ccp.ucla.edu), with the goal of assessing the social impact of the Internet based on questionnaire surveys. The UCLA study is unlike most commercial surveys of the Internet in the following respects:

- It examines not only Internet usage but also the social impact of usage.
- It focuses equally on Internet users and non-users.
- Its longitudinal research tracks behavioral and attitudinal changes.
- It represents a worldwide effort to study and compare changes in different countries and regions.

In contrast to the fast global growth of the Internet, commercial Internet services in China began relatively late, towards the end of 1995. Since then, however, the Internet has spread rapidly. The number of total Internet users in China, according to the China Internet Network Information Center (CNNIC), reached 68 million in July 2003[1], making China the country with the second highest number of users after the United States. Figure 1 presents Internet development in China over the past six years.

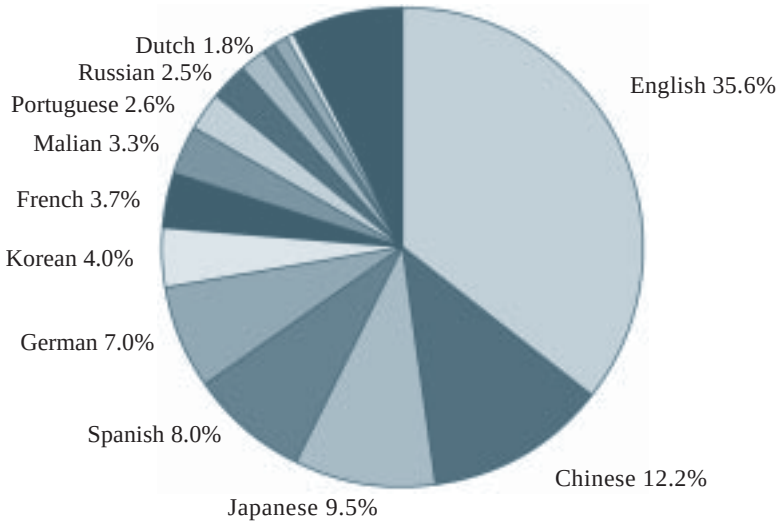
Figure 1: **The rapid growth of the Internet in China**



[1] http://www.cnnic.net.cn

In terms of the language spoken by users, the number of Chinese Internet users is now one tenth of the global online population. Figure 2 shows the proportion of global Internet languages[2].

Figure 2: **The global total online population is 680 million**



The online Chinese speaking population, which includes both those in the mainland and those outside it, has already hit 90 million. Even in the United States, there are about 1.3 million Chinese speaking people accessing the Internet. Below is the breakdown by region[3]:

- 68 million in China (CNNIC)
- 4.6 million in Hong Kong (Nielsen)
- 11.6 million in Taiwan (Nielsen)
- 2.3 million in Singapore (Nielsen)
- 2.2 million in Malaysia (ITU)
- 1.3 million in the USA

Internet development in China has attracted wide attention from the media, academic researchers, and politicians, many of whom are fueled by the hope that the new technology will fundamentally change the Chinese political system. The economic opportunities represented by the spread of the Internet in China have also attracted attention. Most research on the Internet in China, however, lacks solid empirical foundations and statistical data; conclusions are therefore reached and predictions often made out of context, without basis in fact.

The Research Center for Social Development of the Chinese Academy of Social Sciences (CASS), a partner in the UCLA-initiated project, started its Internet survey in 2000 with the administrative support of the former China State Informatization Office. The first CASS Internet survey report was released in Beijing in May 2001[4]. Although the survey was designed as a panel study to track the impact of the Internet on the same group of people for several years, the research had to be terminated in 2002, due to a shortage of funding. The Markle Foundation then generously provided support to enable this research to continue.

[2] http://global-reach.biz/globstats/index.php3
[3] http://global-reach.biz/globstats/details.html
[4] Guo Liang and Bu Wei, *"Survey Report on Internet Usage and its Impact in Beijing, Shanghai, Guangzhou, Chengdu, and Changsha,"* Research Center for Social Development of the Chinese Academy of Social Sciences, April 2001.

Designed and localized by research specialists at the Chinese Academy of Social Sciences, this research will provide statistical analysis for decision makers, policy consultants, and researchers to increase their understanding of the use and social impact of the Internet in China.

In additon to the basic idea of doing survey on Internet use and its impact and share the core questions from UCLA Center for Communication Policy, the CASS Internet research has the following characteristics:

- It focuses on urban residents rather than the nation as a whole.[5]
- It is based on door-to-door household interview allowing respondents to answer the questionnaire by reading and reflecting upon it.
- It contains seperate surveys on adults and teenagers.
- It includes case studies in small cities.

Hence we employed a multi-stage sampling method to conduct the Internet survey in three municipal-level cities in China (metropolitan cities, provincial capitals, and small cities), targeting male and female urban residents between the ages of 17 and 60. The metropolitan cities included Beijing, Shanghai, and Guangzhou; the provincial capitals included Chengdu, Changsha, Xi'an, and Shenyang; and the small cities included Nanhai in Guangdong province, Yima in Henan province, Jimo in Shandong province, Guangshui in Hubei province, and Fengnan in Hebei province. Taking into consideration the factors of population, geographic location, economic development, and accessibility, the sample covers two municipalities directly under the central government - Beijing and Shanghai - and selected cities in eight provinces.

We randomly chose sixty local residential communities (Jumin Weiyuanhui) and ten households in each local residential community in each metropolitan city. In the provincial capital cities, we chose thirty local residential communities. In each of the small city, two hundred households were randomly chosen according to the distribution of all households in the urban area. Only one person in each household was selected as an interviewee, and the interviewees were allowed to fill out the questionnaires on their own. Since the proportion of Internet users in China is still very low, we gave priority to Internet users to answer the questionnaire. That is to say, if there were both Internet users and non-users in a household, we ask Internet user to answer the questions. If there were more than one Internet user in a household, the one whose birthday was the closest to the day of the interview was selected. Based on the same principle, if no one in the household was an Internet user, the household member whose birthday was closest to the day of the interview was selected as an interviewee. Thus the Internet users in this survey were over-sampled, and the dataset is more appropriate for a comparative study of the different characteristics of users and non-users than for predicting the ratio of Internet users in the total population.

To get as clear a picture as possible, the survey was conducted during the Spring Festival, the Chinese New Year, from January 15 to 25, so as to include college students, who are important members of the user group but only return home during the New Year vacation. (interviews in Guangzhou and Nanhai in Guangdong province were delayed until the end of

[5] This is because the roughly six percent of Chinese who are Internet users are overwhelmingly concentrated in urban areas.

[6] See the CASS Report 2003, *Approaching the Internet in Small Chinese Cities.*

February because of the outbreak of SARS). For details of the sampling design and characteristics of the sample, please refer to Appendix II.

We required that every visit (including those households that refused to be interviewed) be recorded on a "Household Contact List." The average response rate in the metropolitan cities and provincial capitals was 33.3 percent of the sampled households. For the practical validity of the survey, all interviewees were asked to provide their personal addresses, phone numbers, and e-mail addresses (if available) for further confirmation of the interview. Once all the questionnaires were collected, the supervisors revisited the interviewees in Beijing, Shanghai, Chengdu, Changsha, Xi'an, and Shenyang to validate the completed interviews; 80 percent of interviewees were double-checked via phone, and the remaining 20 percent were checked by face-to-face household interviews.

After the fieldwork, all the data were processed in Beijing. Every questionnaire was first checked by the supervisors and then the original interviewees were contacted via phone for any missed questions. The questionnaires were coded by double data entry to minimize entry errors. The raw data were stored in ASCII format and the data cleaning, such as the logical check and the outliers check, was done in STATA. All errors found in the STATA checks were double-checked manually against the questionnaires and corrected accordingly. In the end, the number of final valid cases was 3,941, including 2,457 Internet users and 1,484 Internet non-users (Internet users were defined as those who had accessed the Internet at least one time during the past half-year). The geographic location of each city is shown on Map 1.

Map 1: **The geographic locations of the cities selected for the Survey.**

PART ONE

Perceptions and Attitudes toward the Internet

With the popularization of the Internet, people no longer feel estranged from this cyber-network. Even those who have never used the Internet know something about it. But while a wide spectrum of the population may know something about the Internet, our studies found that they tend to have very different perceptions and attitudes toward it. Greater experience with the Internet leads to a more positive attitude toward it; conversely, those who have never used the Internet or who use it less frequently tend to have negative attitudes. This bifurcation of attitudes can lead to a self-perpetuating cycle: it appears from our research that infrequent users of the Internet who have negative perceptions of it, are consequently less likely to adopt the Internet precisely because of that ignorance or lack of exposure. If the Internet is to spread more widely in China, it is therefore important to break this cycle. The first step toward doing that is to understand more clearly why people have negative attitudes towards the Internet. In this document, we present a detailed analysis of perceptions and attitudes towards the Internet, drawing on results both from respondents with positive attitudes and those with negative ones.

1.1 Perceptions of the Internet

Instead of using broad (and perhaps nebulous) definitions to judge perceptions of the Internet, we can understand people's basic views about the Internet by using metaphors to tell us how they perceive the Internet in their minds. What do the interviewees think of when the word “Internet” is mentioned?

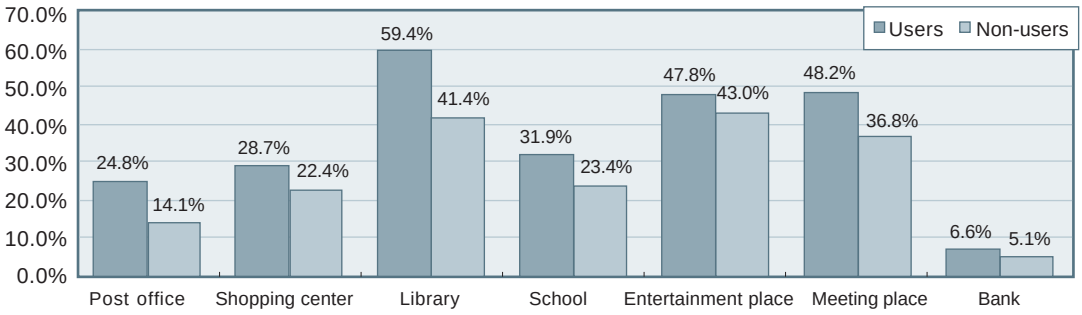
Specifically, we asked interviewees whether they associated the Internet with a post office, a library, a meeting place, a shopping center, a school, an entertainment place, or a bank. In their response, most people envisioned the Internet as a library (52% of all interviewees); followed by those who saw it as a place for entertainment (46%); then as a meeting place (44%). Because e-business is still underdeveloped in China, relatively few people regarded the Internet as a shopping mall (26%) or a bank (6%)[1].

In Figure 1-1 we can see whether use of the Internet has a significant impact on these perceptions of the Internet. Many more users, as opposed to non-users, view the Internet as a library, a post office, or a meeting place. The statistics show that users and non-users differ significantly in their opinions about the functions of the Internet. In Figure1-1, we also see that the distribution of the response patterns for users and non-users is similar. This

[1] All statistics in this report are significant at 0.05, unless otherwise specified.

indicates that users and non-users are in general terms quite similar in their basic understanding and overall perception of the Internet, but quite different in their perception of each aspect of the Internet, mostly due to the degree to which they have been exposed to the Internet. However, because non-users do not have actual Internet experience, we can hypothesize that their knowledge about the Internet comes largely from media coverage and oral communications with friends or family members. Based on survey results presented below, which suggest that non-users have a more negative attitude toward the Internet, it appears that these indirect experiences are more likely to induce non-users to hold negative attitudes about the Internet.

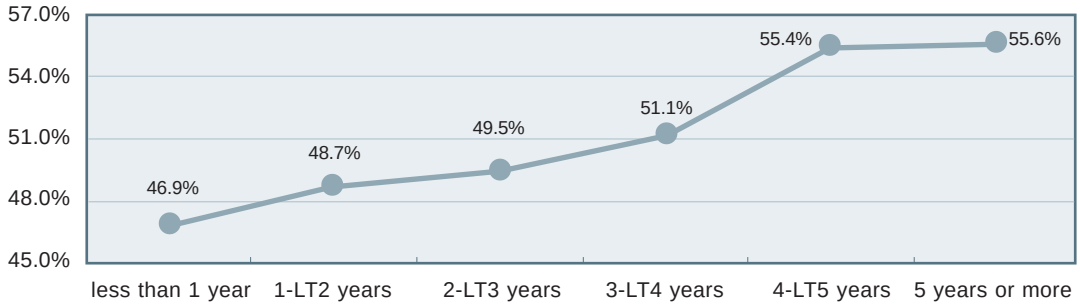
Figure 1-1: **Different perceptions between Internet users and Internet non-users**



1.2 Will the Internet Make the World a Better Place or a Worse Place?

In asking this question to the interviewees, we found a significant difference in the views of users and non-users. Users (51%), based on their online experience, are more inclined to see the bright side of the Internet than non-users (42%). Among users, those who have spent longer time on the Internet are also more likely to believe that the Internet will make the world a better place (Figure 1-2). Thus it appears that the benefits of the Internet become most apparent to those who actually experience them firsthand. Interestingly, more men (51.9%) than women (42%) are inclined to think the Internet will make the world a better place. The Chi-squares test shows that the difference is significant (Sig=.000).

Figure 1-2: **Internet experience makes people more positive about the Internet.**



In addition to the pros and cons of the Internet cited directly by interviewees, we also examined attitudes toward the Internet based on twenty question items (refer to the question BD on the frequency questionnaire in Appendix I). By factor analysis of these twenty questions,

we again found a significant difference between users and non-users: users tend to be more positive than non-users about the Internet, indicating that access to the Internet may transform negative views about the Internet into positive views.

By using exploratory factor analysis, we combined the twenty questions into four factors: Positive Attitude to the Internet (PAI), Negative Attitude to the Internet (NAI), Communication on Internet (CI), and Bad Information on the Internet (BII). The higher the scores on PAI, the more positive are people's attitudes towards the Internet. The higher the scores on the CI, the more likely people are to agree on the Internet's communicative functions. The higher the scores on the NAI, the more negatively people judge the Internet; the higher the scores on the BII, the more likely are people to think the Internet is filled with indecent materials (such as pornography) and harmful to their psychological well-being. Based on this analysis, we see that negative and positive opinions about the Internet have different dimensions. People may have a strong negative feeling about the Internet based on one factor while at the same time having a strong positive attitude on another factor, although the two factors (PAI and NAI) have a weak correlation (the Pearson correlation is -0.087, see Table 1-1). Meanwhile, we also note that the PAI and BII have a higher Pearson correlation (r=0.652), and the NAI and CI also have a high Pearson correlation (r=0.605). That is to say, some people go online not because they have positive attitude towards the Internet, but rather, because they might just want to take the advantage of the “negative” information.

Table 1-1: **Pearson Correlation Matrix among the Four Scales**

	PAI	NAI	CI	BII
PAI	1			
NAI	-0.087	1		
CI	-0.024*	0.605	1	
BII	0.652	0.048	0.282	1

Note: * Indicates the correlation is not significant at the 0.05 level.

As mentioned earlier, users and non-users differ in the metaphors they use to characterize the Internet. Using the above four factors as our measurement, we see again that the attitudes of users and non-users differ widely for each factor except the PAI. For the NAI the average score of users is 1.1113 while for non-users it is 1.2762. The intensity of non-users' negative attitudes is 14.8% higher than that of users. The same tendency exists with regard to the BII, although it is somewhat less intense (only a 3.2% difference). For the CI, non-users have an average score of 0.3973, while the average score for users is as much as 0.4581; this represents a difference of 15.3%. These statistics indicate that a preliminary online experience may alter people's negative attitudes toward the Internet and allow them to feel more strongly about the network's communicative functions. However, the experience may do little to increase positive attitudes toward the Internet or to resolve the impression of indecent online material[2].

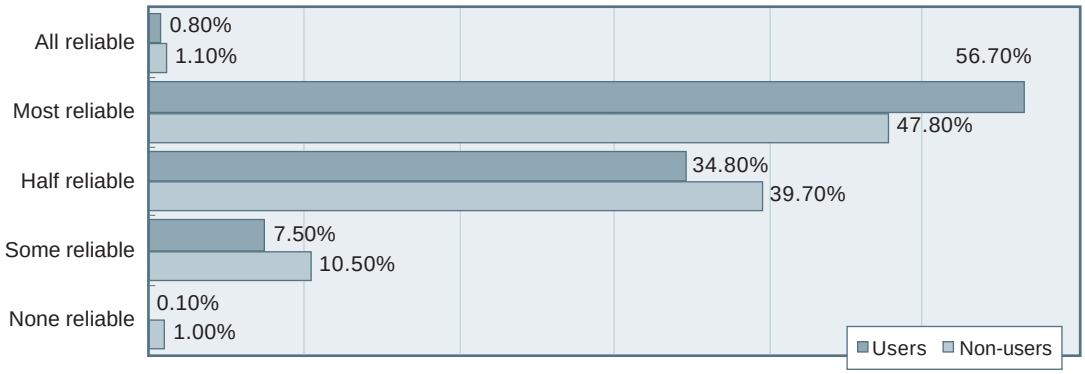
[2] Of course, this difference may exist before accessing the Internet. That is, our survey may be picking up the effects of pre-selection, whereby those who have negative attitudes about the Internet and do not appreciate its utility are less likely to use it in the first place. In a cross-sectional survey, we cannot differentiate this pre-selection effect from the effect of a change in attitude due to using the Internet.

1.3 Is Internet Content Reliable?

The Internet creates a virtual reality, a cybernetic world that lacks cultural identity, geographic boundaries, and traditional social norms. This absence of familiar anchors makes some people question the reliability of information and contents on the Internet, and the problem of trust has been widely reported in the mass media. However, our findings somewhat contradict such reports: over half of our interviewees "wholly" or "mostly" believe that Internet content is reliable, and less than 10% regard it as "mostly" or "totally" unreliable.

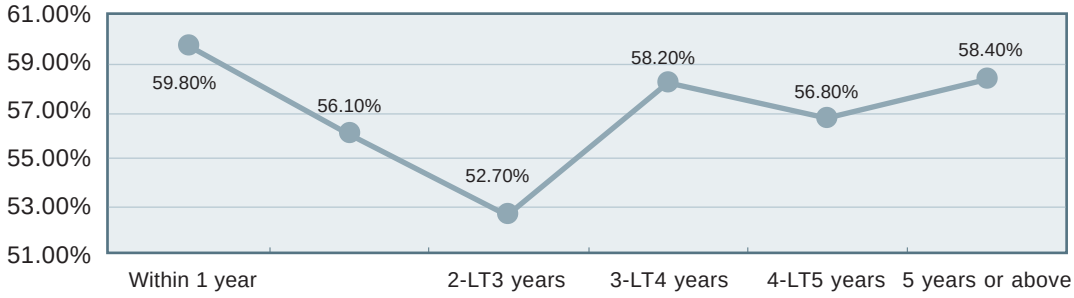
There are significant differences between users and non-users on the issue of trust. In particular, we found that non-users are more concerned about the reliability of the content than users.

Figure 1-3: **Users trust Internet Content more than Non-users do**



We also found that the length of time spent on the Internet does not significantly affect people's judgment on the credibility of the Internet. According to survey results, users with less than one year of experience (59.8%) or more than five years (58.4%) are more likely to trust Internet content; by comparison, those who have used the Internet for between two to three years are most likely to distrust it. Nevertheless, these discrepancies have no statistical significance (Referring to figure 1-4). Likewise, the survey suggests that gender has no influence on people's attitudes toward the Internet's credibility. The proportion of men (55.3%) and women (51.9%) who trust Internet content is more or less the same, with no significant statistical difference apparent.

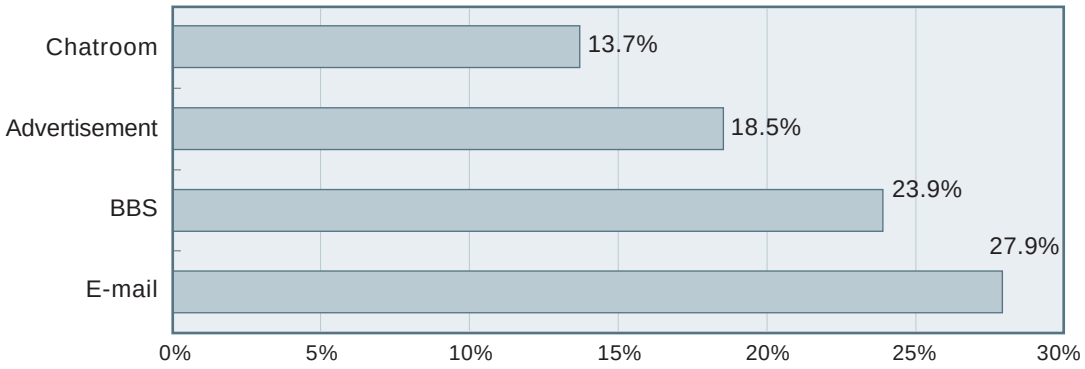
Figure 1-4: **Different Internet experiences change whether users trust online content**



In addition to making the judgments on the Internet content provided by the Websites, we classified other Internet content into four different categories, and discovered that users tend to have different levels of confidence based on those categories. Email is still the most

trusted source of information, followed by Internet Bulletin Board System (BBS), followed by advertisements and commercial information. Internet chat rooms are the most distrusted.

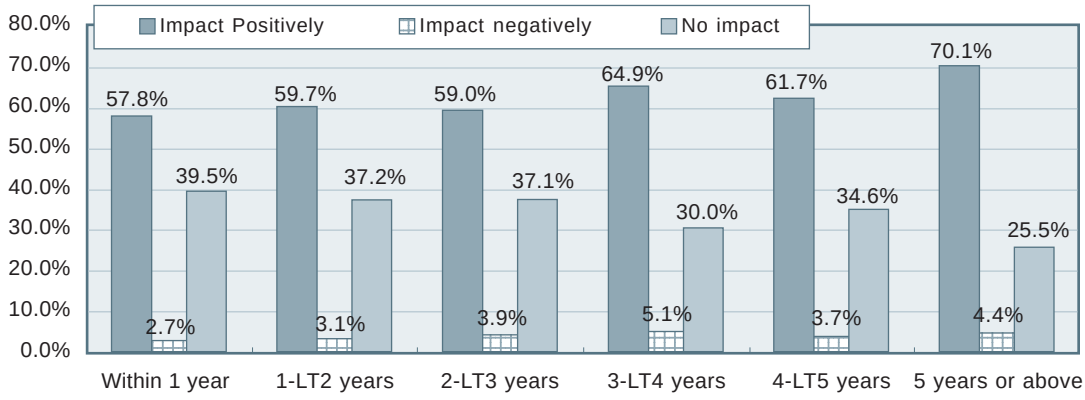
Figure 1-5: **The reliability of different kinds of online content**



1.4 How does the Internet Affect Work and Study?

We asked interviewees to describe whether the Internet has benefited or disrupted their work and study. 62.3% of users answered that they believe the Internet is helpful, while 33.7% of them think it makes no difference. Only 4% of users believe the Internet has been disruptive. From figure 1-6 below, we can see that the longer people use the Internet, or the more experience they have, the more likely they are to believe that the Internet can help with work and study. It appears that the Internet is a tool that exerts its influence in a subtle manner; it may not appear useful in the first three years, but becomes more so afterwards. In other words, there exists a significant learning curve with regard to the Internet, and this may play some role in the current level of Internet adoption in China.

Figure 1-6: **The level of Internet experience affects how users see its impact on work and study**



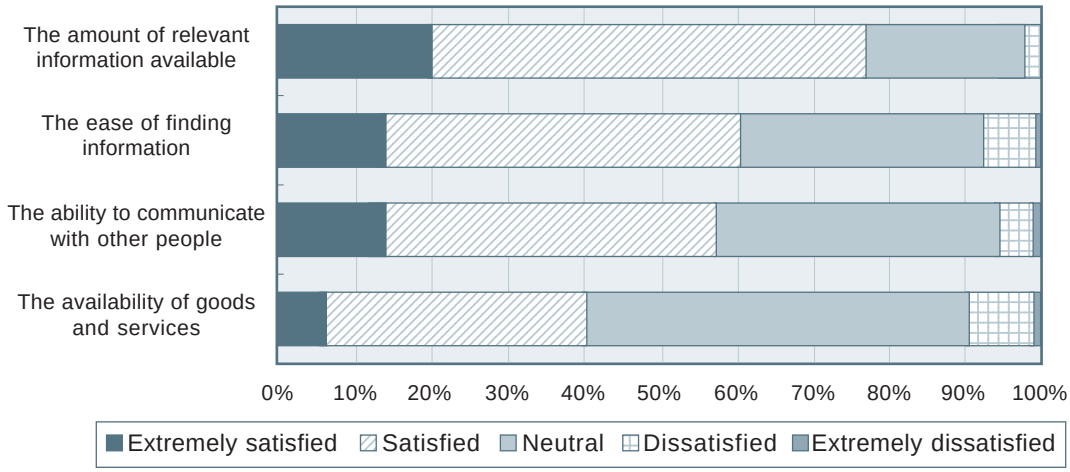
We can see from the analysis of the use of Internet content in Part Three that at the beginning of Internet use, users will spend much time chatting and playing games. However, as online experience grows, people will gradually spend more time and energy on more useful, or usable information. This conclusion also matches the results from the UCLA study: "Very experienced Internet users spend a larger proportion of time online sending e-mail, doing professional work, looking for news, or trading stocks. New Internet users spend a greater proportion of their time visiting chat rooms, playing games, and browsing online"[3].

[3] The UCLA Internet Report 2001, P18.

1.5 How Satisfied Are Users With the Internet Service?

The Internet offers an unparalleled volume of information. It is hardly surprising, then, that users rank access to large amounts of information as the most satisfactory aspect of using the Internet. 20.3% of users are extremely satisfied and 56.7% of users satisfied with the amount of available relevant information. Users are very pleased with the convenience in locating information they need, by means of the powerful search-engines. (14.1% of users are extremely satisfied and 34.0% of users satisfied with the ease of finding information). Users rank the communicative abilities of the Internet as its third most satisfactory aspect. E-business in China is greatly limited by the underdeveloped credit system and logistics system; naturally, users are most displeased with the Internet's utility for business.

Figure 1-7: **Users' satisfaction with various internet services**



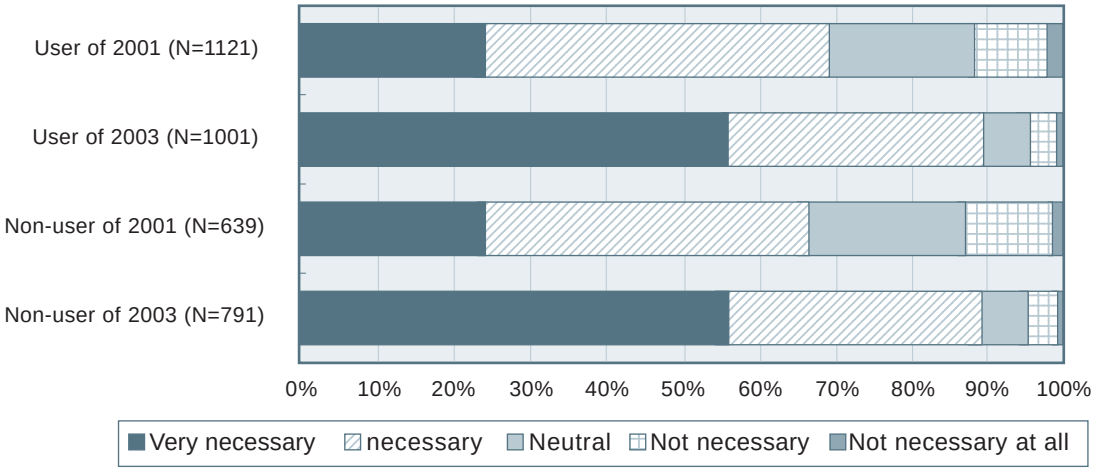
1.6 Whether the Internet Should Be Managed or Controlled?

When asked whether they think the “Internet should be managed or controlled,” 50.9% of interviewees believe “it is very necessary” to do so, and 36.2% of the interviewees believe control and management “is somewhat necessary.” Therefore, nearly 90% of the interviewees believe at least some control and management of the Internet is necessary. These figures display no significant differences with respect to whether they are users or non users, the extent of their online experience, their age, or their gender.

If we compare the data from this survey with that gathered in 2001[4], we see that within Beijing, Shanghai, Guangzhou, Chengdu and Changsha (the areas where the previous survey was conducted) the number of people who want some control and management of the Internet has increased dramatically. This is true both for users and for non-users.

[4] Since the original CASS Internet Survey only covered five cities, we do our comparison with just those five cities.

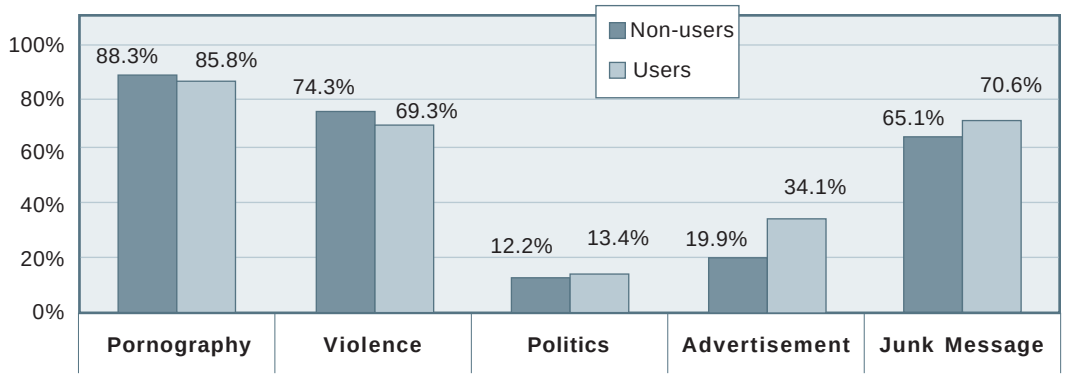
Figure 1-8: **Compared with 2 years ago, more people think the Internet should be managed and controlled**



1.7 What Content Should Be Managed or Controlled?

In order to better understand what kinds of controls respondents would impose, we asked them questions about specific forms of content. 86.7% of respondents think that online pornography should be controlled, 71.2% think that online violence should be controlled, 68.5% believe junk mail should be controlled, 34.1% said that online advertisement should be controlled. Only 12.9% of the respondents said that political content should be controlled. Here, we notice differences between users and non-users. Possibly due to media coverage of the Internet's darker sides, more non-users than users think pornography and violence should be controlled. On the other hand, probably as a result of their direct online experience, more users than non-users think online politics, advertisements and junk mail should be controlled. In general, respondents seem more tolerant of online advertising than of junk mail. The detailed numbers are shown in figure 1-9.

Figure 1-9: **The Internet content people think should be managed or controlled**



PART TWO

ADOPTION OF THE INTERNET

In China, more and more people are becoming Internet users. Yet the gap between Internet users and non-users is still wide. Internet users, as usual, tend to be male, young, well off, and well educated. Yet some other factors also affect people's adoption of Internet usage, such as region, local culture, ability to accessing the Internet, and knowledge about the Internet.

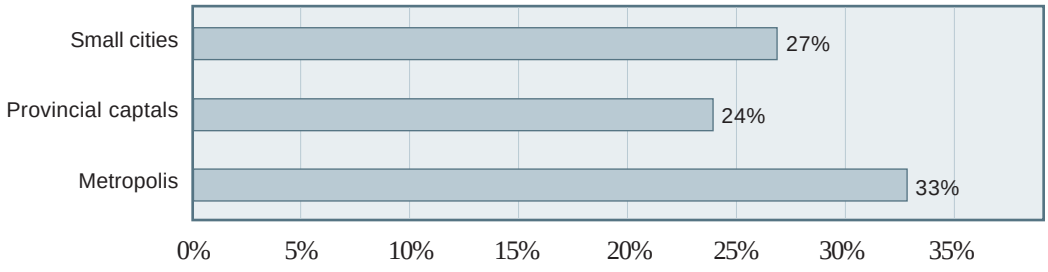
Among the surveyed Internet users, 26.4% of them do not have computer at home. 26% of Internet non-users do have computers at home (N=363), 22.6% of these computers have already been connected to the Internet, 39.4% of the computers have not been connected to the Internet but are awaiting connection, and 38% of computer owners, whose computers have not been connected to the Internet, do not want to go online. To account for these numbers, there must be something other than a physical “digital divide”.

2.1 REGION

Although the intent of this survey was not to expose the exact number of Internet users in China, we still can approximate the proportion of Internet users in the population of each city by dividing the total number of Internet users in the households to the total number of people in the households.

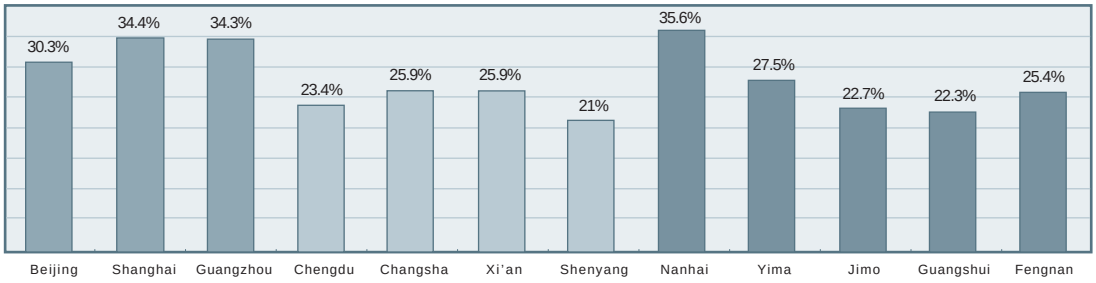
We may observe two results from the survey: first, the development of the Internet is not necessarily related to the city scale. Larger cities do not necessarily have a larger proportion of Internet users. Compared with the average proportion of 33% Internet use in metropolitan cities, and 27% Internet use in the small cities, the cities showing the slowest development of Internet use are the provincial capitals in this survey with an average of only 24% of their populations using the Internet. Figure 2-1 shows the user proportion in the cities of different scale.

Figure 2-**1: User proportion in cities of different scale**



Another result shown in the survey is that the Internet has developed unevenly in China and this is not necessarily related to the economy. In general, although urban centers such as Beijing, Shanghai, and Guangzhou on the whole enjoy the largest numbers in the proportions of users, the proportion of users in some better developed small cities, like Nanhai, can be even higher than those in the larger urban centers. On the other hand, the proportion of Internet users in Chengdu, the provincial capital of Sichuan, was 23%, and in Shenyang, the provincial capital of Liaoning, the proportion was only 21 percent, ranking the lowest among the 12 surveyed cities.

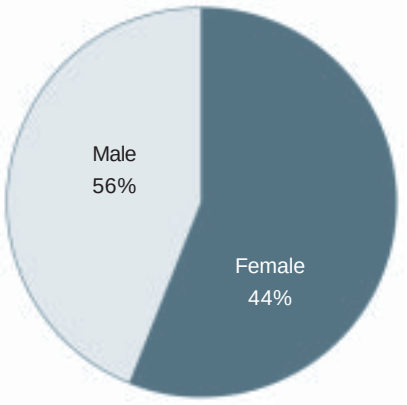
Figure 2-2: **User proportion of each city**



2.2 Gender

That the Internet was designed for men is a commonly held view. Many women do not go online even if they have a computer at home. Among the 26% of Internet non-users that have a computer at home, 56.3% are female. In this year, 56% of surveyed Internet users are male. Compared with the survey results in 2001, male users decreased from 60.7% to 56%. That is to say, more and more women are going online now. Figure 2-3 presents the gender difference in the survey results.

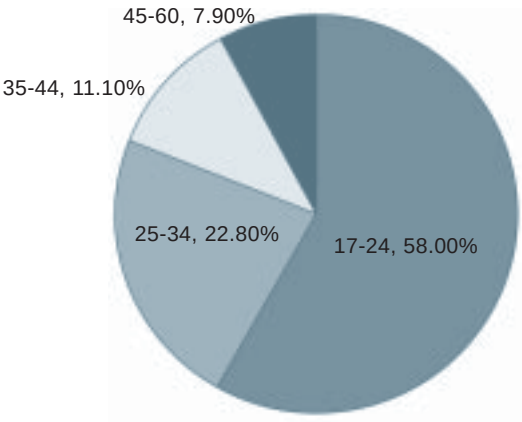
Figure 2-3: **Gender difference**



2.3 Age

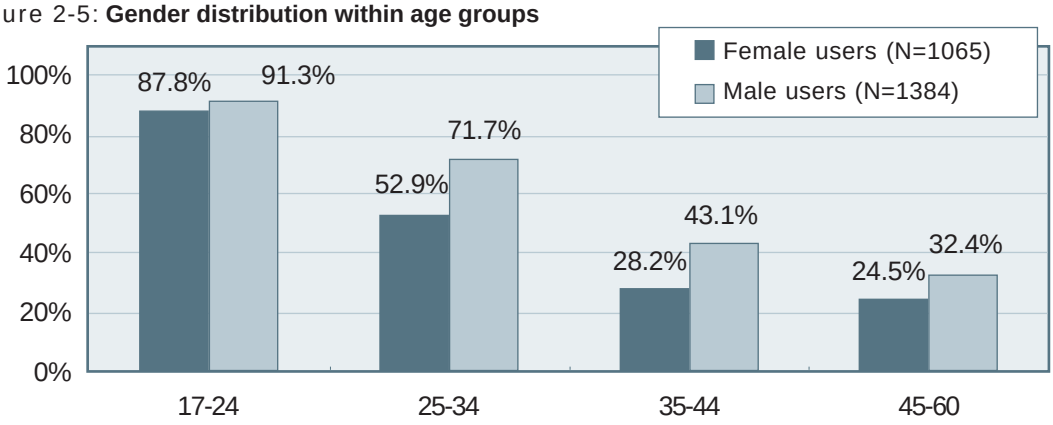
One of the factors used to determine Internet development is age. Once the profile of Internet user's age is close to the profile of the population, it can be assumed that the Internet there has developed well. If most Internet users are young, the Internet there is still developing. From the survey results, we can see that nearly 60 percent of Internet users are less than 24 years old.

Figure 2-4: **Age profile of Internet users**



If we examine the male and female users' proportion in different age groups, we can see teenagers make up a fairly large proportion[1] of users and there's little gender difference between them. However, the most significant gender difference occurs in users aged 25-34.

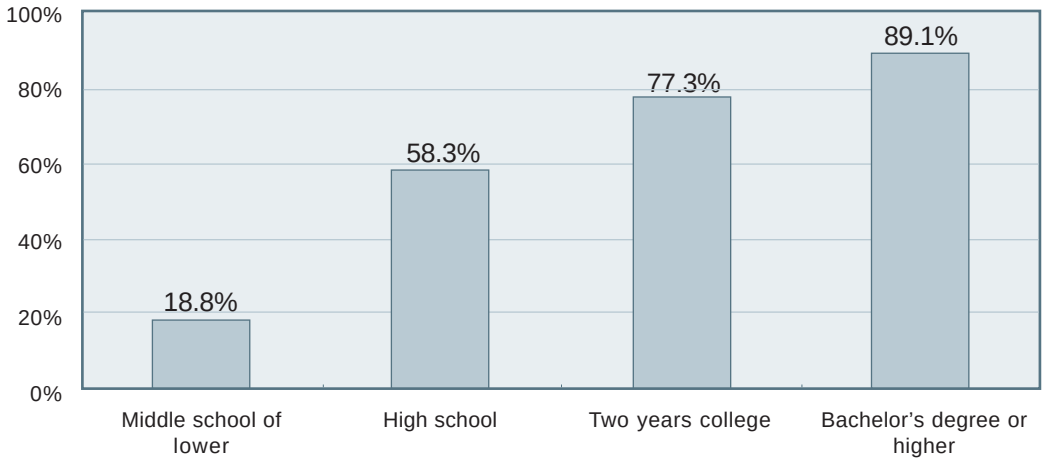
Figure 2-5: **Gender distribution within age groups**



2.4 Education

Obviously, the higher an education a person has, the more likely it is that he will go online because the Internet is considered high technology. Higher educated people may also have more needs to go online.

Figure 2-6: User distribution within education groups

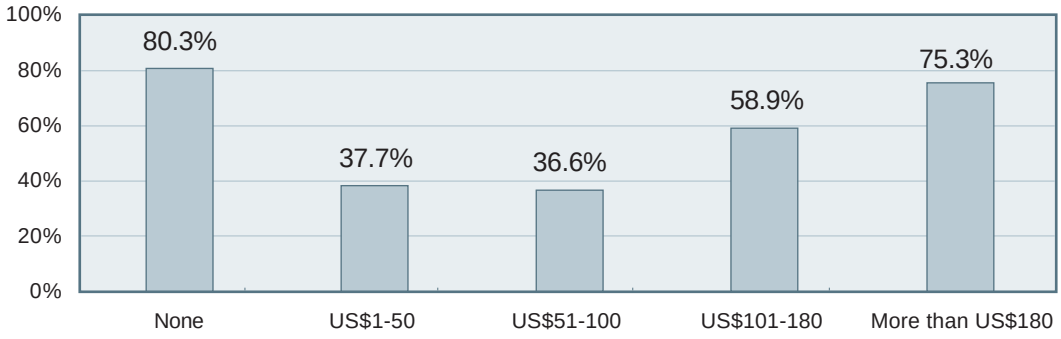


[1] Please notice that the proportion of users in different age groups may be higher than reality due to the sample scheme we used (refer to appendix II).

2.5 Income

Personal income is slightly more complicated when related to Internet usage. The overall tendency is for those with higher incomes, to be more likely to use the Internet. But among those people who have no income at all, nearly 80% of them are users. This reflects the high probability of teenagers, especially students who have no source of income, going online. The two users' groups with personal income under US$ 100, show relatively the similar figures, with nearly 40% using the Internet. The figure of income groups that follows show a rising curve. (Refer to figure 2-7)

Figure 2-7: **User distribution within income groups**



People are also more likely to use the Internet if they have relatives or friends abroad. 77.8% of interviewees who have overseas relations use Internet, while only 56.2% of the interviewees who h ave no overseas relations going online.

2.6 Logistic Regression on the Factors Controlling People's Adoption of the Internet[2]

From the above phenomenon, we can determine that people's decision to use the Internet may be influenced by a number of factors. But these factors are inter-related. A simple cross-table analysis will not reveal the complexities among them. Therefore, by using a logistic regression on our figures, we manage to combine the following factors in our consideration:

- The background of each interviewee, including which city he or she is from, how many people use Internet in his or her family, the number of computers in their house; how much the family earns; how many members in his or her family and whether he or she has any overseas relatives, etc.
- The attitudes of each interviewee towards the Internet, which include the disadvantages and benefits the Internet has brought to mankind; the reliability of the Internet content, the Negative Attitude toward the Internet (NAI), The Positive Attitude toward the Internet (PAI), Communication on the Internet (CI), and the Bad Information on the Internet (BII) as well as Politics on the Internet (PI), etc.
- The personal characteristics that may identify the interviewee, such as gender, age, education, profession, marital status and personal income, etc.

[2] Developed by Associate Professor Xia Chuanling.

- The character or bearing of the interviewees, which includes, personality, tolerance, creativity, rankings on scales of solitude and anxiety, satisfaction, anomalies, and freedom of speech, etc.

As explorative research, we use gradual regression in the hopes of obtaining an apparent model, which will facilitate an understanding of the more complex reasons behind Internet usage. By selecting and using the latest regression model[3] (Please refer to Appendix III), we conclude that:

- Different areas will possess various Peripheral Effects of Internet Access[4]. By considering the individual and household characteristics, the regional differences are primarily those on the levels of Internet coverage and expenses. These discrepancies affect the social and economic expenditure required for Internet connection. Judging from the Peripheral effects of Internet Access in different cities, Beijing is the same as Jimo in having the least peripheral effects, while Shanghai and Chengdu are the same in having the most peripheral effects, 0.314 and 0.104 more than Beijing respectively in the table whown in Appendix III.
- The logarithm between the number of personal computers and personal income could also reflect the financial capability of personal usage of the Internet. Seen in the model, the rise in the number of personal computers and income will greatly increase the possibility of Internet usage. Every personal computer added to a family means an additional percentage of 0.408 in the probability of Internet usage. Every unit added on the scale of logarithm in personal income means an increase of 0. 019% in the probability of Internet usage.
- Besides the economic viability, education is also one important factor that affects Internet usage. Compared with interviewees who are in junior high or under, senior high, college and university interviewees have additional probabilities, of 0.142, 0.178 and 0.207 respectively. It's apparent that the higher the level of education, the more likely people are to use the Internet.
- The difference in interviewees' social identities can also affect the probabilities of usage of the Internet. The differences in gender, profession and age can clearly be seen in the probability of Internet usage. Measured against men's probability of Internet usage, women's probability of usage decreases 0.104%. When compared to white-collar workers' probability of Internet usage, the probabilities of blue-collar workers, the unemployed and the students decrease 0.025%, 0.197% and 0.085% respectively. As people age, the probability of Internet usage also drops: Compared to those aged 17-24, interviewees in age groups 25-34 and 35-44 and 45-60 decreases 0.355, 0.739 and 0.810 in usage probability.
- People with stronger characters are more likely to use the Internet. Every meter gained on the personality scale, means an increase of 0.066% in the usage probability.
- The personal attitudes and bias of the interviewees indicate the internal factors that affect people' s Internet usage. Every meter gained on the Negative Attitude toward the Internet (NAI) means a drop of 0.258% in Internet usage probability. An additional meter gained on the Bad Information on the Internet (BII) means an increase of 0.092% in Internet usage probability. That is to say, the more negative the views are that people hold against the Internet, the less momentum they will have to use

[3] This logistic regression model has high prediction power, with a coefficient of determination as high as 0.7122, and a correct prediction rate as high as 90.28%. The coefficient estimates of the final model are based on 3547 cases by list deleting the cases with missing values or cases with high leverage.

[4] In order to better specify the various independent variables, we name an independent variable against the usage of the Internet "peripheral Internet access effects" which indicates the degree of variation of the dependent variables (like the probability of Internet usage) against the average variation of independent variables in the statistical models' measurement.

the Internet; the more interested people are in the unhealthy content online, the more likely they will be to use the Internet. But what still needs specifying is that unlike other factors we've previously discussed, we have been unable to tell whether their attitudes or biases are formed prior to the usage of the Internet (as the cause of these biases) or afterwards (as the results).

If we view the Internet as an opportunity for China, a society undergoing rapid transformation, different social classes may take advantage of such an opportunity in their own class-specific ways. If we view the Internet as a challenge, then different social classes will have different costs and resources in dealing with such a challenge. When a new technology is about to bring changes to a society, theoretical opportunity and historic coincidences will not ensure factual equality. From social reality to virtual reality, economic resources are not the only costs we need to pay for such transformation. There are a number of barriers to overcome, including the barriers in education, gender, generation gaps (reflected by the differences in age), professional differences and perceptual differences (attitudes towards the Internet). In social reality, people at the top of the social ladder can set foot more easily into the virtual space. It's worth investigating further whether the advantage they have in the virtual world will serve to maintain or increase the class stratification of the real world.

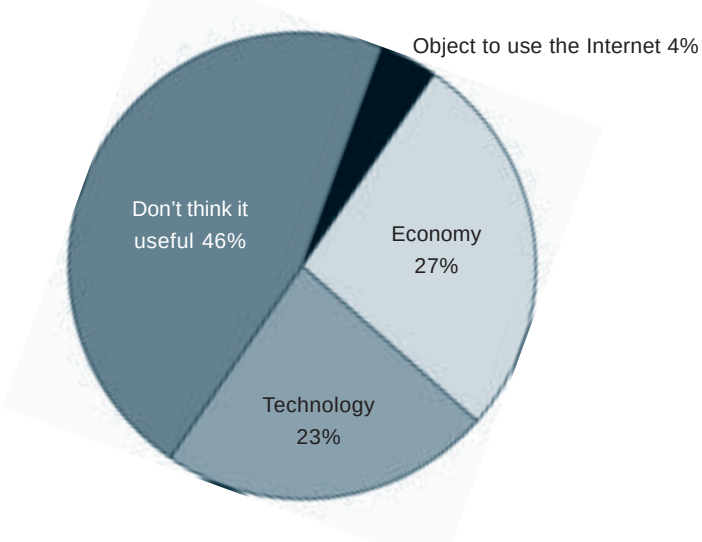
Therefore, we can predict that the Internet's effects on China will not be the same at each social level, but rather will be a process originating in the upper-middle classes.

2.7 Why Internet Non-users Do Not Go Online?

In the questionnaire, we inquired about the major reasons why non-users do not go online (multiple choices allowed). Among the 21 reasons, “No computer at home” is the number one reason for not using the Internet (N=781); 41.2% of non-users (N=574) believe the reason is they “don't know how to use the Internet”; 25.3% of non-users have “no interest” in going online (N=353), 21% (N=292) of non-users suggest they are “too busy to access the Internet”; another 18% of non-users think it is “too expensive”. In addition, the percentage of respondents selecting options such as “Confused by/fear of technology”, “Worried about viruses” and “computer is not good enough” is fairly low. “Privacy and security concern” only occupies 1.7% of respondents' answers, while “Not enough Chinese information on the Web” makes up only 1%.

Here, “No computer” and “too expensive” are both economic concerns. The so-called “too busy” is in fact people's indirect way of saying that going online is “useless”. The so-called “no time” is an excuse for ranking Internet usage's importance behind other activities since everyone has 24 hours a day. We can also classify those 21 reasons roughly into categories such as “economic reasons” (27%), “technical reasons” (23%), “perceived uselessness” (46%) and “against usage” (4%). From the interviewees' perspective, there are only a handful of people who actually oppose using the Internet. Most people still believe the reasons for not using the Internet are “having not yet seen or experienced the useful aspects of the Internet”. It also indicates that society as a whole has not yet paid enough attention to the genuine values of Internet usage.

Figure 2-8: **Resons for not using the Internet (N=1382)**



Most interviewees have their own reasons for not using the Internet, which are identical to the conclusions drawn in the analytic model mentioned earlier. But what is different is the fact that most interviewees see only the subjective effects the Internet has exerted on their behaviors. The model, on the other hand, reveals the magnitude of influence on the people's usage of the Internet, which goes beyond individual choices, caused by social, economic and cultural differences.

In fact, the expense of the Internet usage is not as high as non-users might suggest, especially in the city. Sometimes it is very difficult to explain non-usage in terms of economics alone. For those people who do not choose "Digital Living", we might as well say it was more of a "Digital Choice"[5] than a "Digital Divide".

In order to verify this hypothesis, we did a simple analysis on the profile of the non-users who own PCs but express their unwillingness to go online, at present time or at any time in the future. The profiles of those people, (147 in all, whom we call the "people of Digital Choice") in education, gender and marital status are not so different from the people who never use the Internet (whom we call "people of the Digital Divide"). The main discrepancies occur in age, personal income and attitudes toward the Internet, especially in personal income. The incomes of the people in the Digital Choice group are on average twice as much as those who are in the Digital Divide group, and the members of the Digital Choice group seem to see more defects in the Internet than merits. In addition, they are on average five years older than their cohorts in the Digital Divide group. (Refer to Figure 2-3)

Table 2-1: **Digital divide and digital choice: major differences**

	Age	Personal Incom (RMB/Month)	Negative	Positive	Communication*	Bad Information *
Digital divide	38.76	723.23	1.2744	1.0964	0.4031	1.3517
Digital choice	43.89	1,323.37	1.3591	0.9975	0.3605	1.4164

Note:* at the confidence level of 0.05, the difference among means is not significant.

[5] The concept of "Digital Choice" was first heard from William Dutton, director of Oxford Internet Institute, when World Internet Project members were discussing the methodology of Internet research.

Therefore, to a certain group of people, not using the Internet is not due to an external gap, but possibly, to an inner personal choice.

2.8 Internet Addiction[6]

Recently there have been numerous reports on the negative aspects of Internet usage; one of them is Internet addiction. As a matter of fact, the Internet itself can't be addictive, but those who use the Internet do show addictive behavior. That's to say, there is no problem that the Internet will create addicts. Instead we should look for the cause of addictive usage of the Internet in a broader social context. Thus, we should not overly complain that the Internet causes users to become addicts, but rather we should try to understand the social causes of such addiction. Of course, such discussion will exceed the boundaries of our survey.

In the questionnaire, we have some variables to measure how much the Internet users psychologically depended on the Internet (refer to Appendix I the question FG): "If Internet usage were prohibited for a week, you would feel..." From Table 2-2 and Table 2-3, we can see the measuring device is contents effective: the more psychologically dependent they are on the Internet, the longer their usage and the higher their usage frequency. Those who feel that not being able to use Internet once a week is "intolerable" are likely to spend three times as much time on the Internet as the non-addictive users. If we randomly pick someone from the addictive users, and randomly select another one from amongst normal users, we are 84.5% confident that the Internet addicts go online more frequently than the non-addicts.

Table 2-2: **The average amount of time spent online per week by the users with different degrees of Internet dependence (Unit: Hour)**

Internet Dependence*	Mean	Number of Cases	Standard Deviation
1 Intolerable	27.77	157	25.169
2 Somewhat Intolerable	16.88	386	15.816
3 Uncomfortable but it is OK	13.39	966	14.421
4 It doesn't matter at all	8.33	953	10.322
Population	12.90	2,462	15.061

Note: * the question on the Internet dependence is "Suppose you can not use the Internet for a week, you will feel ....."

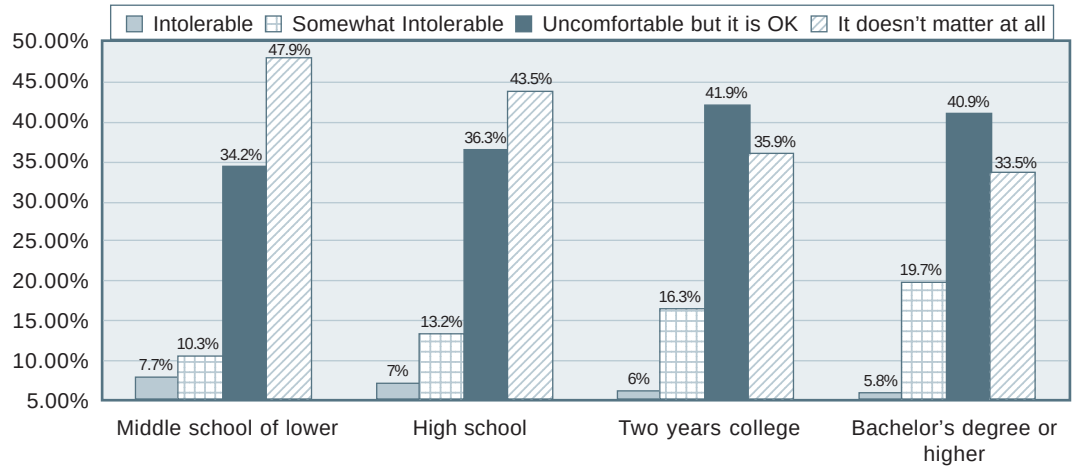
[6] Developed by Associate Professor Xia Chuanling

Table 2-3: **Comparing the frequency of users getting online per week with different degrees of Internet dependence**

	Less than 1 time	1-3 times	4-6 times	7-9 times	10-12 times	13 times or more	Ridits
1 Intolerable	1.9%	13.4%	19.7%	15.9%	5.1%	43.9%	0.7235
2 Somewhat Intolerable	1.6%	21.8%	26.5%	22.1%	8.8%	19.2%	0.6307
3 Uncomfortable but it is OK	4.7%	35.1%	25.9%	15.5%	6.0%	12.7%	0.5319
4 It doesn't matter at all	20.1%	43.5%	19.4%	9.2%	3.1%	4.7%	0.3786
Population	10.0%	34.9%	23.1%	14.1%	5.3%	12.6%	---

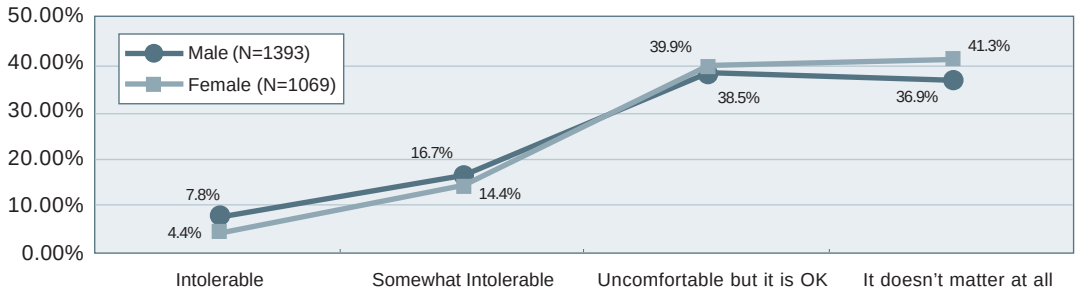
From our statistics, age, marital status and personal income will not change the degree of users' psychological dependence on the Internet. There is no significant difference between the psychological dependence of Internet café users and Internet café non-users. Therefore, it's baseless to presume that the Internet café is the cause of such addiction.

Figure 2-9: **Educational level and Internet distinction**



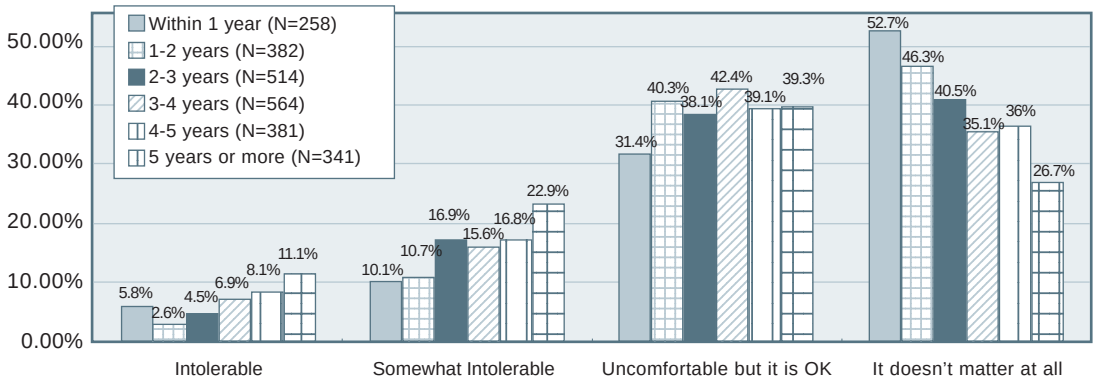
The factors that affect the psychological dependence on the Internet are education and gender: the more educated users tend to be more reliant on the Internet. This is probably because educated users often need to obtain information from the Internet to facilitate their work and study.

Figure 2-10: **Gender and Internet distinction**



Users of different genders have also shown distinctive discrepancies over Internet reliance: male users tend to rely on the Internet more than do female users.

Figure 2-11: **Experience and Internet Distinction**



Apparently, the longer the period of time people spend on the Internet, the more likely they will grow dependent on it. According to our statistics, dependence also varies among groups with different Internet experience.

PART THREE

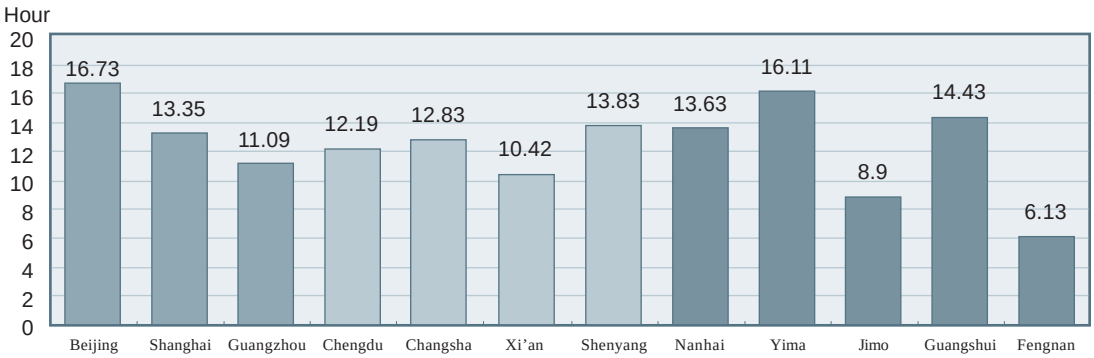
INTERNET USAGE

Due to the uneven economic and culture development in China, the economic situations are different in each city, people's attitudes towards the Internet are different, and their adoption of the Internet is different as well. As a result, the ways in which the Internet is used are also different. Generally, there are very few free public computer/Internet services (such as libraries) available; most people access the Internet at home, and some via Internet cafés. All these factors need to be considered when thinking of how people are using the Internet in China.

3.1 DURATION

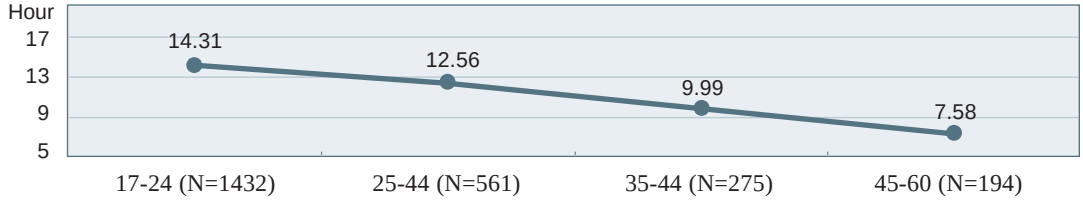
Average time spent on the Internet varies from city to city regardless of the population size and overall level of affluence. For instance, as major cities in China with relatively higher numbers of people went online, users at Shanghai and Guangzhou actually did not spend much time on the Internet, even less than in Yima in Henan Province and Guangshui in Hubei Province. The average weekly hours spent on the Internet by the users in Guangzhou are even less than that in the survey.

Figure 3-1: **Weekly Internet time spent in different cities**



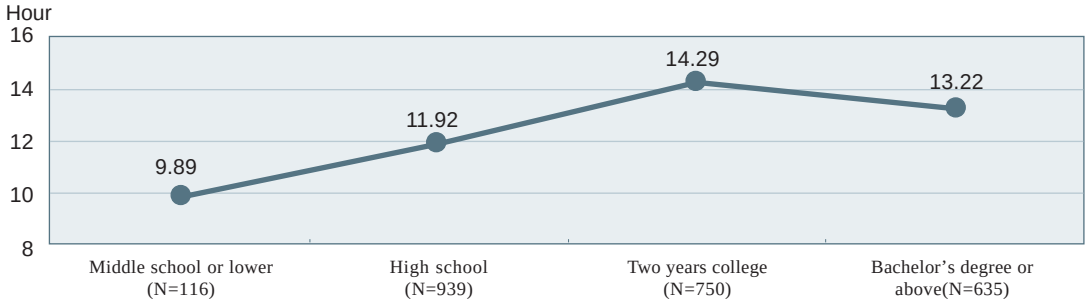
Users in different age groups may spend their Internet time differently. The younger the users, the longer they will spend on the Internet.

Figure 3-2: **Different amounts of weekly time spent by different age groups**



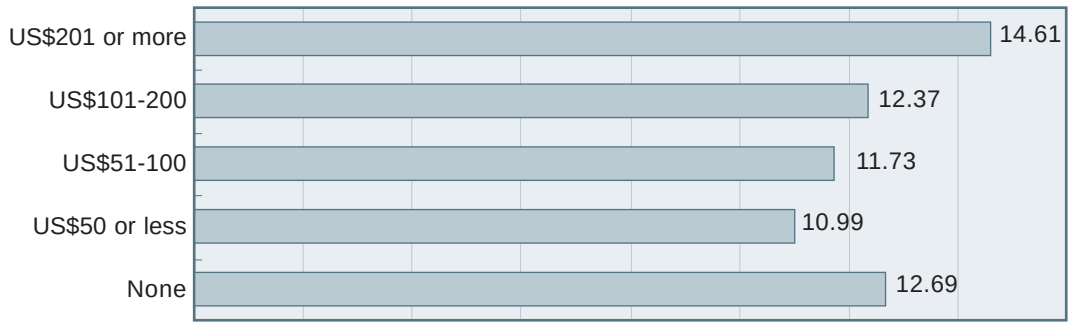
The average amount of time spent on the Internet varies based on user's education level although there is no perfect correlation between the time spent on the Internet and the users' education level. Users with two years of college experience tend to spend more time, followed by those who have obtained their BA degrees or higher. Those with less education spent the least amount of time on the Internet according to the survey. Figure 3-3 shows the difference:

Figure 3-3: **Different amounts of time spent on the Internet by groups of different educational attainment**



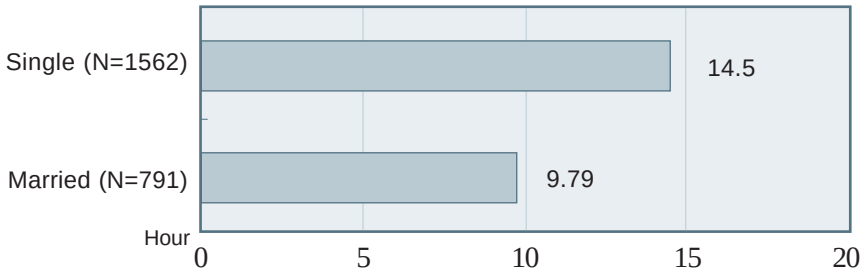
We have found that as income levels increase, the average amount of time spent on the Internet increases as well (excluding students who do not have any income).

Figure 3-4: **Different amounts of time spent on the Internet by groups of different income levels**



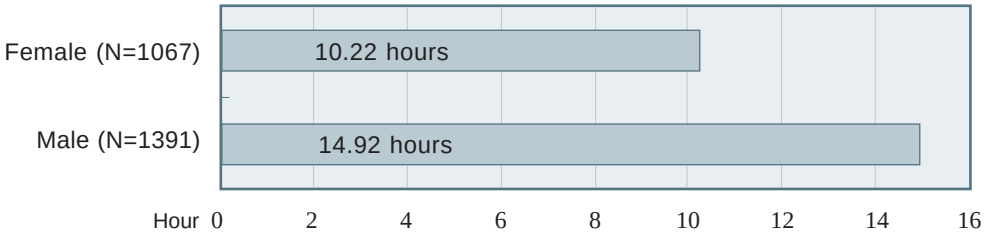
Interestingly, marital status has a strong influence on how much time is spent on the Internet. Married couples spend considerably less time online than those who are single. Single users tend to spend 40% more time online than married ones.

Figure 3-5: **Different amounts of time spent on the Internet by users with different marital status**



There is a famous line from an advertisement: "the Internet: a man's world". Not only more men than women go online but also men spend twice as much time online as women do on average.

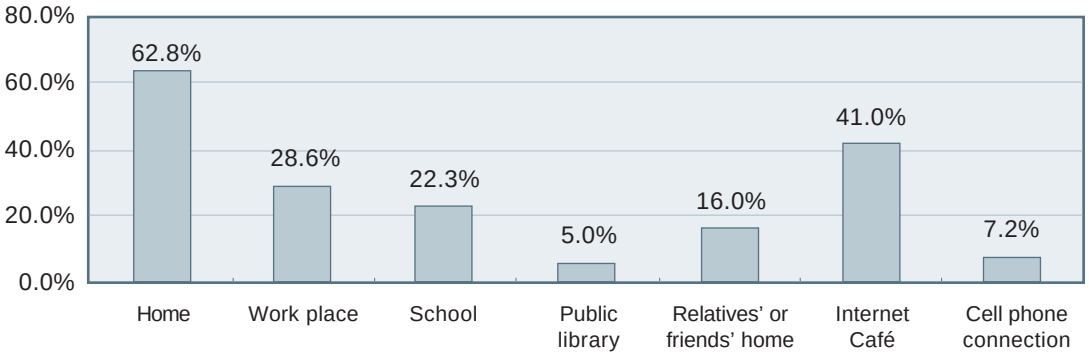
Figure 3-6 **Different amounts of time spent online by different genders**



3.2 Location

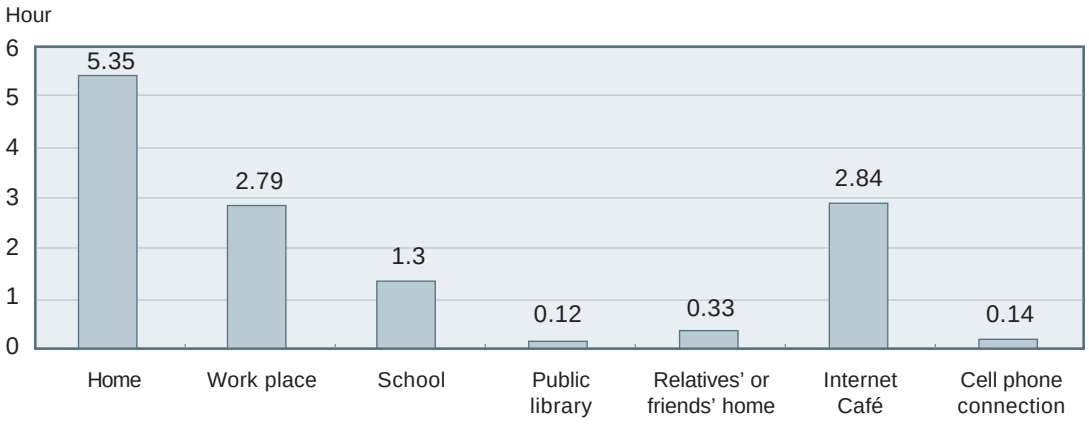
Going online at different locations can result in different ways of using the Internet and accessing the different online contents. The net-speed may be slow at home but privacy is better protected; yet going online in the work place or Internet café is most likely to be affected by other users. Among all the users surveyed (N=2,451), 1,544 of them use the Internet at home while only 1,008 of them go to Internet cafés; 702 of them use the Internet at work, while another 549 use the Internet at school. Although many users can log onto the Internet via their cell-phones, only 7% of the interviewed users list mobile phones as a possible Internet access, because of the cost and lesser function of the mobile service. Few libraries in China provide Internet service, so very few people access the Internet via libraries.

Figure 3-7: **The distribution of online locations**



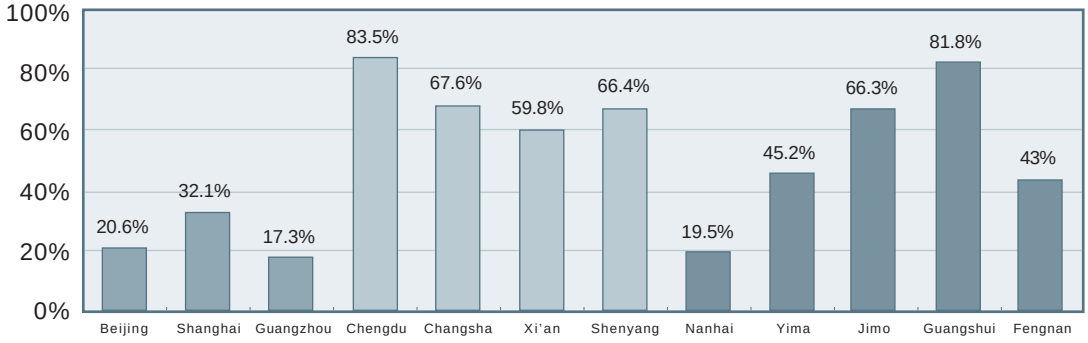
According to the survey, users who spent the most time on the Internet access it from their home. On average, home-Internet-access is 5.35 hours per week, followed by accessing from Internet cafés (average 2.84 hours per week), work place (2.79 hours per week) and school (1.3 hours per week).

Figure 3-8: **Differences in length of time spent at different locations**



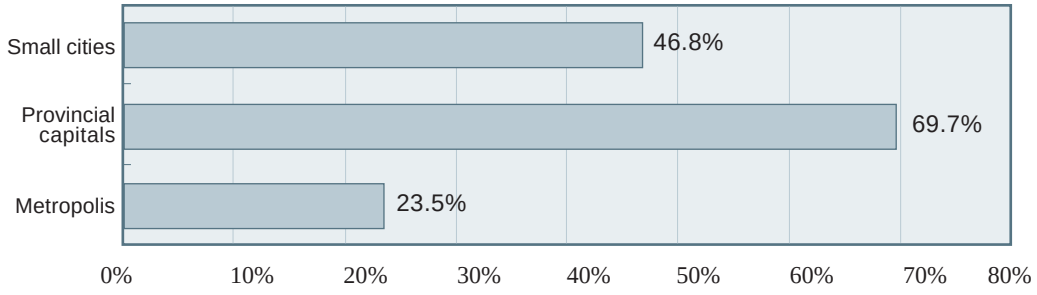
Going online in Internet cafés is inexpensive, fast and there are instructors on site; therefore, the Internet cafés are favored by young people. In the case studies in five small cities, some Internet café users said they still go to the Internet cafés even though they can go online from home due to the atmosphere in the cafés. 40.9% of the users surveyed list the Internet café as one of the ways to access the Internet, which is not directly correlated with the size of the cities. Users from smaller cities such as Nanhai spent relatively less time in the Internet cafés, which is consistent with our data that small city residents are not the lead users of Internet cafés; instead, Chengdu, the capital of Sichuan takes the lead. Our statistics also demonstrate that different cities may have different Internet café usage patterns.

Figure 3-9: **The proportion of Internet users using the Internet café in each city**



The usage of the Internet café differs based upon the size of the city although it does not necessarily mean the greater the size of the city the lesser the usage of the Internet cafés. According to our survey, the probability of Internet café usage is distinctly higher in smaller cities (46.8%) than in the larger urban centers (23.5%), but both numbers are much less than the usage of the Internet cafés reported in provincial capitals (69.7%). The statistical variations are apparent.

Figure 3-10: **The proportion of users using the Internet café in cities of different sizes**

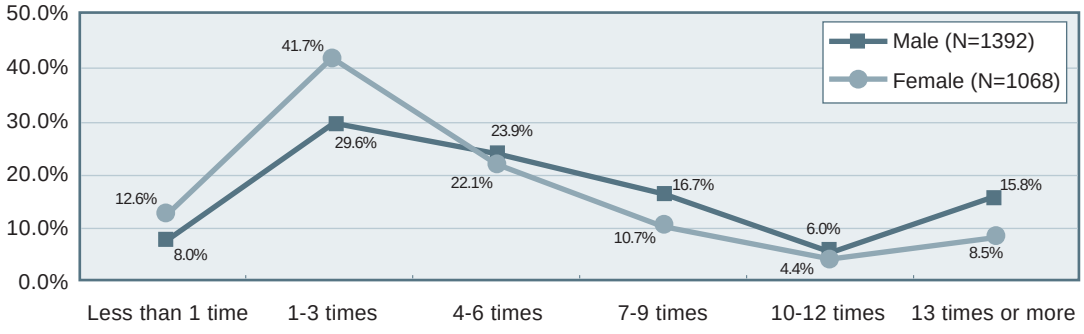


3.3 Frequency

Frequency is also one of the key indexes used to measure Internet usage. The average length of time users interviewed spent online was 3.19 hours per week, however gender difference prevails in the usage frequency.

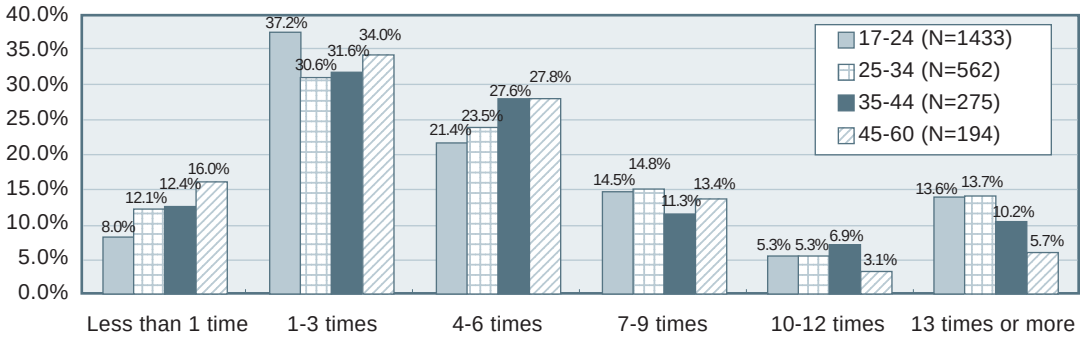
Based upon age distribution, the younger the users, the higher the frequency with which they use the Internet.

Figure 3-11: **Weekly frequency of going online of different genders**



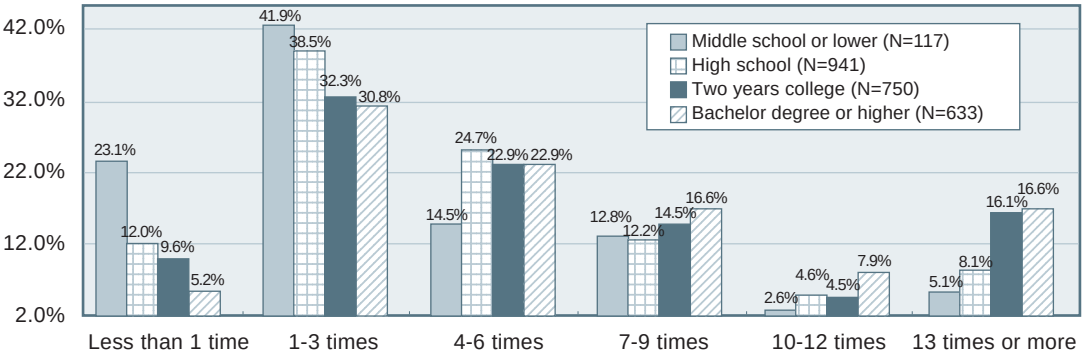
Based upon age distribution, the younger the users, the higher the frequency with which they use the Internet.

Figure 3-12: **Weekly frequency of going online in different age groups**



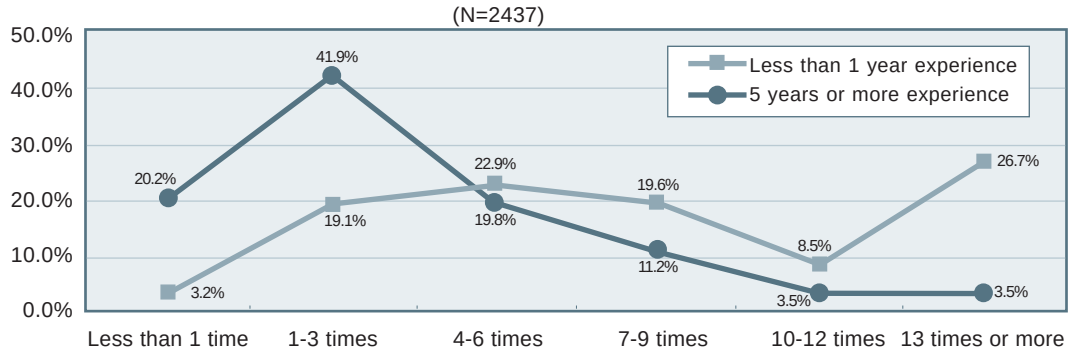
Users with higher education have higher usage frequency than users who are less educated. The discrepancy is significant.

Figure 3-13: **Weekly frequency of going online at different education levels**



Among the users we interviewed, we noted that unmarried people demonstrate higher usage frequency than those who are married; and users with higher incomes (except for those with no income at all) use the Internet more frequently than those with lower incomes. The Internet usage frequency does not drop as time goes by; on the contrary, the earlier people start to use Internet, the higher the average weekly usage frequency. Statistics indicate that the weekly frequency of users with different Internet experience may vary substantially. Comparing one-year users with five-year users, we found that those with longer network experiences tend to use the Internet more frequently than the ones with less experience.

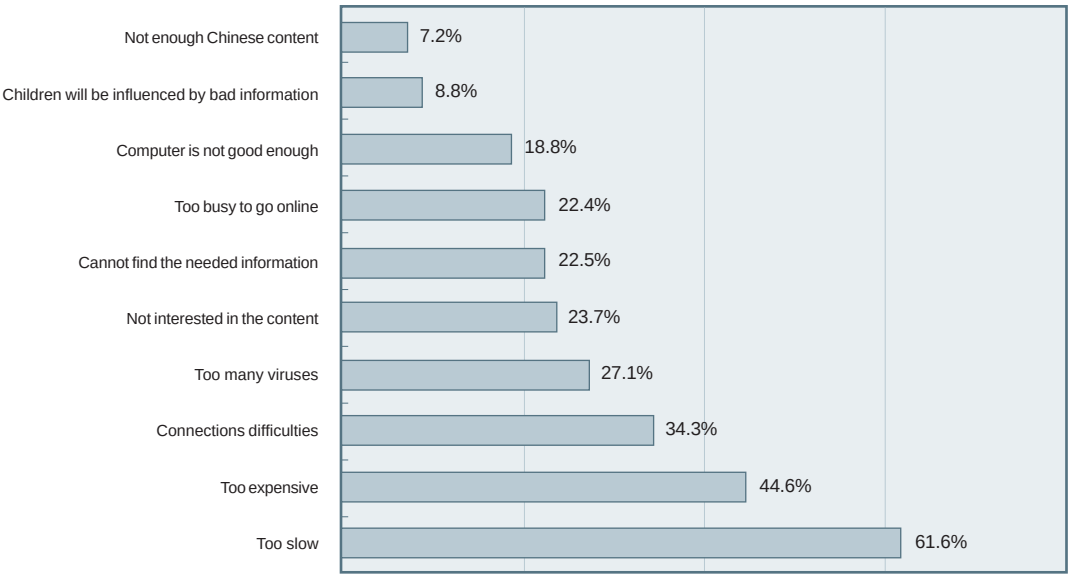
Figure 3-14: Weekly frequency of going online for users with different levels of Internet experience



3.4 The Main Problems of Going Online

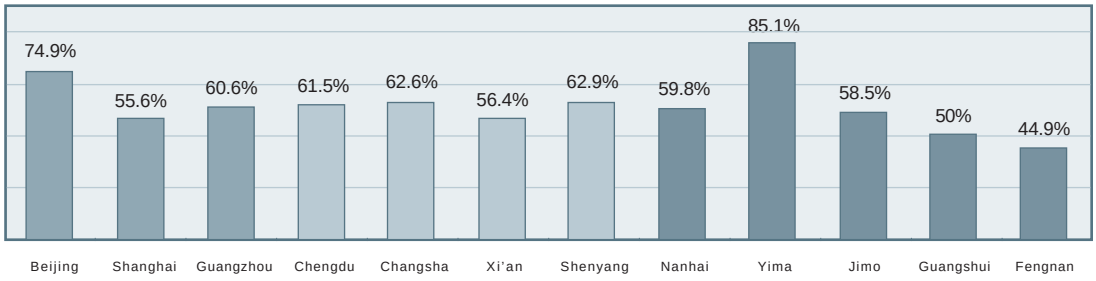
We have also examined the main problems Internet users may suffer when they access the Internet. Based upon our statistics, we found that it is no longer the primary concern whether there is “enough information in Chinese” on the Internet. The top three issues are all related to accessing itself, which may provide ISPs opportunities to improve their service.

Figure 3-15: **The main problems of going online**



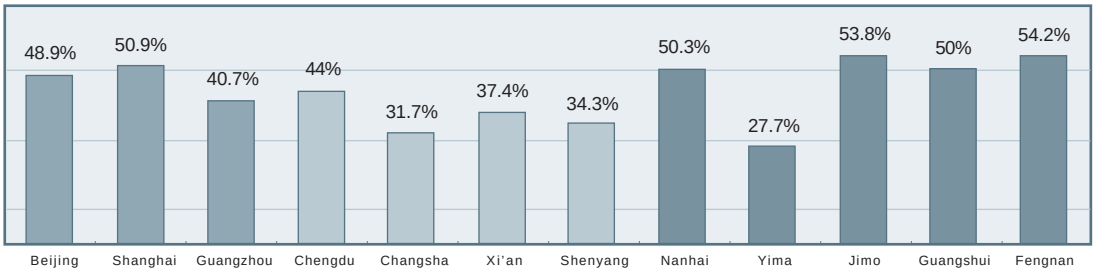
As multi-media applications on the Internet becomes popular, Internet users demand higher network speed. Broadband Internet infrastructure construction is not only going to speed up in major cities but also in some smaller ones. Users' expectations for faster Internet connections in large urban centers are getting higher as are those of users from smaller cities. Among the metropolitan users we interviewed, a considerable number of people have chosen speed of transmission as a priority problem. Interestingly, the average number of weekly hours spent on the Internet among the users from Yima at Henan Province, a relatively underdeveloped town, ranked No.2 in the survey (Refer to Figure 3-1), and 85% of users we interviewed in Yima thought the local speed of data transmission was too slow.

Figure 3-16: **The proportion of users who think the network speed is too slow**



In this survey, the interviewees have also listed the cost of Internet access as the second major barrier of going online. Yet actually the cost of Internet usage in China should be acceptable. It is worth further study because of a high percentage of interviewees considered cost as a major setback for Internet usage. Among those well-developed cities such as Beijing and Shanghai, around 50% of the users think the cost to access the Internet is too high. On the other hand, users from underdeveloped towns such as Yima do not hold the same opinion.

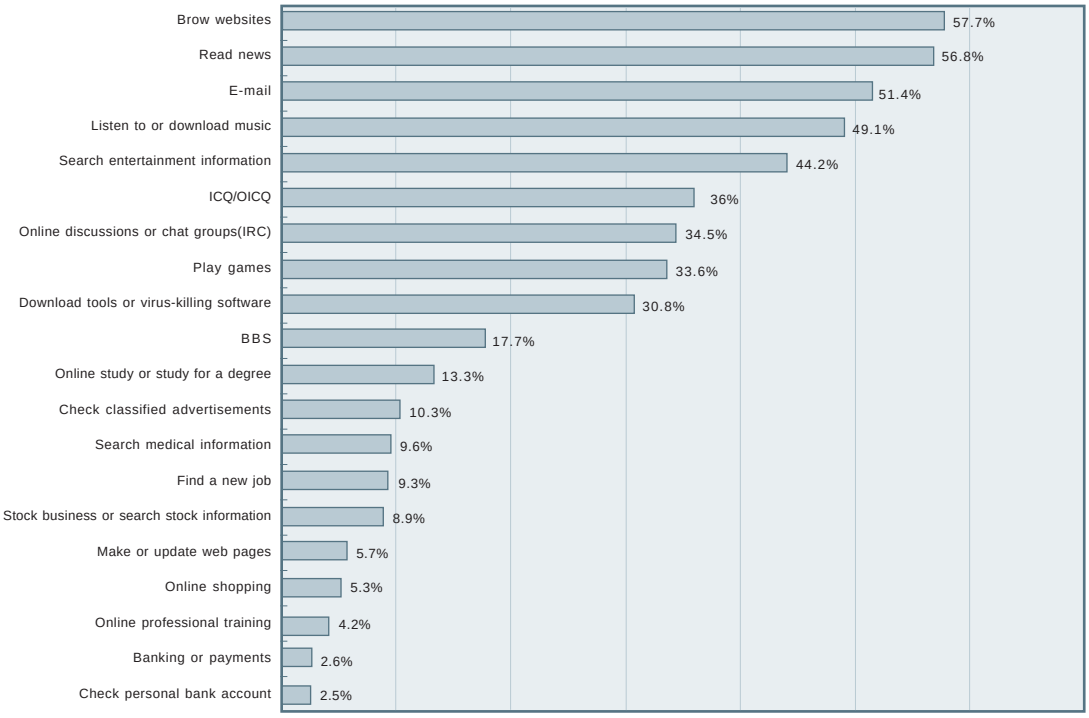
Figure 3-17: **The proportion of users who think going online is too expensive**



3.5 Online Activities

Users' online activity has drawn broad attention. In our questionnaire, we questioned users on the 20 most popular Internet functions they prefer. The users have ranked these functions by the frequencies of their usage in the following orders:

Figure 3-18: **The proportion of Internet functions applied by Users**

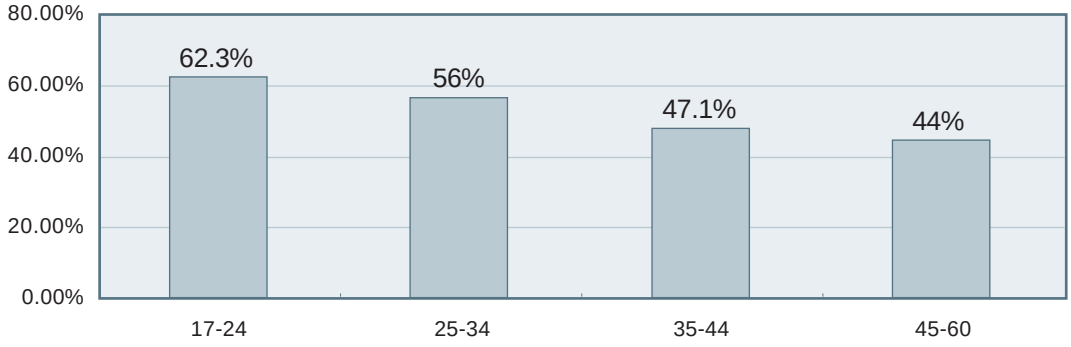


From Figure 3-18 we can see the importance of reading online news to the Internet users. The Internet, as a new media, provides people with a new, timely and interactive window and deeply effects the way that Chinese people to get information. We will discuss the impact of the Internet on traditional media in Part Four of this report. Now we are going to analyze the various situations in which different users utilize some of the main functions of the Internet.

3.51 Web-browsing

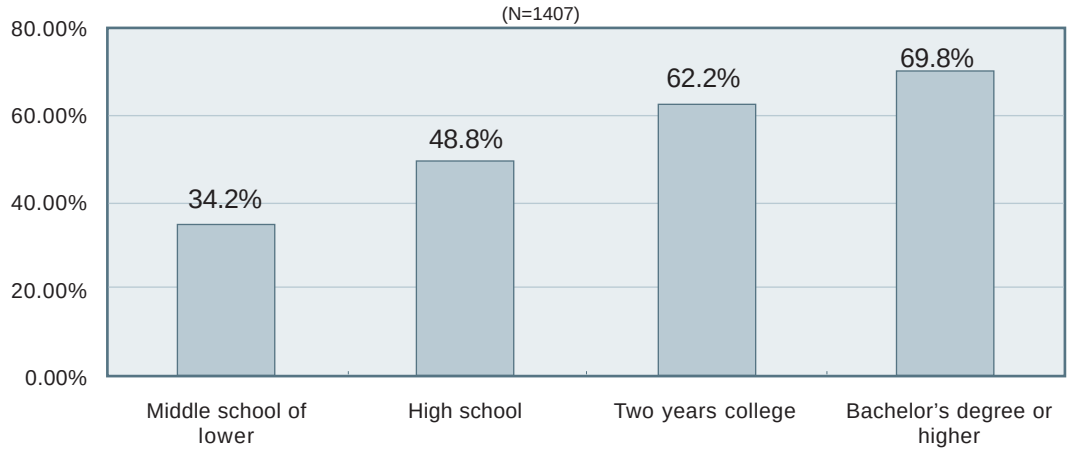
Web-browsing is one of the basic Internet functions. Specifically, different users may have different habits in browsing. One of the main differences in Web-browsing is age. The younger the users are, the more likely they will browse the Web.

Figure 3-19: **Proportion of website browsing among different age groups** (N=1422)



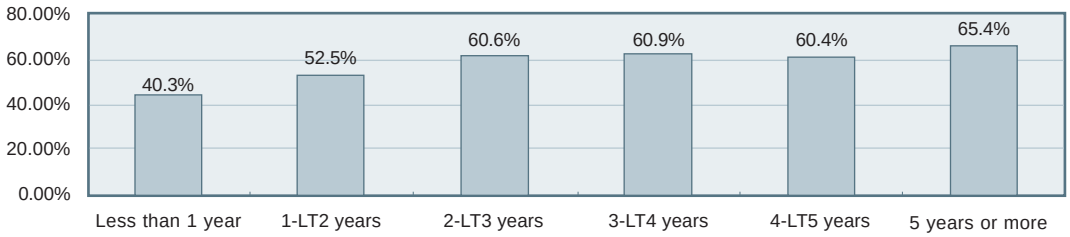
Web-browsers with different education levels behave differently. Users with higher education are more likely to surf the Internet.

Figure 3-20: **Proportion of website browsing among different education groups**



More importantly, such differences also appeared among users with different Internet experience. The more experienced users are, the more frequently they browse the web.

Figure 3-21: **Proportion of website browsing among groups with different Internet experience levels** (N=1411)



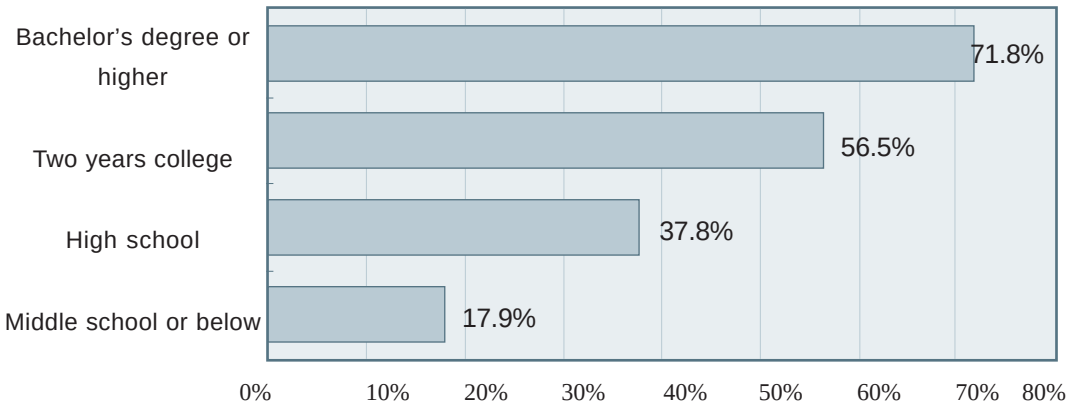
Internet café users (54.8%) browse the Internet significantly less than do those who do not access the Internet from Internet cafés (60.1%). In addition, city scale, personal income and marital status are all factors that could impact the Web-browsing. But the gender differences do not affects users' Web-browsing very much.

So young users, less educated users and less experienced users usually tend to go directly online for their original purpose, instead of browsing the Web. Those who go online from Internet cafés usually go to their target directly (it is most likely to play games or to chat). Their purpose of going online is quite simple.

3.52 E-mail

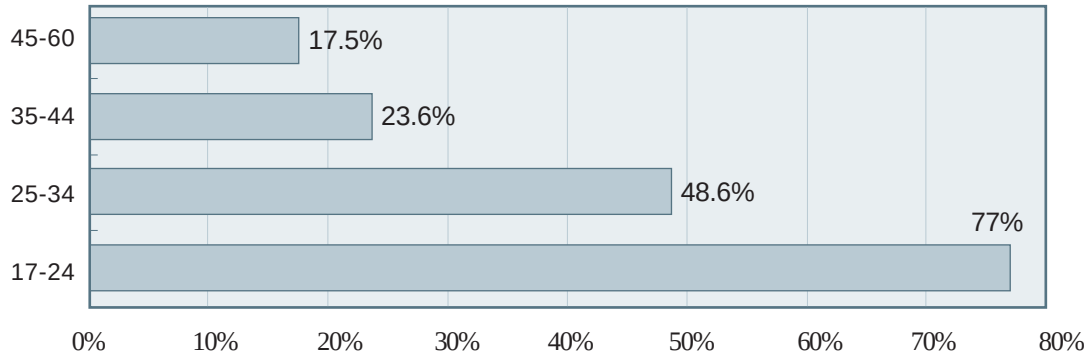
E-mail is one of the basic functions of the Internet. The history of E-mail can be found for as long as the Internet has existed. It is easy to understand that the higher an education people have, the more likely it is that he or she would like to use E-mail.

Figure 3-22: **Higher educated people use E-mail more.**



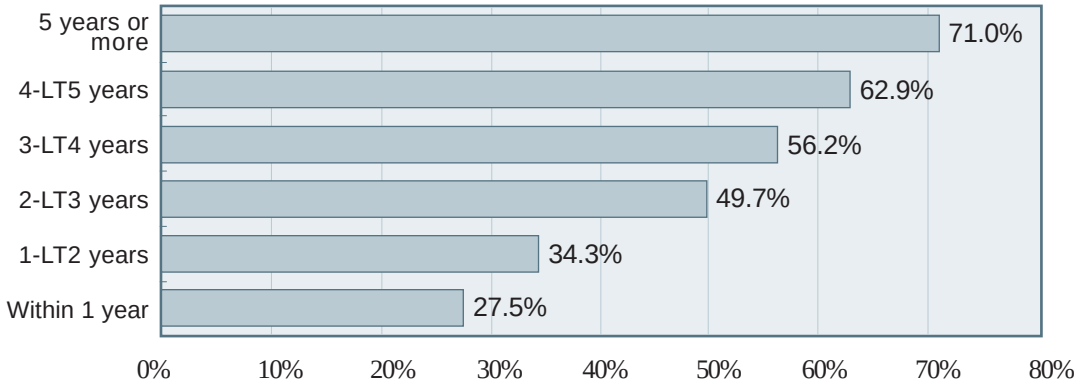
Among the users we interviewed within the age group of 17-24 years, 58.1% of them use E-mail frequently. As the age of the users increases, the fewer of them will be E-mail users. Only 33% of E-mail users are in the users group aged 45-60.

Figure 3-23: **Younger people use E-mail more**



People's Internet experience can also affect their usage of E-mail. The statistical differences are significant (N=1256, Sig=.000) that: as a user spends more time on the Internet, his or her possibilities of E-mail usage increases accordingly. Only 1/3 of new users are using E-mail, while 70% of users that have 5 years of Internet experience are using E-mail.

Figure 3-24: **The longer the Internet experience, the more use of E-mail**



It was taken for granted that Internet café customers will just play games and chat there. However, from the survey, we can see 48.8% of the Internet café customers are regular E-

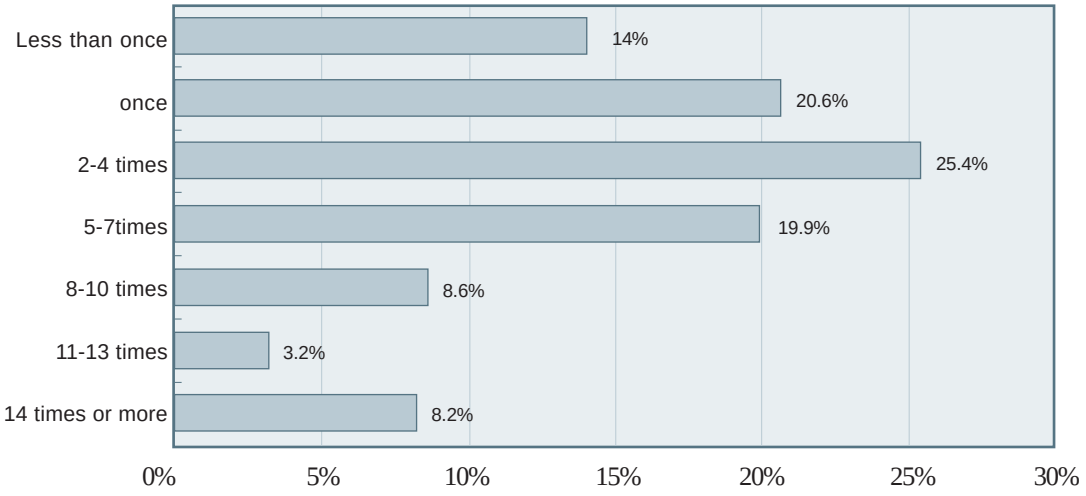
mail users, though the percentage is lower than the 53.6% E-mail users among non-Internet café customers. The two figures do not show a significant difference in the statistical study.

The percentage of E-mail users among single people (58.4%) is obviously higher than that of those in the married couples (37.5%). In large urban centers, 55% of the users frequently use E-mail, which is significantly more than people who use E-mail in the provincial capitals (49.1%) and smaller cities (44.8%). There is nearly no difference in the use of E-mail among users of different genders.

It is interesting to know that, although E-mail is one of the most frequently utilized services the Internet provides, there are still 20% of users who do not have their own E-mail accounts. If we exclude those who do not have E-mail accounts, there are only about 20% of Internet users who check their E-mails at least once everyday.

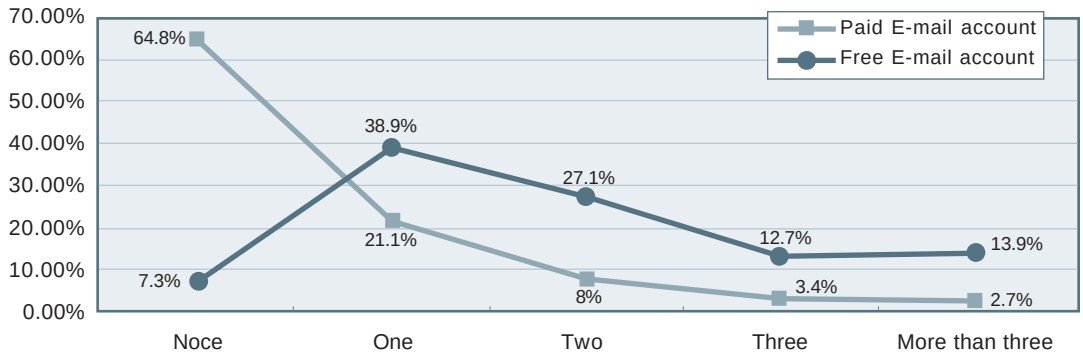
The frequencies of E-mail-checking for users who have Internet E-mail accounts are:

Figure 3-25: **Weekly frequency of checking E-mail** (N=1942)



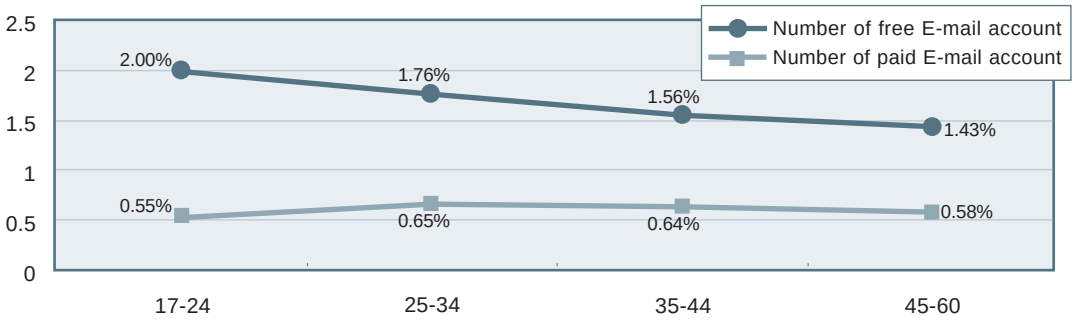
Most people still do not want to pay for their E-mail. Among users we interviewed who have E-mail accounts, as many as 64.8% of them use free E-mail accounts. Merely 7.3% of them do not have free E-mail accounts (which means they use paid-accounts only).

Figure 3-26: **Distribution of paid mail and free mail accounts.**



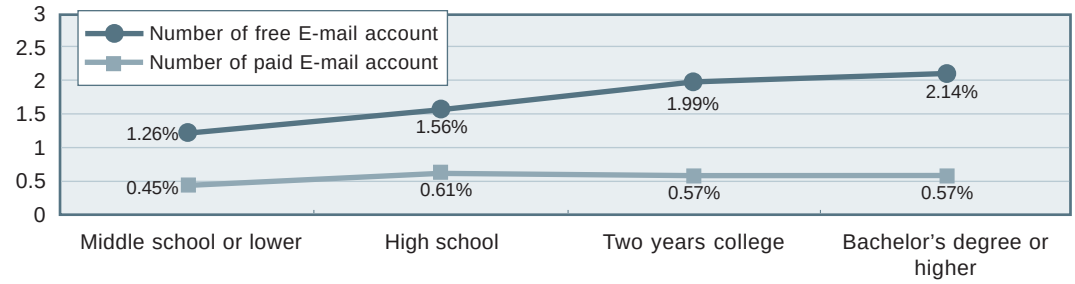
The discrepancies caused by age among different users who pay for their E-mails are not obvious, while the usage may vary widely among users who use free E-mail accounts.

Figure 3-27: **Proportion of using E-mail in different age groups**



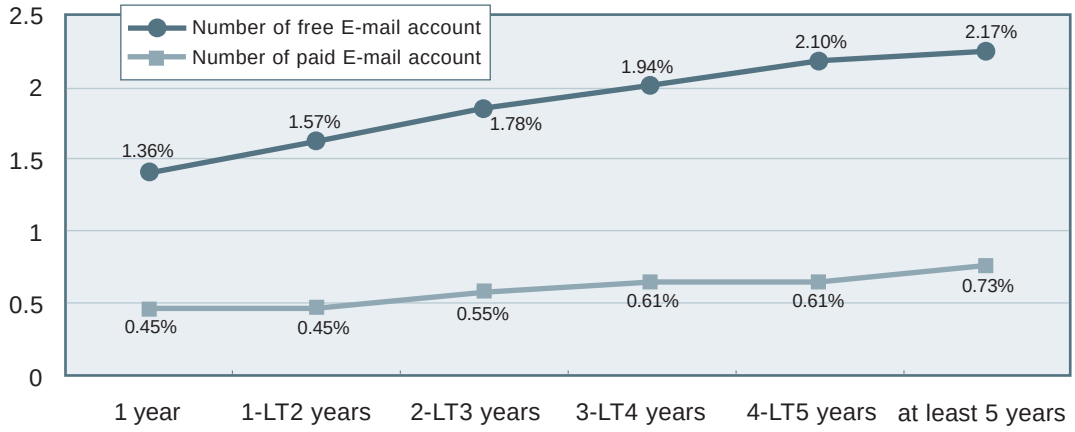
Likewise, users of different educational levels tend to have more or less the same number of paid E-mails accounts, while the number of free E-mail accounts they possess may differ significantly. The more educated people were, the more they tended to have free E-mail accounts.

Figure 3-28: **Proportion of using E-mail in different educational groups**



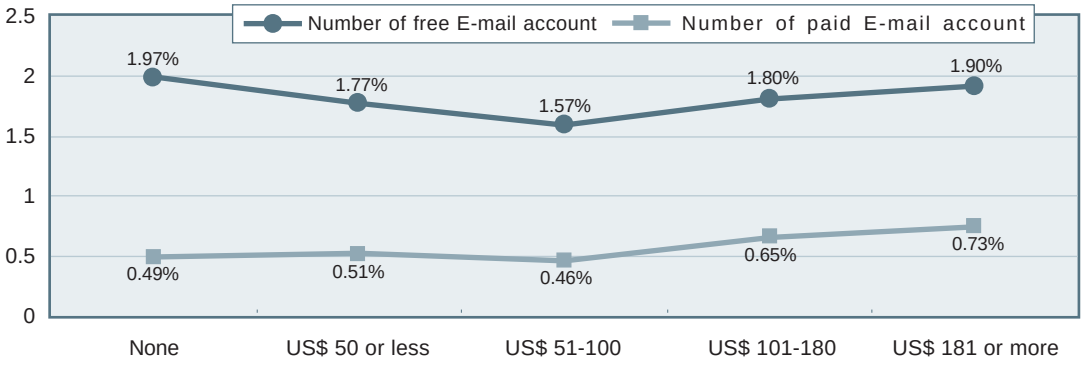
Also, people with longer Internet experience tend to have more Internet mailboxes. In addition, the usage of paid E-mail accounts and free E-mail accounts varied widely among users with different lengths of Internet experience.

Figure 3-29: **Proportion using E-mail groups with different lengths of Internet experience**



It's obvious that users with higher incomes are more likely to use paid E-mail accounts than those with lower incomes, since the service is not free.

Figure 3-30: **Proportion using E-mail among different income groups**



3.53 Downloading Music

Significant differences also occur among users of other Internet functions. For example, over 60% of users between ages 17-24 like to download music from the Internet, while only 18% of users between ages 45-60 would download music from the Internet. Users with lower incomes download music more often than those with higher incomes. Single users download music much more often (59.6%) than married users (27.3%). The Internet café customers also download music much more frequently (56.8%) than those who do not go to the Internet cafés (43.9%). The percentage of music downloading is slightly lower in the provincial capitals and small towns. Little gender difference is seen in music downloading activity. What's interesting is that the longer people use the Internet, the more likely they will be to download music. One possible explanation could be that people with shorter network experience may be less familiar with Internet functions, thus not yet able to locate appropriate websites to download music.

3.54 Online Chatting

Based on the usage of chat-rooms, we noticed that the percentage of users who chat on the Internet become much lower as they get older. Those with higher incomes are less likely to chat. Single users are more likely (42.4%) to use chat-rooms, while only 18.7% of the married users go to chat-rooms regularly. Among users with different educational levels, those who received college educations and high school educations visit chat-rooms more often. The number of people who chat in junior high school and university are relatively fewer. The result indicates that the need for leisure as well as to make new friends may be the two important incentives.

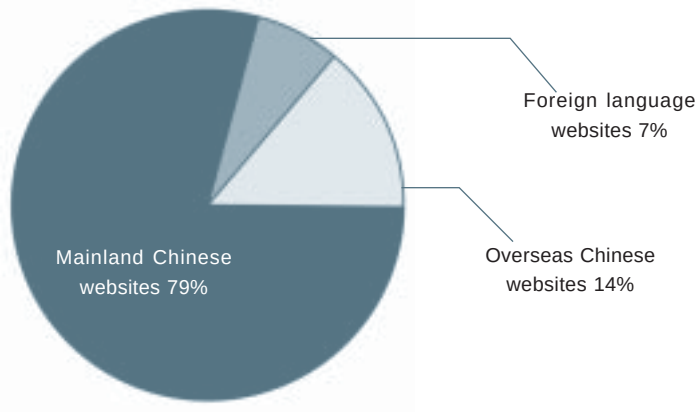
Due to time constraints, we are unable to analyze each online activity and the usage of all Internet functions. Generally speaking, the activities mentioned above are the Internet services and contents most often exploited by users, described by the users themselves. In our questionnaires, we have also questioned users on the websites they visit most often in order to understand the most frequent content usage of the Internet users.

3.6 Online Languages and Content

3.61 Languages

A few years ago, the lack of Chinese content on the Internet was a huge problem for Chinese users. From the websites most visited and engines most often used as reported by users in our survey, we may well conclude that the problem no longer exists. Nevertheless, we still examine the time users spend on Internet content in different languages. Overall, interviewed users spend about 7.2% of their time visiting websites in foreign languages, 13.7% of their time visiting oversea websites in Chinese, and 78.8% of their time visiting websites in Chinese launched by mainland China. Even if we exclude the newly included cities, compared with the same figure in 2001, the percentages remain basically unchanged. That's to say, users have spent more time visiting websites in Chinese launched by Mainland China.

Figure 3-31: **Users' time spent on different languages**



3.62 Portal Websites

Through the websites users visit, we can gain a general picture of their online behavior. In our questionnaire, we required the interviewee to list 4 websites which they visit most often, and then by coding these websites in the computer we analyzed them with our statistical software. According to the result of our analysis, the websites people like to visit were concentrated on a few Chinese portal sites. The top five are: www.sina.com.cn; www.sohu.com.cn; www.163.com, www.yahoo.com.cn, and www.21cn.com. The frequency of other websites that appear in our questionnaires are significantly lower than the 5 listed above. Their rankings are shown as follows:

Table 3-1: **The proportion of Websites visited**

Frequented Websites	First Choice	Second Choice	Third Choice	Fourth choice
1	Sina(29.1%)	Sina(21.0%)	Sina(16.0%)	Sohu(10.5%)
2	Sohu(18.3%)	Sohu(17.5%)	Sohu(14.4%)	Sina(10.4%)
3	Netease(17.6%)	Netease(14.7%)	Netease(14.2%)	Yahoo!(9.9%)
4	Yahoo!(4.9%)	Yahoo!(7.5%)	Yahoo!(8.8%)	Netease(9.8%)
5	21cn(3.3%)	21cn(4.1%)	China.com(3.8%)	China.com(2.8%)

3.63 Search Engine

We believe one of the reasons for the popularity of these 5 portal websites is the search engine functions they provide. Apart from the websites they visit most often, interviewed users have also indicated in the questionnaires the search engine they use most often. A total of 1529 people answered our questions on the search engines. Among them, 208 selected the “never use any search engine” option. The top five search engines have also enjoyed much higher usage frequency than other search engines mentioned in the questionnaire. Originated as a search engine, www.sohu.com.cn is used even more often than www.google.com

Table 3-2: **The rankings of search engines used**

Search engine	Fist Choice(number of cases)	Second Choice(number of cases)
Sohu	321	205
Google	250	65
Sina	184	157
Yahoo!	160	124
Netease	158	64

Through content-coding, we have identified the Internet contents regularly used by users in their answers of the questionnaires and classified them into: Local websites, portal websites, BBS, websites for search engines, for E-business, for IT information, for Games, for learning and education, for music and entertainment, as well as for news and consultation.

As we have stated earlier, the “most frequently used Internet function” by the interviewed users are for Internet browsing and news-reading. Online games and chatting take up only about 35% of reported Internet functions. From users' answers to our question concerning “the website most often visited”, we may see, only 1.4% of the users have truly listed game

sites as their “frequently visited sites”; BBS, is an important function supplied by many portal websites, however a website solely dedicated to BBS is rarely seen. Therefore, only 0.3% of the users frequently visit websites for BBS.

Likewise, because we designed a question specifically dedicated to the search engine, we saw that only 7.1% of the users frequently visit websites for search engines alone. However, the smaller city Nanhai is an exception. 45.6% of users in Nanhai have frequently visited websites for search engines. As Chinese E-business has not yet been fully developed and there are few websites fully dedicated to E-business, only 1.6% of the interviewed users visit websites for the purpose of E-business. Users also seldom visit websites for IT information. Except for users in Shanghai (8.5%), Guanghzou (7.1%) and Nanhai (8.9%) who may be more concerned with the development of core technology, only 4% of all the users we interviewed mention visiting websites for IT information in their answers.

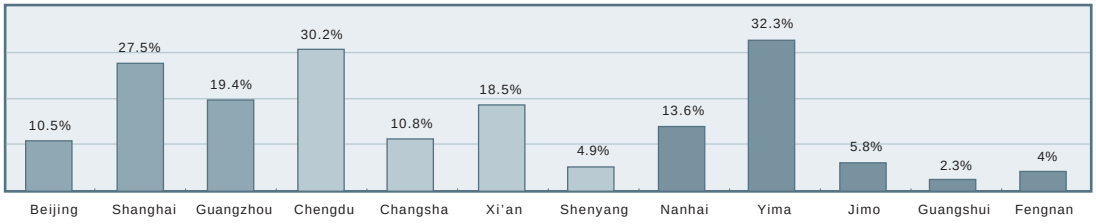
Below we are going to analyze in detail, how user groups of different cities, age, gender, education, and personal income visit different websites.

3.64 User Difference

3.641 City

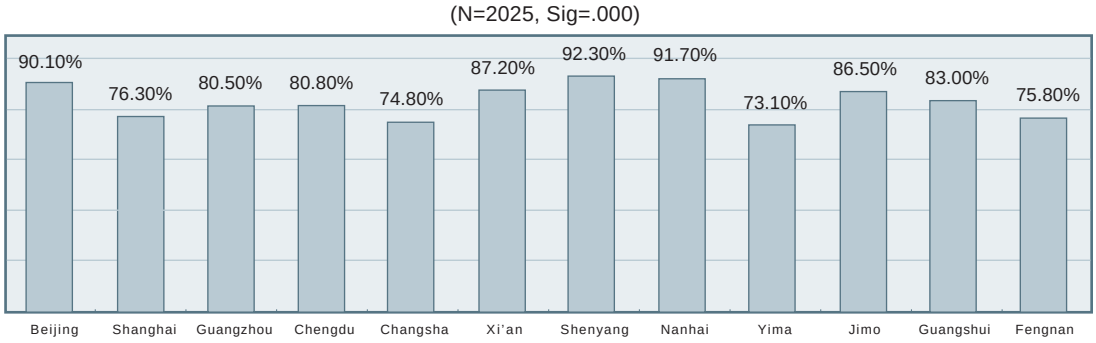
Whether the users visit local websites or not can reflect not only the development of the Internet's regional development, but also how concerned they are about local affairs and how willing they are to receive local information through the use of the Internet. From statistical analysis, we see that different users in each city have distinctly different ways of using of local websites.

Figure 3-32: **The proportion of local websites visited in each city** (N=419)



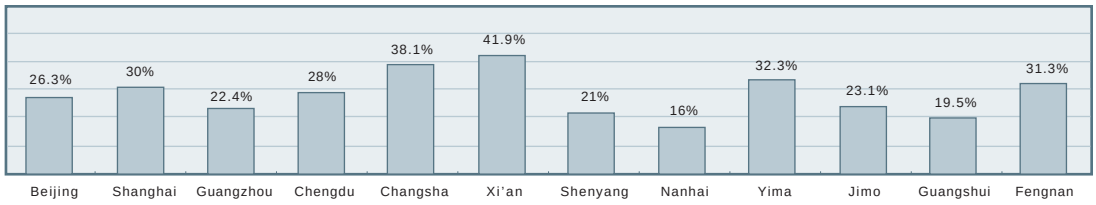
In fact, the percentage of the interviewed users' usage of local websites is fairly low compared with usage of portal websites. Only 419 people have claimed to visit local websites, which makes up 17.2% of all those who acknowledge the existence of regional websites. It is, however, more likely to obtain more information beyond the region from which users may originate. Those users who rarely visit regional websites in Beijing, Shenyang and Jimo are, nevertheless, devotees of portal websites.

Figure 3-33: **The proportion of users visiting portal websites in each city**



News reading is one important online activity for Chinese users. Compared with other cities, the percentage of frequent online news consumption by interviewed users in Guangzhou, a southern city with a highly developed regional economy, is less than the average usage rate of news consumption of 27.2%. However, our survey indicates that cities like Xi'an, Changsha have 40% of their users devoted to the news websites. The discrepancies are apparent.

Figure 3-34: **The proportion of users visiting news websites in each city** (N=665)

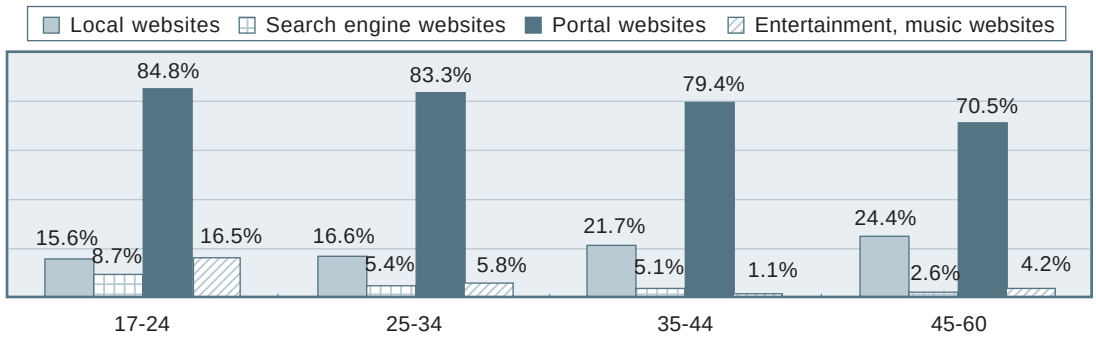


30% of the users in Chengdu have picked websites for music and entertainment as frequently visited websites, while 13% of users in Shanghai and 9.7% of users in Beijing make the same choice. On the whole, 11.4% of all interviewed users have cited websites for music and entertainment as the sites most often visited.

3.642 Age

People have different interests at different ages. The proportion of elder users visiting local websites is obviously higher than that of the younger users. Among the users we interviewed, the older the users were, the more likely they were to visit local websites. It is quite the opposite when it comes to users visiting the portal websites, search engines, and music and entertainment. The younger the users are, the more likely they are to visit portal websites, search engines, and music and entertainment.

Figure 3-35: **Differences in users' age in visiting different websites**



3.643 Education

Users' educations have little effect on their choices on whether to visit local websites. Although the proportion of local websites visits increases with our sample's users' educational level, the increase is minor, and statistically insignificant. (Refer to Figure 3-36)

But the use of the portal websites varied widely among users with different levels of educational attainment. When we compared users who received college and university educations, they showed distinctive variance in the proportions of portal sites usage (95% confidence level overlapped). However, their proportional numbers are very different from those of the users who attend senior and junior high school. The overall tendency is that as users become more educated, the usage of portal sites increases and maintains at a certain steady level when users have more than a college degree.

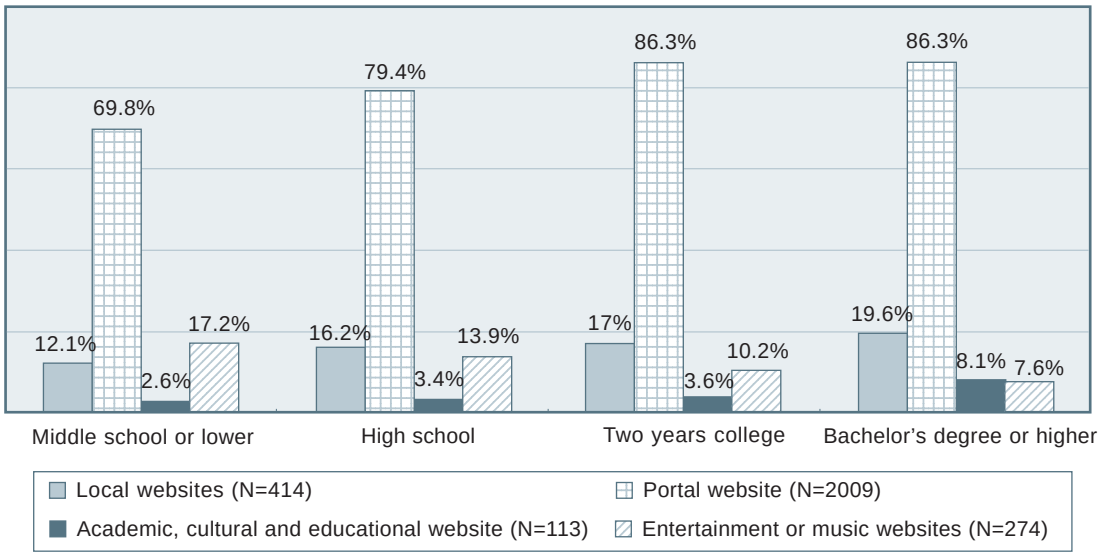
When it comes to the use of websites for learning, culture, education and studies, “college education” clearly sets the standards. Users who received a college degree or lower, represent less than 3% of all users who accessed websites for learning, culture, education and studies, while the numbers of users with university degrees who accessed the same types of websites went up to as much as 8%, nearly twice that of the previous figure.

On the usage of websites for entertainment, the trend is quite the opposite of the usage of websites for study. Our samples reveal that the users' tendencies are to visit websites for entertainment less often, as they become more educated. But judging from the “confidence level”, college educations still make a difference. The three levels of educational attainment under college show no statistical significance in their variance. However, the university students are clearly different from users who attend senior high school and junior high school. Yet again, college users maintain a certain usage level.

Of course, it's not difficult to imagine that the proportion of users who are more educated should be higher than those who are less educated in the usage of websites for learning, culture and education, while the situation is somewhat opposite in the usage of websites for music and entertainment.

All the abovementioned visits to different Websites by users of different educational levels is shown in the following figure 3-36.

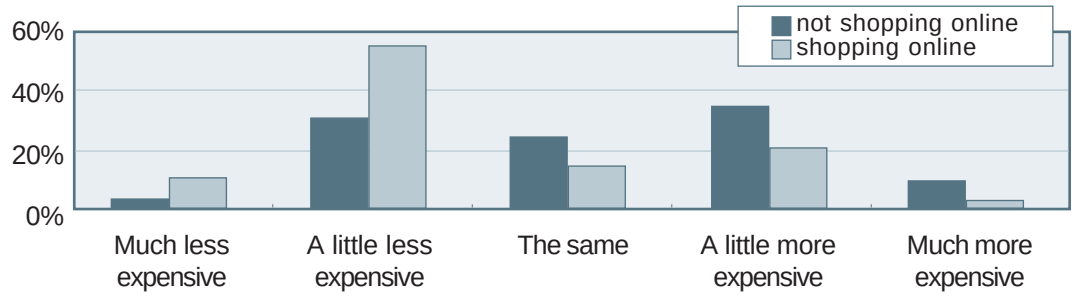
Figure 3-36: **Proportion of websites visited by users of different educational levels**



3.7 Online Purchase

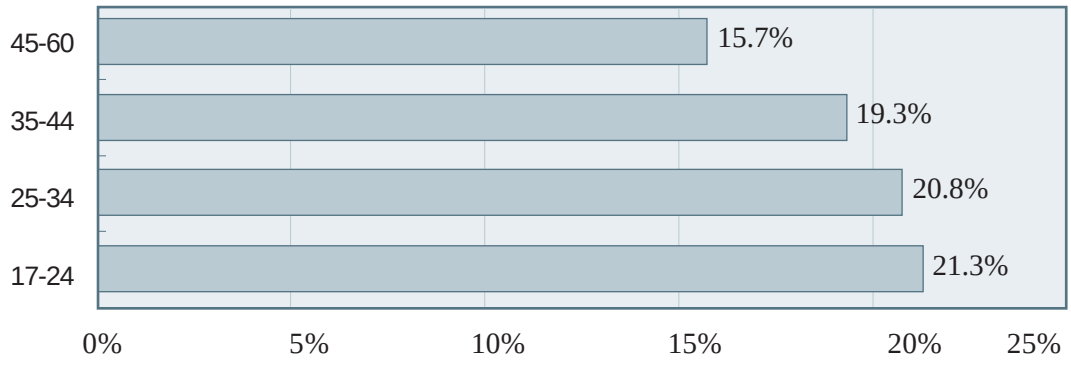
The media has been concerned with online purchase for years, yet the B2C model fails to attract enough customers. Except for the three underdeveloped "flow-systems" in China we mentioned earlier, "including the flow of information (database etc.), the flow of goods (delivery) and the flow of capital (credit card)", the shopping habits of Chinese customers and the bias formed against E-business in the mass public have also played a part in the weak online market. In our survey, it was shown that even among users, the opinions concerning online purchasing could be entirely opposite between those who have online purchasing experience and those who do not. Most online shoppers are more inclined to believe it's always cheaper to shop online than in stores, while those who have never bought from the Internet think online shopping could actually be more expensive.

Figure 3-37: **Different online purchasing experience on the perceptions of online prices**



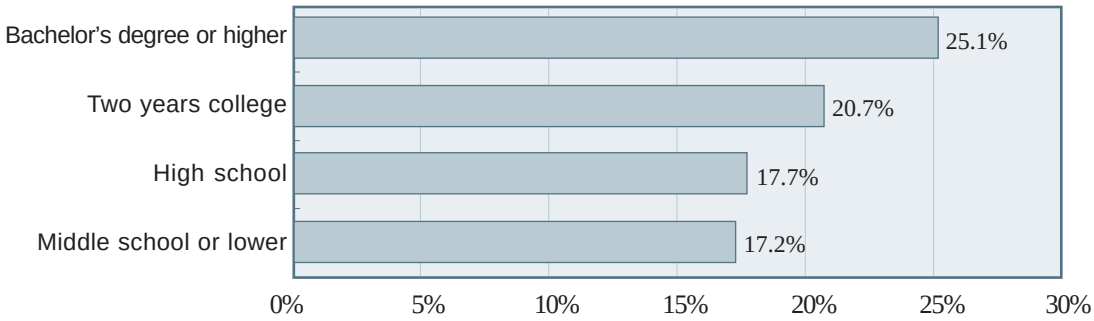
From the age of online shoppers we can see that the number of young people shopping online is much greater than the number of older online shoppers.

Figure 3-38: **Proportion of online purchasing among users of different age groups**



The proportion of online shoppers is much higher among the more educated users than the less educated ones. The differences between the two categories are apparent.

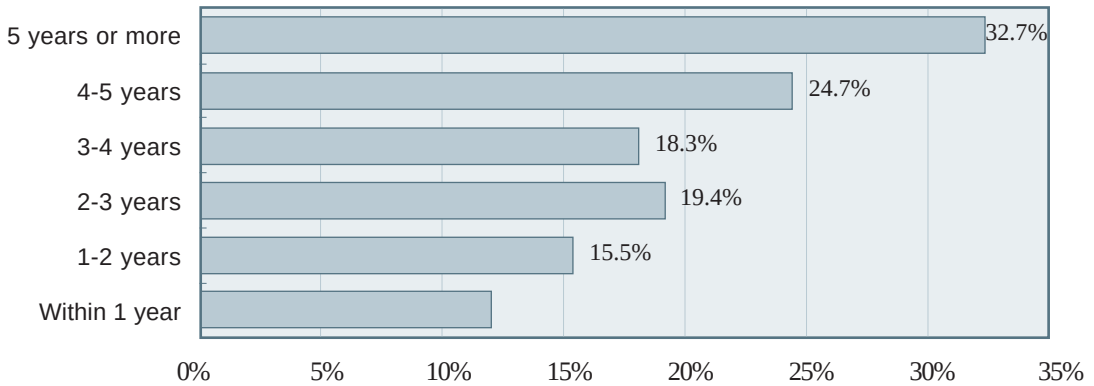
Figure 3-39: **Proportion of online purchasing among users of different educational groups**



We again see that the enthusiasm for online purchasing in smaller cities is at least equal to that of the provincial capitals. There are nearly 30% of users in the larger urban centers who already have online shopping experience, while the average percentage in provincial capitals is only 10%, which is lower than that of the smaller cities' 11.3%.

The proportion of users who have online experience is higher among people with longer Internet usage experience than that of those without. The probability of online purchasing activity will increase as people accumulate more experience in Internet usage.

Figure 3-40: **Proportion of online purchasing among users with different levels of Internet experience**

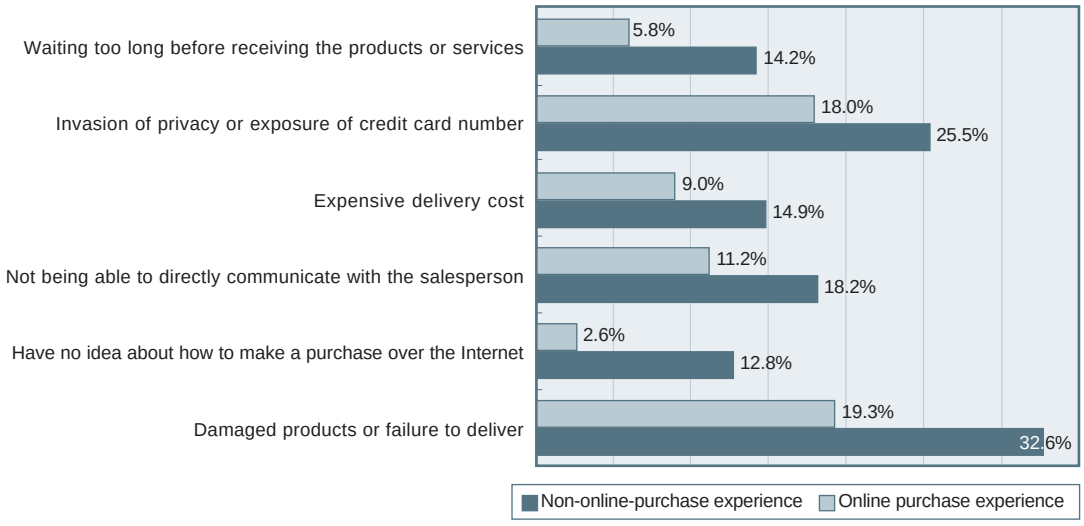


Internet café customers purchase much less frequently (16.9%) online than do users who do not go to Internet cafés (23.1%). Statistical analysis shows significant discrepancies between the two groups of users.

Among the goods and services purchased online by users, the highest-ranking goods are publications such as books and magazines (19.9%). Then there are recreational items and entertainment (17.1%). It is common knowledge that the items purchased online are usually smaller items within the price of a few hundred RMB, with the exception of personal computers. The proportion of online computer purchases accounts for up to 11.8% of the total number of online purchases. In addition, among all online shoppers, nearly 11% of them have paid for online degrees or studies. Beyond these, other goods and services have taken up a much more minor share of the shoppers' budget: Tourism (4.8%), foods (3.8%), fabrics or clothing (5.2%), house appliances (4%), artifacts (3.4%), and health and medical goods and services (3.2%).

Then, what are some of the factors that affect users in their decision to shop online? We have separately examined those circumstances in which users, with online shopping experience or not, worry most during their online purchase of goods and services and the degree of their anxieties. We find in the results of our study that in some of the situations listed below which are often faced by online shoppers, users without online shopping experience are always more anxious. Every chart and every graphic in our statistical analysis shows discrepancies between users with online shopping experience and those without.

Figure 3-41: **The different concerns about online purchasing of those with and without online purchasing experience**



PART FOUR

The Internet and the Media

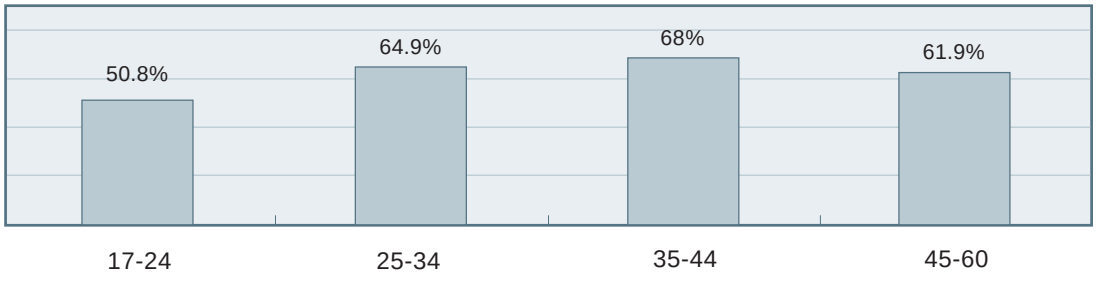
The applications and popularization of any new technology are bound to exert a great impact on the society. The Internet as a new medium has profoundly shaped our lives, from the way we approach and exchange information to the ways we shop; and these new habits and attitudes have, in turn, influenced the evolution of the Internet in each of its regional contexts. In China, for example, Internet users are increasingly enthusiastic about its potential, but the underdeveloped national economy, and the fear and concern many people have about the perils of online purchase, have, at this point, prevented E-business from getting very involved in our everyday lives. However, in terms of its social prospects, especially within realm of the mass media, the Internet has already established a voice unique among other conventional media in its range and penetration. Generally speaking, conventional media, controlled by the central authority, can hardly provide the audience with timely, across-the-aboard, and multi-faceted information. The maturing Internet has accordingly already begun to affect people's use of conventional media.

4.1 Access to Online News

4.11 Who is Reading Online News?

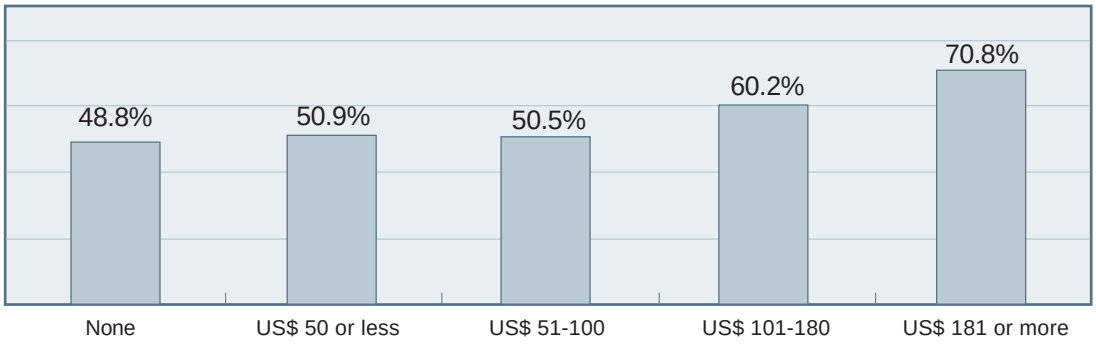
Reading online news is one of the most important activities by the Chinese Internet users, and it supplements the deficiencies of traditional media. Beyond that function, the Internet also provides an additional source of news and information, and has become a platform for evaluating the conventional news media. The Internet's refreshing approach to the news has drawn many readers, and satisfied the varying tastes of its users as to news content. Young people are by far less active in Internet news contents than most middle-aged people. Statistical analysis has shown clear age differences as to whether people would read news online or not.

Figure 4-1: **The proportion of reading online news among age groups (N=1401, Sig=.000)**



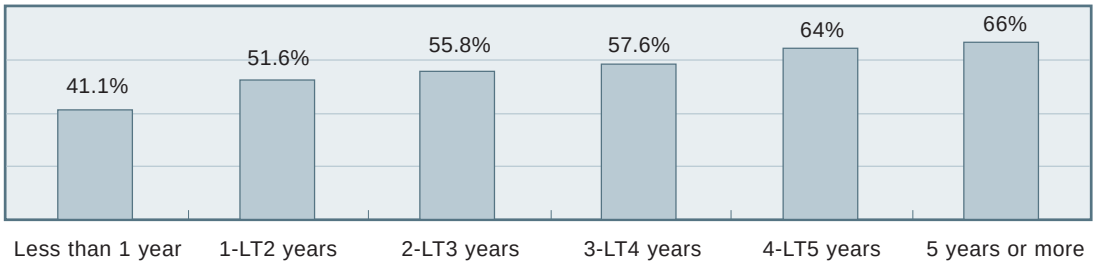
Differences in reading Internet news prevail among users with different levels of personal income. It appears that users with higher income are more inclined to read news on the Internet than those with lower income.

Figure 4-2: **Proportion of reading online news among income groups (N=1380, Sig=.000)**



The average time spent reading Internet news is higher among people with longer Internet experience. As we observed earlier, the proportion of Internet news readers increased significantly as they became experienced online users. We therefore anticipate that Internet news reporting will have quite a bright future among the growing Chinese Internet user population.

Figure 4-3: **Proportion of reading online news among Internet experience groups (N=1384, Sig=.000)**

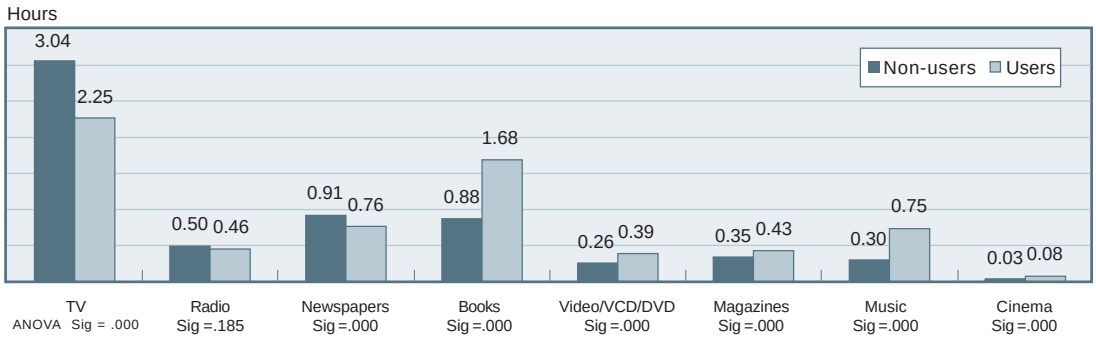


News reading is significantly lower among Internet café users (47.4%) than among other users (63.6%). In addition, married users read more online news (63.7%) than singles (53.1%); and 59.7% of male users read news online, while only 53% of female users do so. There are more users from metropolitan areas who read Internet news (58.4%) than there are in the provincial capitals (55.5%) or in small towns (54.7%).

4.12 How Much Time Spent on Reading Online News?

Internet users and non-users are distinctively different in average time spent on all conventional media usage, with the exception of radio.

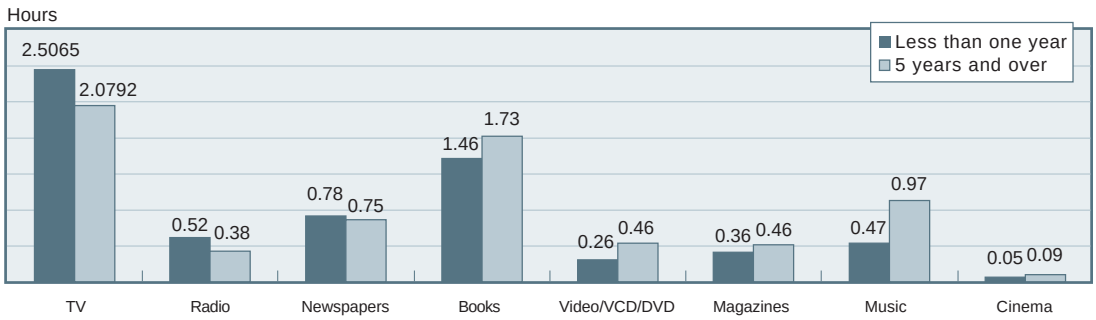
Figure 4-4: **Time spent on traditional media**



From figure 4-4 we can see that non-users spend considerably more time watching TV than users do. They also read more newspapers and listen to the radio more often. On the other hand, users read books and listen to music more often than non-users, and they also spend more time watching videotapes and reading magazines. Of course, this doesn't imply that Internet will cultivate people's habit for reading. It may simply be that most users began with a preference for reading, rather than watching television.

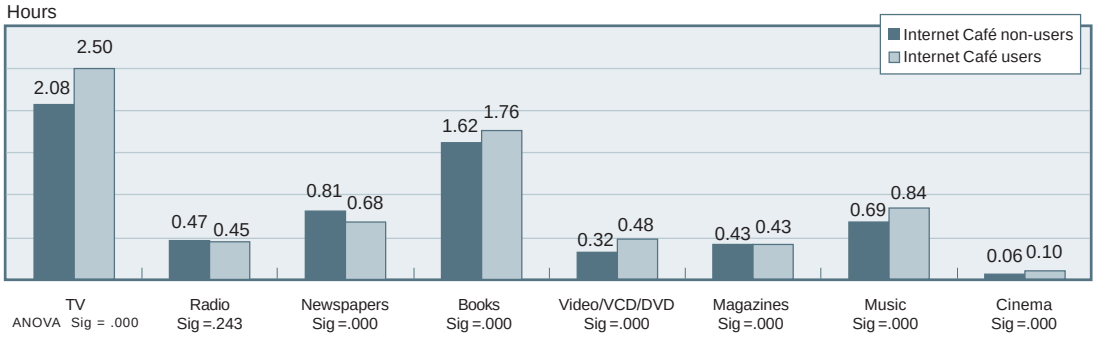
Let us see if there exists any difference in the usage of conventional media between users with different Internet usage experience. Compared with the users whose online experience is less than a year, we see a drop of nearly 20% in the time of TV watching for those with 5 years experience or above, while their time for tape-watching and music-listening nearly doubles. There are only minor discrepancies in the time spent on the newspapers, books, magazines, radio and going to movies between short-term and longer-term Internet users.

Figure 4-5: **Time spent among different Internet experience**



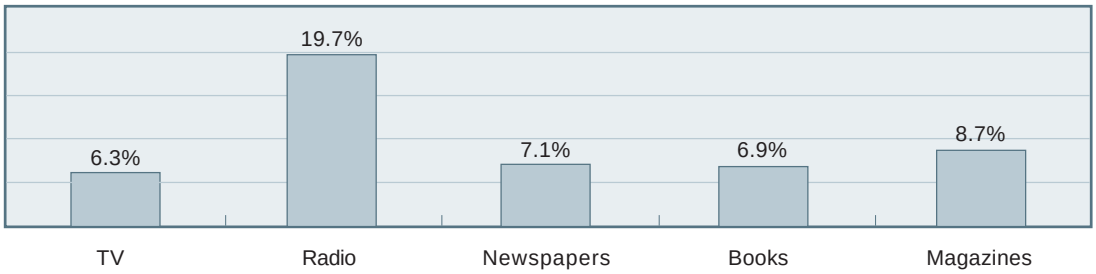
A common perception among infrequent Chinese Internet users is that most customers only play games or chat in the Internet café. What are the differences between these people and regular users in their media usage? The survey results show that there are differences in the usage of conventional media between users who prefer Internet café and those who do not.

Figure 4-6: **The difference of traditional media usage between the Internet café users and Internet café non-users**



So how do users themselves look at this issue? How many of them believe that they spend considerably less time on conventional media once they become Internet users? The results show that most users believe they spend less time listening to the radio than they did before they became Internet users.

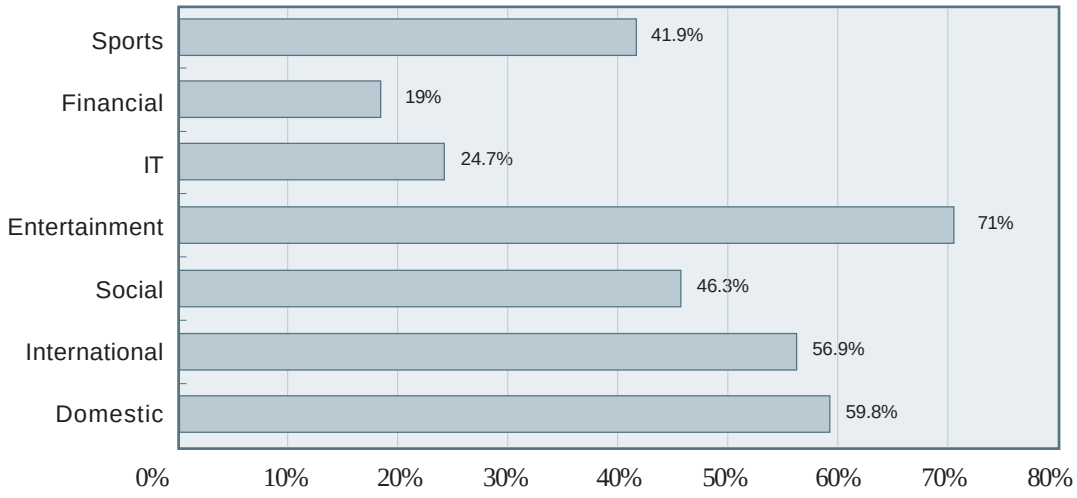
Figure 4-7: **After getting online, one spends less time on the following traditional media**



4.13 What Online News Is Read?

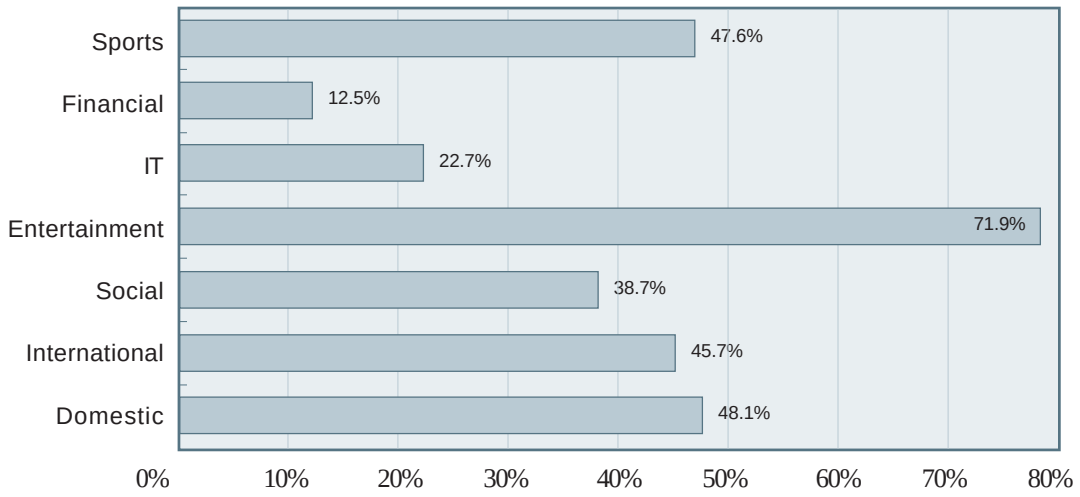
The news online has no doubt opened another window of information for users. What kind of Internet news do the users find interesting? The answers we found to these questions not only reflect the users' need of information, but also reveal the deficiencies of more conventional media. In our survey, users look to Internet for news content which conventional news media could not provide. We discovered that the number of users who never read news online is very limited, to 3.4%. However, taking into consideration the composition of users in different regions, it becomes clear that the users' primary focus is mainly on entertainment, while domestic and international news have only a secondary importance.

Figure 4-8: **The online news content read by users**



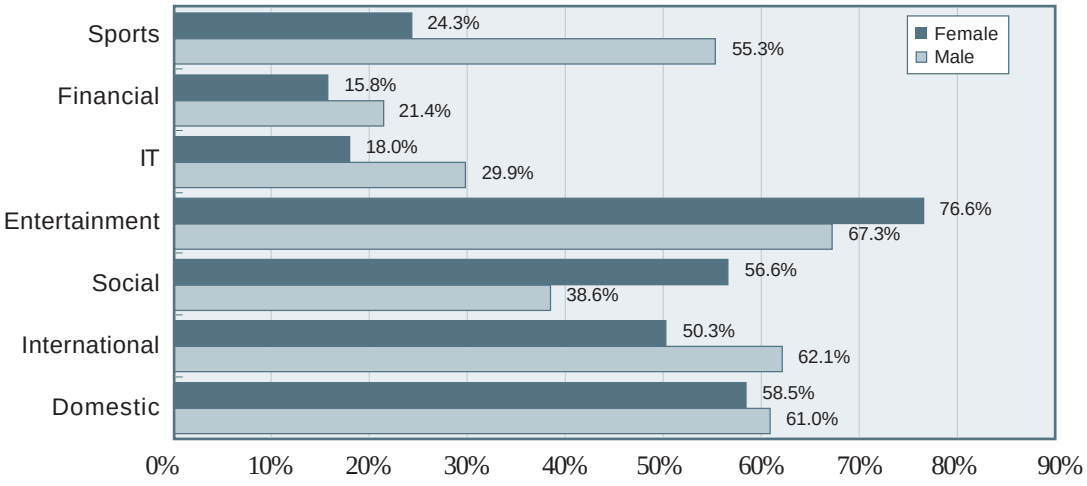
Apparently, different users focus on different news contents. Users at Internet cafés seem to care more about news in entertainment, and less about social, political and financial news than at-home users.

Figure 4-9: **The content of online news read by Internet café users**



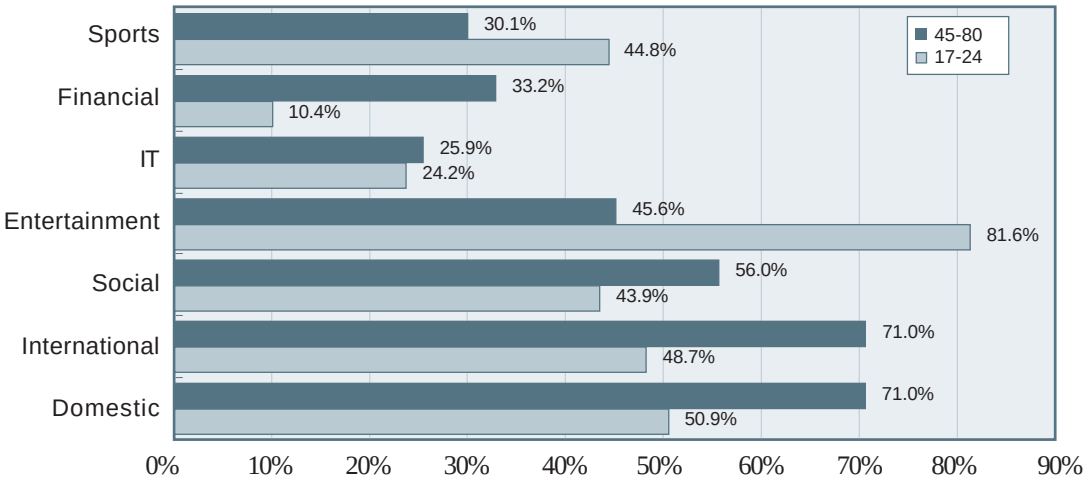
Gender is an important determinant of the news content that Internet users prefer. Male users obliviously care more about news in sports, information technology and international affairs, while female users are more concerned with news about social life and entertainment.

Figure 4-10: **The content of online news read by users of different gender**



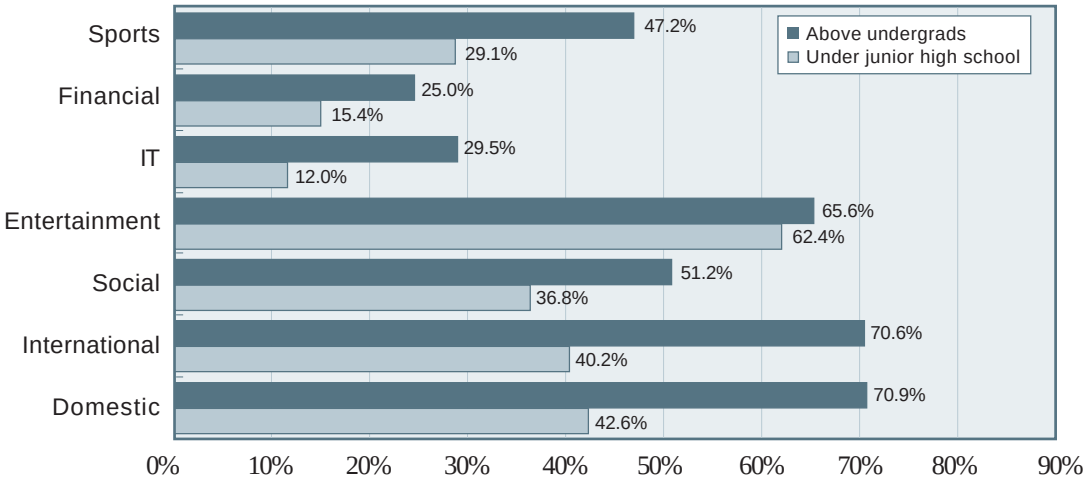
Users of different age groups bring a different focus to news content choices, as well. If we compare users in the 17-24 age group with those who in the 45-60 age group, we see that young people are keener on sports and entertainment, while the elders are more concerned with current event and social life.

Figure 4-11: **The content of online news read by users of different age groups**



Varying levels of education among users will also directly influence their interest in news content. Generally speaking, more educated users show greater interest in all news content than the less educated, especially in news concerning current issues and information technology, etc.

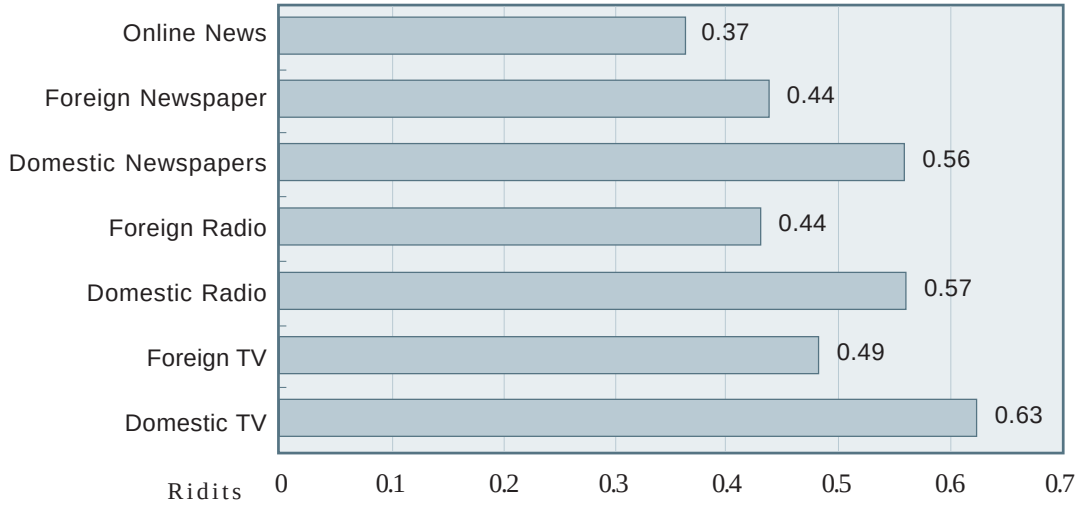
Figure 4-12: **The online news contents read by user at different education levels**



4.2 Media Trust

Users trust media differently. Overall, more credibility is given to domestic TV news programs, followed by domestic radio programs and newspapers. Greater discrimination is shown against foreign news sources than domestic ones. And the lowest credibility of all is given to the news on the Internet.

Figure 4-13: **Users' trust in different news sources**



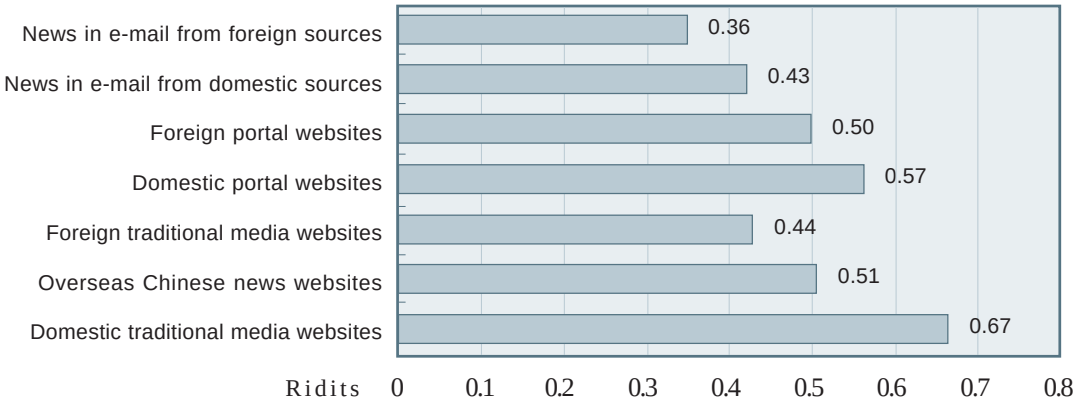
The conclusion we drew from these findings was identical with the one drawn from the survey conducted by the Center of Social Development at the Chinese Academy of Social Science in the year 2001. For greater convenience and ease of understanding, we used Ridit in our analysis (to accumulate the average rate of probability in its distribution to compare the relative credibility given to news of different sources by our interviewees).[1]

Within the Internet itself, users also attached different levels of credibility to different Internet news sources. As was the case with user trust of traditional media news sources, users tended to have the most faith in websites launched by traditional mainland news providers,

[1] In Ridit analysis, to describe relative position of the orderly variable on same the scale equals to the function of the average of fixed peripheral variables. The higher the Ridit score, the closer it gets to the high end of the scale. In this particular circumstance, the higher the Ridit score, the more users trust the source of information. Referring to I. Bross "How to Use RIDIT Analysis" Biometrics 1958; 14:19.

such as China Daily. The second most trusted were portal sites that provided the news. And the greatest skepticism was seen in websites operated by overseas news organizations, a mistrust that was significantly higher than that toward mainland news media.

Figure 4-14: **Users' trust in different online news sources**



PART FIVE

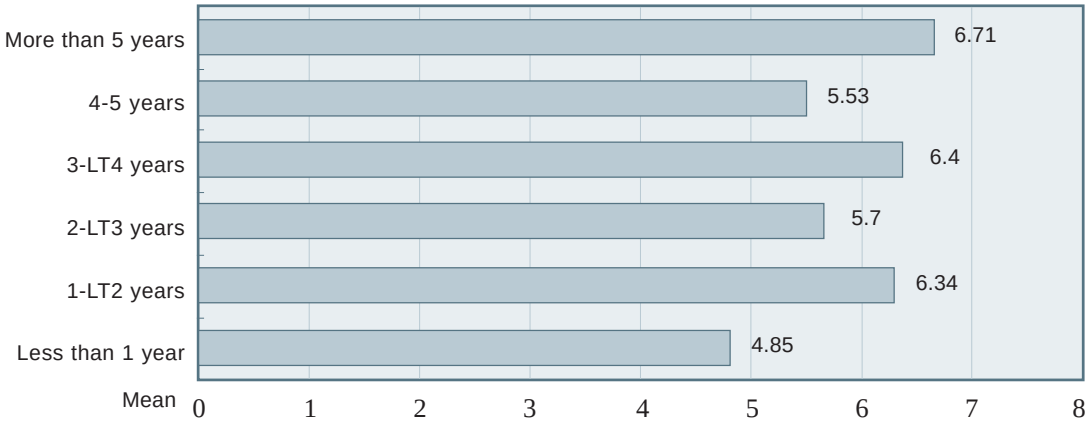
The Internet and Communication

The Internet itself is more than a new form of media. Through the Internet, users can not only “see” and “hear” what they would like to know; they can also participate in the discussion of certain events with others. While a great number of Chinese Internet users see this interactive function as one of the greatest appeals of the Net, others display some anxiety about the impact of the Internet on interpersonal communication, since Internet users meet more frequently online than in person. Does this keyboard-tapping affect, or have the potential to transform, people’s real communications in their daily lives?

5.1 How Many Friends Meet At Least Once a Week?

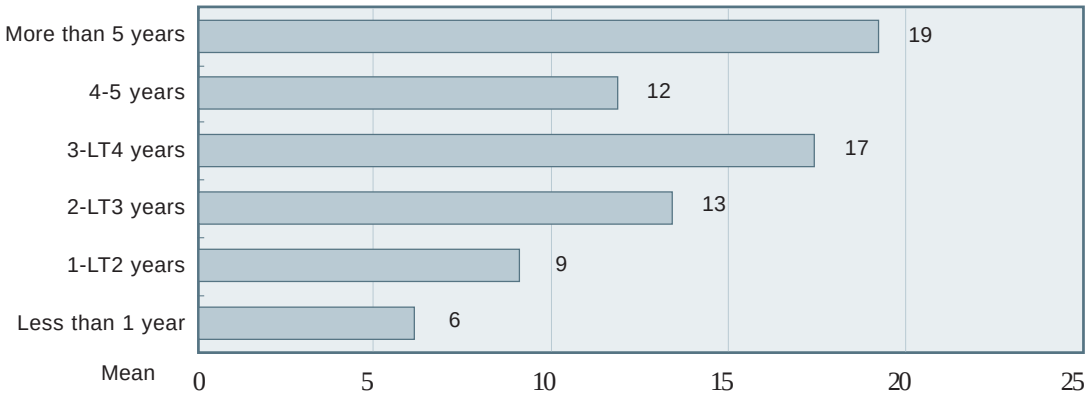
From the survey results, we see that on average, users meet at least 6 friends per week, not including family members, while non-users meet only 4.78 friends in that same time period. This is a significant difference between users and non-users in meeting friends, and it debunks the presumption that Internet users have less human contact because of Internet usage. Of course, these numbers do not indicate that the Internet can in fact improve the user's interpersonal communication; the logic here is that those who like to communicate with others in person are the same people who like to communicate with others online. We have also examined the influence of the Internet experience on users' interpersonal communication, and it is here certified that the number of interpersonal meetings with friends will not be curtailed as users gain more Internet experience. Users who have less than one year of Internet experience see only 4.85 people per week, the least of all users. Yet the number is still higher than that of the non-users. If a user has used Internet for over 5 year, he or she will see 6.71 friends per week, which is more than any other user group.

Figure 5-1: **Internet experience and the number of weekly meet friends**



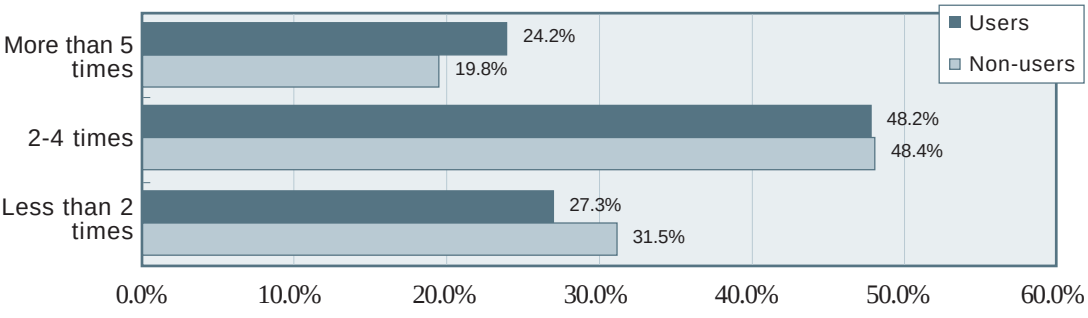
If we inspect the same issue from the angle of the users' Internet experience, we may find that users with longer Internet experience are more likely to meet new friends on the Internet because the Internet offers an additional means by which to get to know new friends.

Figure 5-2: **Internet experience and the average number of friends known from Web**



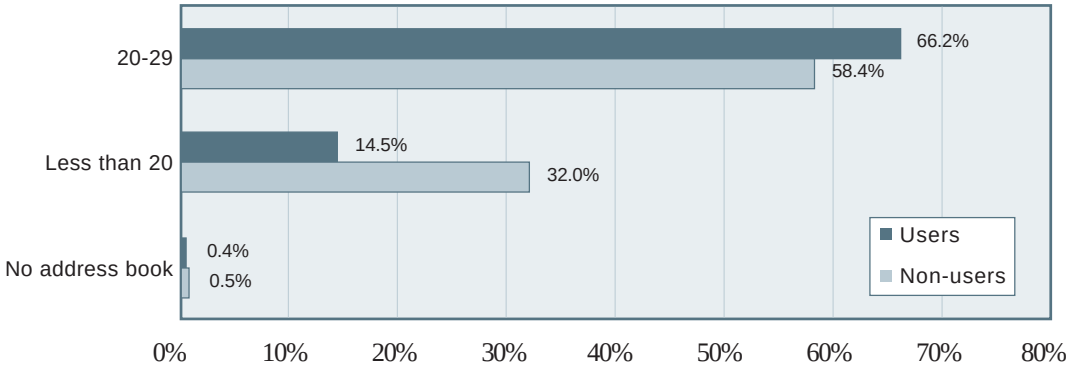
Of course, we cannot conclude that the Internet usage has actually been the cause of increased interpersonal communication among users. In our research, we also examined the number of weekly phone calls made from home (excluding calls made from work and cellphones), as well as the number of phone numbers recorded in personal memos to determine if a user was an active social member in real life. And what we found, as shown on the chart, was that the number of phone calls made by users (N=2450) every week is higher than those made by non-users (N=1491).

Figure 5-3: **The number of calls made at home per week by users and non-users**



In addition, the number of phone-numbers recorded in the memoranda of users' is much higher than those of the non-users' (N=1491).

Figure 5-4: **The number of contacts listed in the address book of users and non-users**



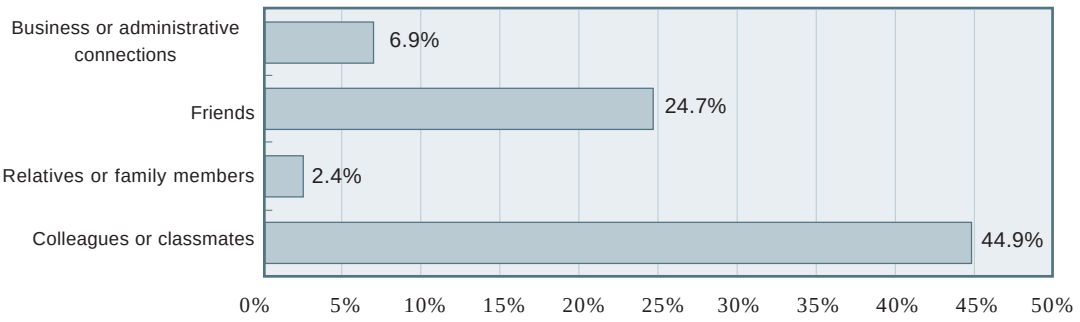
However, if we only examine those who make more than 5 calls from home every day, we can see that non-users, according to this criterion, will have met at least 6.9 friends per week, and users will have met at least 7.3 friends per week. Among those we interviewed (N=586) whose memos recorded more than 100 telephone numbers, non-users met 7.4 friends at least once a week, while the same average number for Internet users was 8. Therefore, whether or not they were originally active social members, Internet users met more friends than non-users on a weekly basis.

If we examine how many of an Internet user's friends were acquired online, we see that Internet café users will have made 19.5 friends on the Internet, while non Internet café users will have made only 9.3. Apparently, Internet café users are more assertive or successful in meeting new acquaintances via the Internet than those who work out of their home or office.

5.2 The Communication Boundary for Internet Communication

The question still to be considered is, With whom do Internet users usually communicate online? Generally speaking, the network is used to communicate with colleagues or school-mates (44.9%) and friends (24.7%). The proportion of Internet usage to communicate with families or business associates is quite low.

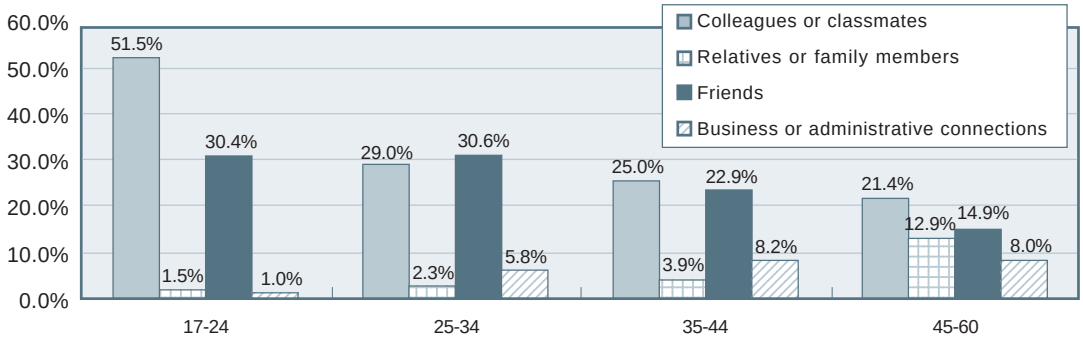
Figure 5-5: **Users' online social boundaries**



Of course, not all users have the same boundaries in their Internet communication patterns.

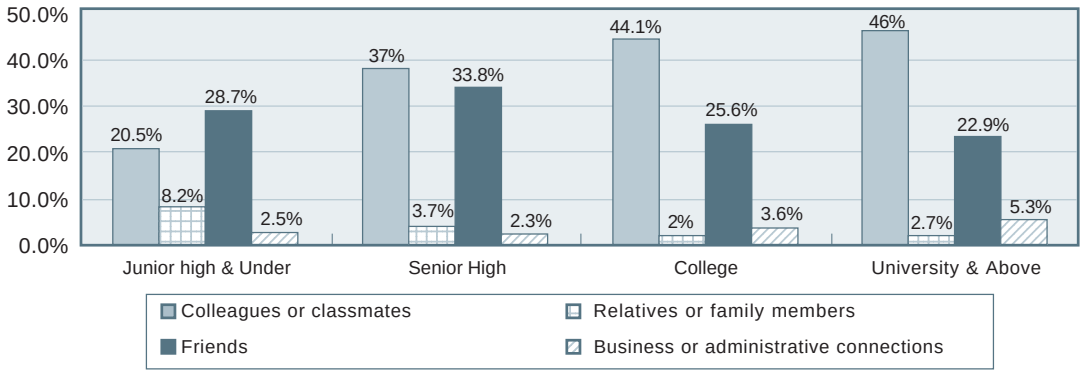
Judging from the statistics, young people tend to communicate more with colleagues and schoolmates, while middle-aged users may do so more often with families and relatives.

Figure 5-6: **The online social boundary for different age groups**



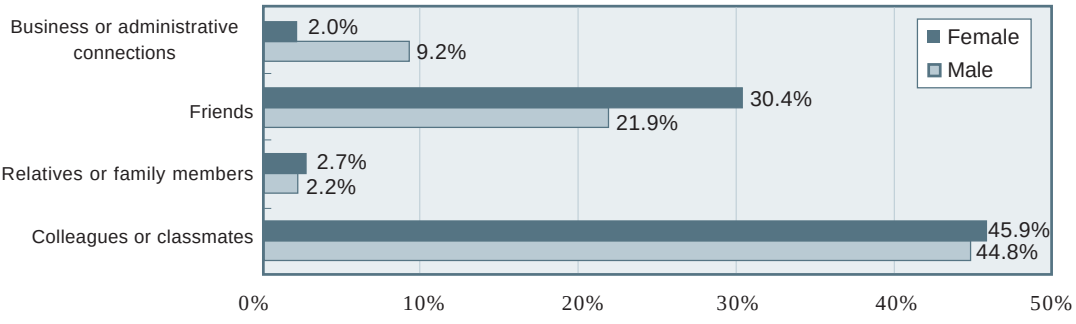
As for education parameters, the better educated a user is, the more likely he/she is to communicate with colleagues and schoolmates via the Internet.

Figure 5-7: **The online social boundary for different education groups**



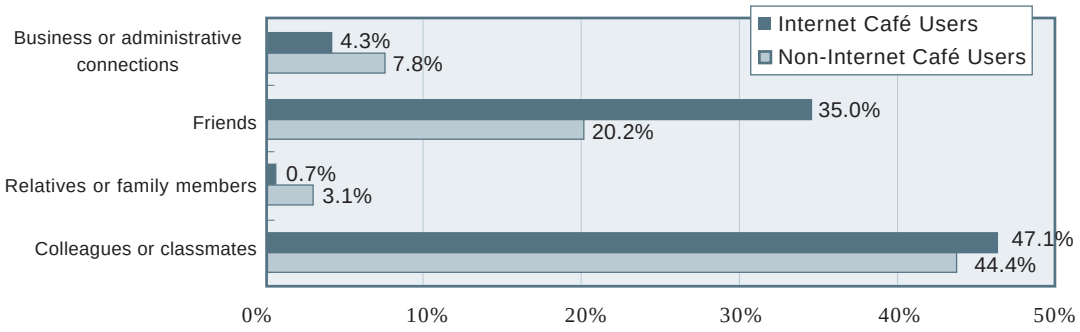
It is interesting to note that the proportion of female users communicating with friends via the Internet is much higher than that of male users. And the proportion of male users using the Internet for business and administrative purposes is higher than that of female users.

Figure 5-8: **The online social boundary for different gender groups**



Internet café users are more inclined to make new friends on the Internet, while Internet-café non-users use the Internet more to engage in communications for business and administrative purposes.

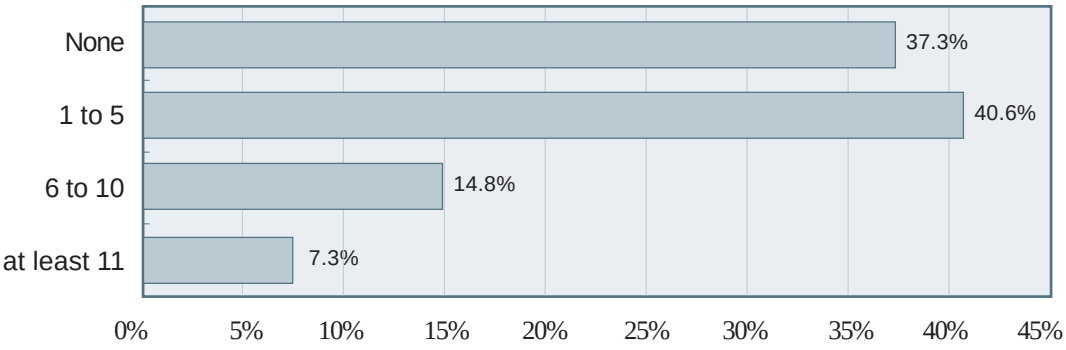
Figure 5-9: **The online social boundary among Internet café users and Internet café non-users**



5.3 The Possibility of Making New Friends via Internet

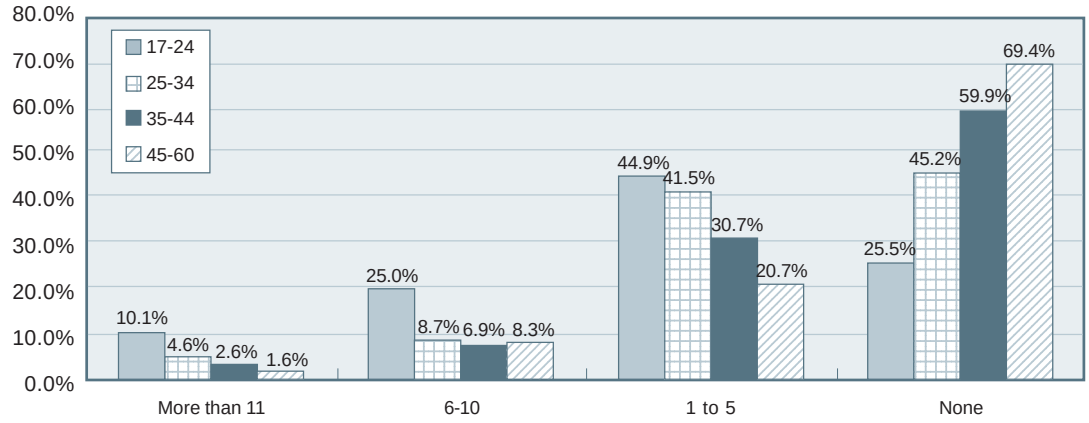
In general, most users claim that their Internet use has increased their contacts with friends. Only about 37% of users think Internet has made no difference in maintaining friendships.

Figure 5-10: **The number of frequently contacted friends increased by online communication**



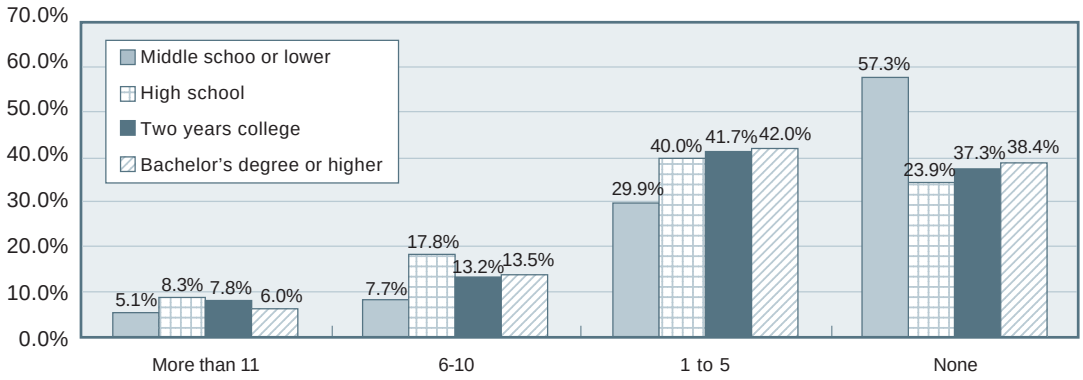
The use of the Internet to keep in continual contact with one's friends has much to do with users' age. The younger the user, the more likely he/she will make new friends via the Internet.

Figure 5-11: **The younger the users, the more friends they may make online**



And the more educated users are, the more likely they will be able to increase the number of friends with whom they will keep in continual contact by means of Internet communication.

Figure 5-12: **Better educated users tend to make more friends online**



PART SIX

THE INTERNET AND POLITICS

The Internet is changing the Chinese political landscape. It provides people a platform to express their opinions and a window to the outside world as never before. On November 16, 2002, for instance, an Internet user named "I am crazy for you" posted an article on the Internet criticizing the Shenzhen government. Following the posting of the article, the mayor of Shenzhen who read the article several times decided to talk to the young man face to face, which was unimaginable before (See picture).[1]

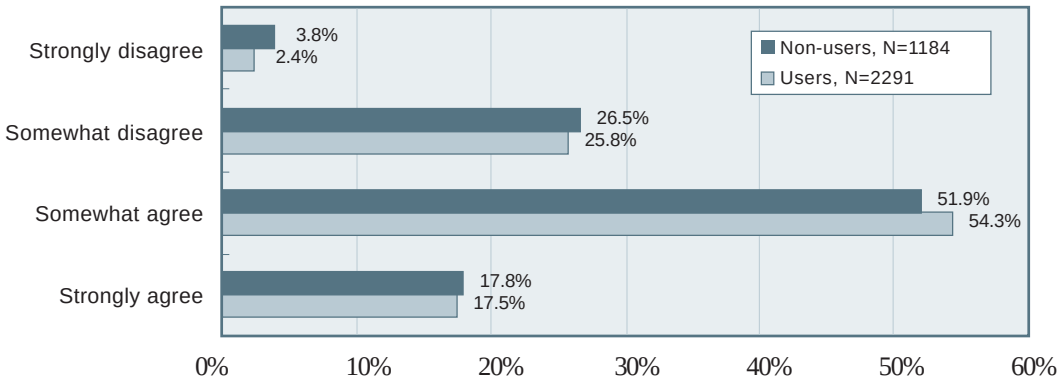
Furthermore, "E-government" has become very popular in China and has been embraced by not only the IT industry, but also by the central government. It is for instance reported that the budget for E-government in 2002 was more than one trillion RMB.[2]

In this survey, we use four questions to examine how people think about the impact of the Internet on politics. Overall, we found that people expect the Internet to bring more freedom of speech and more political opportunities.

Reacting to the statement "by using the Internet people have more opportunities to express their political views", 71.8% of Internet users and 69.7% of non-users indicated that they "strongly agree" or "agree".

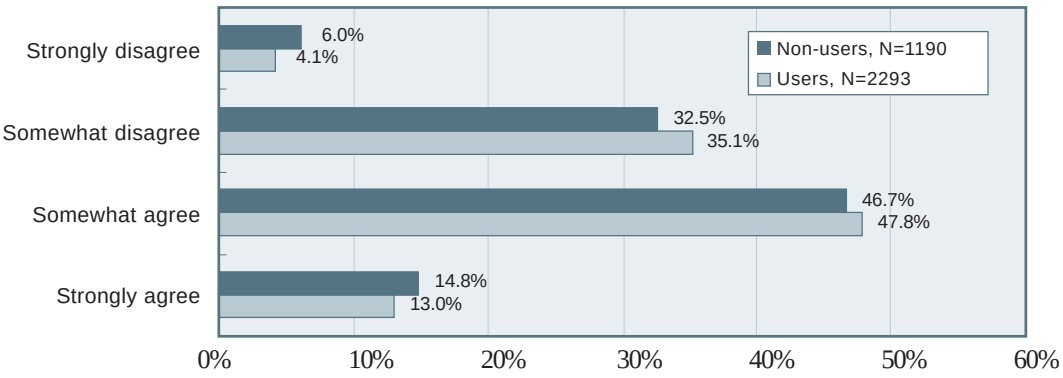
[1] Southern Urban Newspaper, January 20, 2003.
[2] Newspaper Beijing Youth, September 23, 2002.

Figure 6-1: **By using the Internet people, have more opportunities to express their political views**



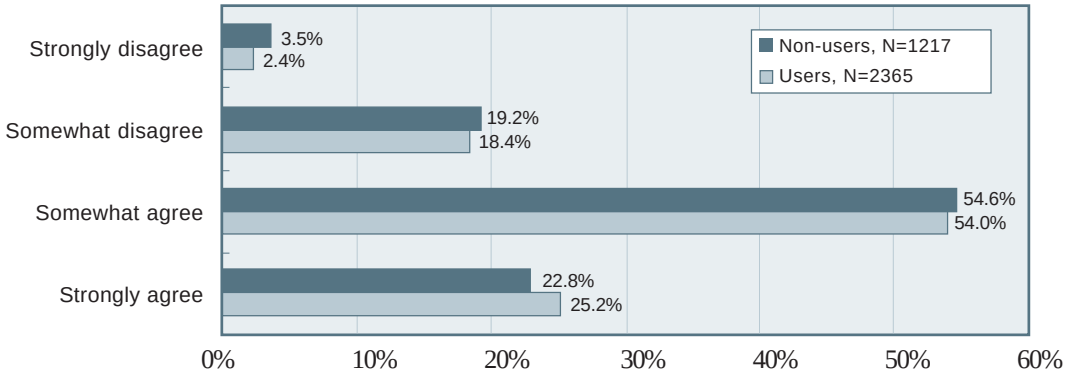
60.8% Internet users and 61.5% non-users "strongly agree" or "agree" that "by using the Internet, people have more opportunities to criticize government's policies."

Figure 6-2: **By using the Internet, people have more opportunities to criticize government's policies**



79.2% Internet users and 77.4% non-users "strongly agree" or "agree" that "by using the Internet, people will have better knowledge on politics."

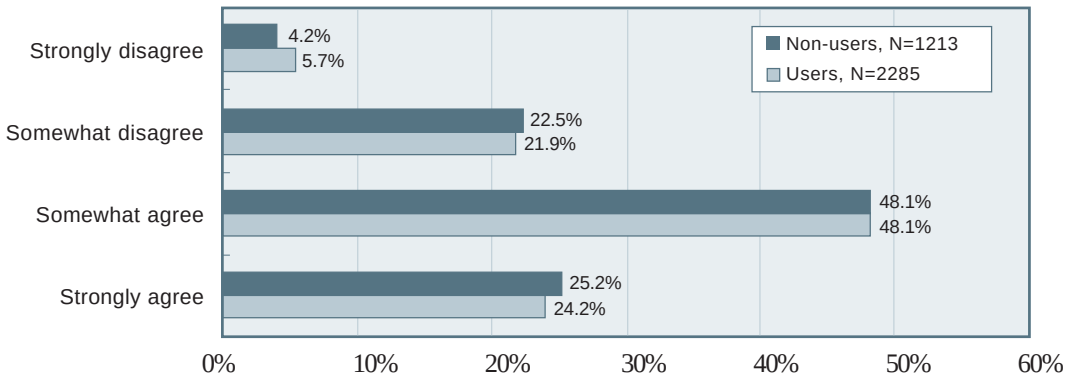
Figure 6-3: **By using the Internet, people will have better knowledge on politics**



72.3% Internet users and 73.3% non-users "strongly agree" or "agree" that "by using the

Internet, higher officials will learn the common people's views better."

Figure 6-4: **By using the Internet, higher officials will learn the common people's views better.**



Interesting is that there is no significant difference according to age, income, education, marriage and Internet café use. That is to say, most people strongly believe that the Internet will affect Chinese politics, regardless of these variables.

PART SEVEN

The Internet and Openness

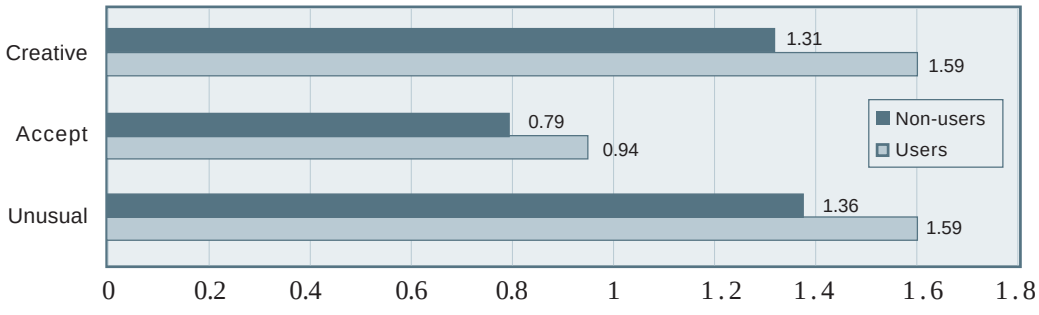
The Internet, based on its distribution network and packet switching technology, is an open system. In this survey we tested the assumption that as Internet use mushrooms in China, the open technology will change the attitudes and behavior of individuals and make them more open-minded. We further analyzed whether personal openness will potentially have an impact on social openness.

Towards that end we used ten questions to identify people's openness:

1. I like to know ideas and things about people who are totally different from me.
2. I like to express my opinion more than others.
3. People always think that I am unconventional.
4. Although I won't color my hair, I am not against others doing so.
5. Even if I disagree with someone, I am still interested in listening to his/her explanation.
6. I always actively try to know or learn something new.
7. I always try to do something new.
8. I can easily get along with those of different social positions.
9. I often join some social activities for the collective well-being.
10. Because of my ability to get to new things, I feel very young.

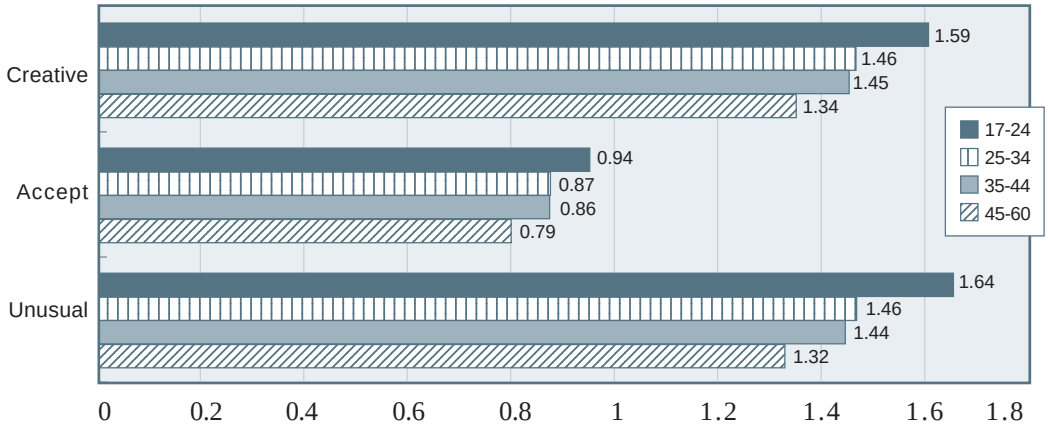
Through the use of factor analysis, we combined the ten questions into three factors. The first is UNIQUE (prefer the unusual), another is HTDOX (accept the new and the different), the third one is INOVA (creative). Below, we can clearly see the difference between users and non-users on these factors (Sig.=.000).

Figure 7-1: **Difference on openness among users and non-users**



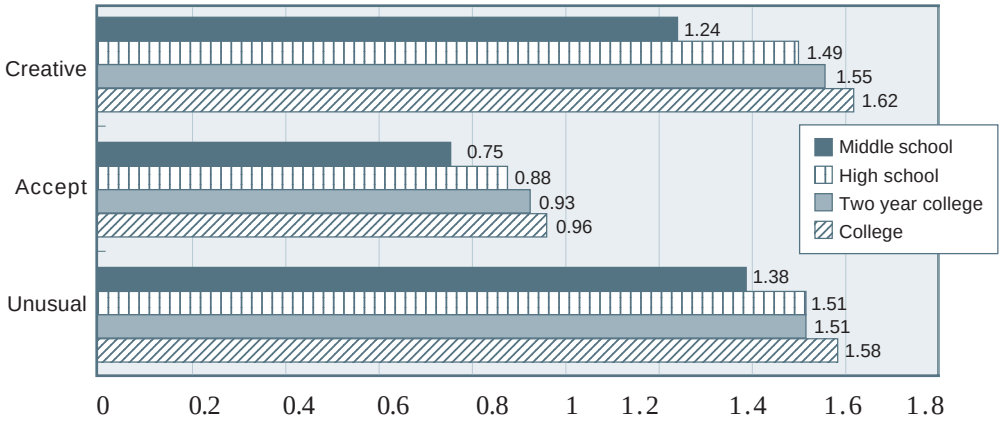
In addition to Internet usage, people's age is another important factor affecting personal openness. The younger they are the more likely they will be more open minded.

Figure 7-2: **Difference on openness within age group**



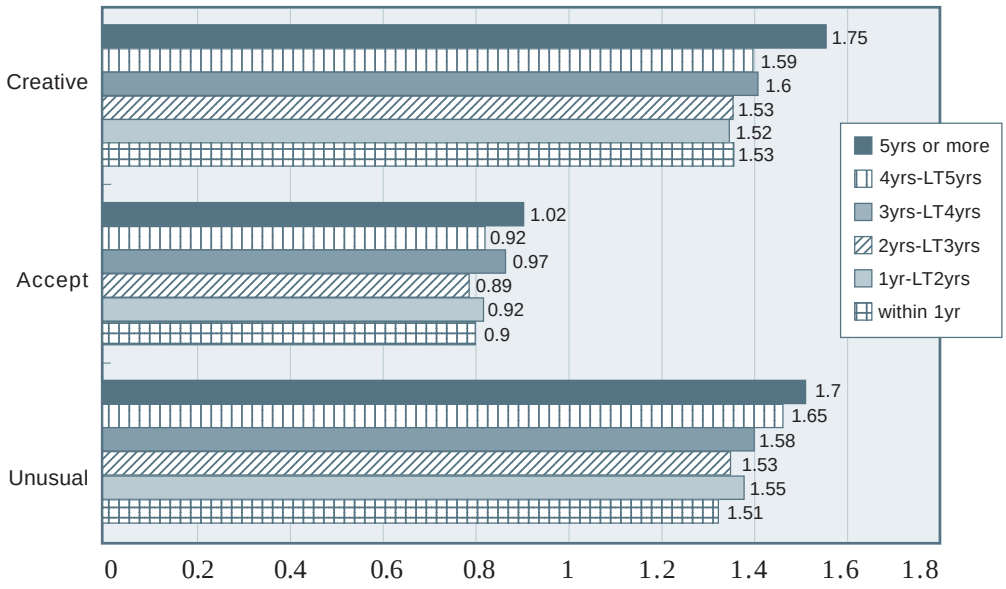
Education is another important factor to personal openness. Higher educated people tend to be more open minded.

Figure 7-3: **Difference on openness within education group**



There are also differences in openness among variables such as income, gender, city scale and even marriage but not as significant as the ones mentioned above. As such, personal openness is likely to be affected by a variety of variables and Internet use is only one of them. Yet we did find that the longer people were using the Internet, the more likely they will be open-minded. This result partly shows that longer Internet experience could make people more open-minded.

Figure 7-4: **Difference on openness within Internet experience group**



APPENDIX I

FREQUENCY QUESTIONNAIRE

AA. Gender

	Male	Female	N
Users	56.5%	43.5%	2451
Non-users	44.4%	55.6%	1481

AB. Age

	17-24	25-34	35-44	45-60	N
Users	58.2%	22.8%	11.1%	7.9%	2455
Non-users	11.0%	22.7%	33.9%	32.4%	1479

AC. Education

	Middle school or lower	High school	Two years college	Bachelor's degree	Master's degree or higher	N
Users	4.8%	38.2%	30.5%		.9%	2453
Non-users	34.2%	45.2%	14.8%	5.2%	.6%	1480

AD. Marital status

	Married	Divorced	Separated	Widowed	Cohabit	Single	N
Users	32.6%	.5%	.0%	.2%	.7%	66.0%	2365
Non-users	82.7%	1.9%	.1%	1.2%	.4%	13.6%	1453

AE. Occupation

	Users (N=2446)	Non-users (N=1474)
1. Senior officer, manager, or entrepreneur, etc.	.4%	.4%
2. Middle-level officer or manager, college teacher, small business owner.	8.1%	6.3%
3. White collar worker, technician, secretary, middle school or primary school teacher.	31.9%	22.1%
4. Mechanic, self-employed business, free-lance, etc.	9.1%	17.4%
5. Half technical and half manual worker, salesman, train attendant, or service worker.	3.0%	5.2%
6. Manual laborer, worker, or housekeeper, etc.	2.3%	13.4%
7. Peasant engaged in farm work.	.0%	1.2%
8. Laid-off, unemployed, or supported by government welfare.	4.2%	15.3%
9. Retired.	1.3%	11.9%
10. Students.	38.6%	5.9%
11. Other (Please specify).	1.0%	.9%

AF. Political affiliation

	Users (N=2417)	Non-Users (N=1449)
Communist party member	11.6%	15.1%
Youth league member	53.0%	15.8%
Other party member	.5%	.2%
No party affiliation	34.9%	68.9%

AG. How many people are there in your household?

	1	2	3	4	More than 4	N
Users	.9%	6.1%	58.6%	21.3%	13.1%	2457
Non-Users	1.7%	10.7%	59.0%	16.3%	12.3%	1477

AH. The average monthly income for each person in your household?

	Users (N=2391)	Non-Users (N= 1467)
None	.6%	.7%
US$ 50 or less	10.9%	31.5%
US$ 51-100	27.2%	34.4%
US$ 101-180	27.8%	19.4%
US$ 181 or more	33.5%	14.0%
Mean	US$ 185.42	US$ 115.48

AI. Your average monthly income is?

	None	US$ 50 or less	US$ 51-100	US$ 101-180	US$ 181 or more	Mean	N
Users	39.2%	6.6%	11.3%	17.7%	25.2%	US$ 110	2423
Non-users	15.8%	17.9%	32.3%	20.3%	13.6%	US$ 97	1472

AJ. Do you have any bank cards?

	Users (N= 2457)	Non-Users (N=1484)
1. Credit card	28.4%	16.8%
2. Debit card	43.1%	38.0%
3. Other	.0%	.1%
4. None	28.7%	44.1%

AK. Do you have any relatives or friends living abroad?

Users (N=2418)	Non-Users (N=1449)
36.4%	17.4%

AL. How many people (including yourself) in your family go online?

	None	1	2	3	4 or more	N
Users	.0%	63.9%	26.9%	7.4%	1.7%	2457
Non-Users	86.1%	11.5%	2.0%	.4%	.0%	1484

AM. How many computers are there in your home?

	more than two	2	1	none	N
Users	2.4%	7.9%	63.2%	26.4%	2443
Non-users	.1%	1.2%	25.3%	73.4%	1474

AN. Is the computer in your home connected to the Internet?

	Yes	No, but hope to	No, don't plan to	N
Users	77.3%	14.0%	8.7%	1753
Non-Users	22.6%	39.4%	38.0%	363

BA. I think the Internet is like a .....?

	Post Office	Shopping Center	Library	School	Enter-tainment place	Meeting place	Bank	Other	N
Users	24.8%	28.7%	59.4%	31.9%	47.8%	48.2%	6.6%	5.4%	2439
Non-Users	14.1%	22.4%	41.4%	23.4%	43.0%	36.8%	5.1%	4.4%	1476

BB. Overall, the Internet has made the world .....

	Users (N=2342)	Non-Users (N=1258)
A better place	51.2%	42.1%
Neither better nor worse	47.4%	54.1%
A worse place	1.4%	3.8%

BC. How much of the information on the Internet is reliable and accurate?

	All of it	Most	Half	Some	None	N
Users	.8%	56.7%	34.8%	7.5%	.1%	2374
Non-Users	1.1%	47.8%	39.7%	10.5%	1.0%	1233

BD. By using the Internet, I may .....

		Disagree	Strongly Disagree	Disagree	Strongly Disagree	N
1. Be distracted by the Net and not work/study well	Users	5.3%	34.7%	53.6%	6.4%	2429
	Non-users	14.8%	45.2%	36.1%	3.9%	1403
2. Have an upper hand in social competitions	Users	26.1%	60.6%	12.5%	.8%	2399
	Non-users	28.5%	55.0%	14.8%	1.7%	1368
3. Make wrong friends	Users	7.0%	26.5%	56.4%	10.1%	2393
	Non-users	13.6%	35.8%	44.9%	5.7%	1375
4. Make more new friends	Users	31.6%	54.0%	12.8%	1.6%	2413
	Non-users	30.6%	54.8%	13.2%	1.5%	1384
5. Send information freely	Users	52.8%	40.8%	5.4%	1.0%	2429
	Non-users	45.0%	46.8%	6.4%	1.8%	1349
6. Receive more information	Users	65.1%	31.2%	3.1%	.6%	2444
	Non-users	51.3%	42.0%	5.2%	1.4%	1380
7. Easily invade one's privacy	Users	4.6%	25.4%	59.6%	10.4%	2349
	Non-users	8.1%	31.7%	49.8%	10.4%	1239
8. Be easily affected by pornography	Users	8.9%	37.5%	45.3%	8.4%	2386
	Non-users	16.4%	43.9%	34.1%	5.7%	1344
9. Easily become addicted to the Internet	Users	9.4%	43.3%	42.3%	5.0%	2423
	Non-users	16.3%	44.4%	34.7%	4.6%	1341
10. Be easily affected by violence	Users	2.9%	11.1%	57.4%	28.7%	2359
	Non-users	6.2%	22.4%	54.8%	16.5%	1281
11. Make more friends of the opposite sex	Users	12.7%	54.3%	29.4%	3.6%	2357
	Non-users	17.2%	52.9%	26.7%	3.2%	1344
12. Buy something I need	Users	17.2%	51.6%	27.0%	4.1%	2291
	Non-users	21.4%	51.2%	22.6%	4.9%	1277
13. Become easily addicted to computer games	Users	20.8%	42.9%	30.0%	6.2%	2408
	Non-users	36.2%	38.6%	21.0%	4.3%	1408
14. My work and study may be more efficient	Users	25.0%	55.4%	17.8%	1.8%	2410
	Non-users	27.9%	50.3%	17.6%	4.2%	1372
15. Become richer	Users	11.2%	37.0%	46.3%	5.6%	2320
	Non-users	11.8%	34.1%	45.7%	8.4%	1292
16. Become more lonely and less sociable	Users	2.5%	17.7%	59.6%	20.2%	2396
	Non-users	5.0%	21.6%	55.9%	17.4%	1330
17. Receive too many meaningless messages	Users	13.2%	46.8%	35.5%	4.5%	2391
	Non-users	11.6%	47.8%	31.8%	8.7%	1250
18. Receive too many advertisements	Users	25.3%	56.5%	16.4%	1.8%	2418
	Non-users	20.3%	57.9%	18.8%	3.0%	1285
19. Become more creative	Users	20.0%	55.3%	22.8%	1.9%	2375
	Non-users	22.7%	56.6%	17.4%	3.4%	1331
20. Put my children in danger of being exposed to inappropriate content	Users	19.9%	48.7%	27.6%	3.8%	2372
	Non-users	29.5%	45.0%	20.2%	5.3%	1359

BE. Does the Internet need to be managed or controlled?

	Very necessary	Somewhat necessary	Neutral	Not very necessary	Not necessary at all	N
Users	50.4%	35.6%	8.0%	4.6%	1.3%	2413
Non-Users	51.7%	37.2%	6.7%	3.6%	.8%	1378

BF. What online information needs to be managed or controlled the most?

	Pornography	Violence	Politics	Advertisement	Junk message	Other
Users	85.7%	69.2%	13.4%	34.1%	70.5%	1.8%
Non-Users	88.4%	74.4%	12.2%	19.8%	65.1%	1.7%

CA. On average, how many minutes and hours per day, if any, do you spend on the following?

	Users (N=2457) Mean (Hrs)	Non-Users (N=1482) Mean (Hrs)
Watching TV	2.25	3.05
Listening to the radio	.47	.50
Reading newspapers	.76	.91
Reading books	1.68	.86
Sleeping	7.85	7.80
Working or studying	6.23	5.58
Receiving and sending mobile instant messages	.44	.13
Making private phone calls (including cell phones)	.54	.40
Being with friends	2.23	1.78
Being with the family	5.87	7.37
Using the computer (not including CD music, VCD, or the Internet)	2.25	.41

CB. On average, how many minutes or hours per week, if any, do you spend doing the following?

	Users (N=2453) Mean (Hours)	Non-Users (N=1331) Mean (Hours)
Using the Internet	1.64	.06
Watching video/VCD/DVD	.39	.26
Reading magazines	.43	.35
Listening to music cassettes/CD/Mp3	.75	.30
Physical exercise	.48	.34
Going to cinemas	.08	.03
Playing electronic games	.16	.06

CC. How important are the following items as sources of information to you? (1=Very important 2=Important 3=Somewhat important 4=Not important 5=Not important at all)

		1	2	3	4	5	N
TV	Users	45.0%	39.2%	10.7%	4.9%	.3%	2451
	Non-users	57.2%	29.2%	8.1%	5.2%	.3%	1481
Radio	Users	12.3%	30.1%	24.0%	28.3%	5.3%	2448
	Non-users	15.3%	29.7%	18.7%	28.4%	8.0%	1480
Newspapers	Users	30.1%	43.0%	19.4%	6.7%	.8%	2449
	Non-users	35.0%	37.6%	16.1%	9.3%	2.0%	1481
School or work place	Users	27.1%	39.6%	22.4%	9.3%	1.6%	2450
	Non-users	24.1%	32.4%	19.7%	17.2%	6.6%	1474
Family	Users	28.8%	37.5%	24.2%	8.7%	.8%	2450
	Non-users	40.9%	32.7%	17.8%	7.2%	1.5%	1481
Friends	Users	24.8%	47.4%	22.6%	4.8%	.4%	2452
	Non-users	23.5%	48.2%	19.8%	7.1%	1.3%	1482
Club or community groups	Users	5.7%	25.4%	33.7%	27.9%	7.4%	2441
	Non-users	4.3%	18.4%	24.7%	33.5%	19.1%	1475
Internet	Users	23.0%	47.2%	22.2%	6.4%	1.1%	2451
	Non-users	7.2%	16.4%	19.1%	31.8%	25.6%	1474

CD. How important are the following as sources of Entertainment? (1=Very important 2=Important 3=Somewhat important 4=Not important 5=Not important at all)

		1	2	3	4	5	N
TV	Users	40.5%	38.8%	12.8%	7.1%	.7%	2451
	Non-users	53.3%	32.5%	8.2%	5.7%	.3%	1482
Radio	Users	9.7%	28.1%	24.8%	29.6%	7.8%	2447
	Non-users	14.7%	30.8%	18.8%	26.8%	8.8%	1479
Newspapers	Users	18.4%	39.7%	25.6%	14.1%	2.2%	2445
	Non-users	28.8%	39.0%	18.4%	11.7%	2.1%	1481
School or work place	Users	16.4%	36.1%	28.2%	15.9%	3.3%	2448
	Non-users	17.0%	32.1%	22.5%	19.5%	9.0%	1474
Family	Users	23.4%	37.7%	26.6%	11.0%	1.3%	2445
	Non-users	38.8%	35.0%	16.3%	8.1%	1.8%	1481
Friends	Users	30.2%	46.5%	18.2%	4.5%	.6%	2448
	Non-users	26.1%	44.8%	19.4%	8.0%	1.8%	1479
Club or community group	Users	8.0%	25.5%	33.5%	25.2%	7.8%	2439
	Non-users	4.9%	19.6%	25.1%	30.9%	19.6%	1472
Internet	Users	26.3%	43.2%	20.2%	8.7%	1.6%	2448
	Non-users	7.1%	14.7%	18.3%	31.3%	28.5%	1472

CE. How often do you make phone calls from home per day (excluding cell phone calls or work-related calls)?

	Users (N=2449)	Non-Users (N=1480)
0 time	10.9%	11.6%
1-5 times per day	76.6%	77.9%
6-10 times per day	10.2%	8.8%
More than 10 times per day	2.3%	1.7%
Mean	3.54 times	3.05 times

CF. How many people's addresses and phone numbers are there in your address book?

	Users (N=2447)	Non-Users (N=1342)
0	3.5%	7.0%
1-19	11.1%	25.1%
20-39	32.1%	37.4%
40-59	22.1%	14.6%
60-79	8.0%	4.3%
80-99	4.3%	2.4%
>=100	19.0%	9.1%
Mean	57.99	38.91

CG. On average, how many mobile instant messages do you receive per week?

	Users (N=2448)	Non-Users (N=1478)
0	28.6%	58.0%
1-19	33.3%	33.4%
20-39	18.2%	4.9%
40-59	8.2%	1.8%
60-79	3.4%	.5%
80-99	.7%	.2%
>=100	7.6%	1.2%
Mean	25.35	6.30

CH. On average, how many mobile instant messages do you send per week?

	Users (N=2450)	Non-Users (N=1478)
0	31.8%	69.0%
1-19	32.9%	24.1%
20-39	16.0%	3.9%
40-59	8.2%	1.6%
60-79	2.7%	.4%
80-99	1.0%	.3%
>=100	7.5%	.8%
Mean	24.37	4.88

CI. How often do you send mobile instant messages through the web?

	Often	Sometimes	Seldom	Never	N
Users	6.5%	18.4%	30.5%	44.7%	2400
Non-users	.8%	3.3%	7.9%	88.1%	1333

CJ. What is the subject of the mobile instant messages that you receive?

	Politics or news	Notices	Chat	Jokes	Holiday greetings	Other	Never receive messages	N
Users	5.0%	24.6%	46.8%	39.0%	48.3%	3.6%	22.6%	2451
Non-Users	4.1%	15.1%	17.6%	20.8%	30.7%	3.4%	52.4%	1478

CK. How many friends outside of your household do you see or speak to at least once a week?

	Users (N=2419)	Non-Users (N=1465)
0	5.9%	13.0%
1-3	48.1%	47.1%
4-6	24.2%	22.3%
7-10	13.3%	11.3%
>10	8.5%	6.3%
Mean	6.02	4.74

CL. Do you feel you are ignored because any of your family members watch too much TV?

	Often	Sometimes	Never	N
Users	2.8%	22.5%	74.7%	2451
Non-Users	2.8%	21.1%	76.1%	1481

CM. Do you feel you are ignored because any of your family members are online too much?

	Often	Sometimes	Never	N
Users	3.0%	14.0%	83.0%	2448
Non-Users	1.2%	7.6%	91.2%	1466

CN. Which media avenue can better meet your following needs?

		TV	News-papers	Magazine	Internet	Books	Radio	None	N
1. To learn about the news	Users	82.1%	63.3%	17.4%	57.4%	8.9%	21.4%	0.2%	2453
	Non-users	92.6%	62.6%	18.8%	16.5%	11.1%	21.5%	0.6%	1482
2. To receive information about personal life (shopping, traveling, etc.)	Users	46.2%	50.7%	37.6%	59.4%	16.4%	10.5%	1.9%	2452
	Non-users	59.0%	55.5%	25.6%	14.9%	11.7%	14.1%	5.5%	1480
3. To receive information for study	Users	23.6%	36.0%	25.8%	58.7%	60.1%	8.4%	1.3%	2449
	Non-users	39.4%	48.2%	23.5%	15.4%	44.6%	11.3%	5.7%	1479
4. For entertainment or personal hobbies (games, music, etc.)	Users	51.0%	21.2%	30.5%	72.3%	14.1%	18.7%	1.7%	2446
	Non-users	64.7%	24.0%	20.1%	16.2%	12.1%	19.6%	8.1%	1475
5. To express personal opinions, to view or publish personal writings	Users	5.4%	23.5%	18.4%	65.7%	9.4%	5.1%	13.1%	2427
	Non-users	12.6%	23.2%	15.5%	16.8%	7.3%	6.4%	46.6%	1471
6. To exchange thoughts or information with others	Users	14.8%	14.3%	7.4%	27.5%	4.1%	6.0%	45.7%	2429
	Non-users	6.1%	8.2%	6.7%	79.7%	4.4%	5.6%	9.6%	1475
7. To participate in social activities	Users	15.6%	18.8%	10.1%	46.6%	4.1%	8.6%	30.0%	2425
	Non-users	17.8%	18.2%	6.9%	15.4%	2.6%	7.1%	52.9%	1474
8. To promote personal relationships (to form or to maintain relationships with friends or colleagues)	Users	7.8%	6.8%	7.9%	73.0%	6.8%	6.1%	16.4%	2436
	Non-users	14.7%	12.1%	7.3%	25.1%	6.4%	5.5%	48.8%	1474

DA. Do you think the following views or behaviors describe you?

		Perfectly	Yes	Somewhat	No	Not at all	N
1. I like to know ideas and things about people who are totally different from me.	Users	16.8%	41.2%	23.9%	14.8%	3.3%	2454
	Non-users	12.5%	33.3%	22.0%	24.6%	7.6%	1481
2. I like to express my opinion more than others.	Users	9.1%	28.6%	34.2%	24.9%	3.3%	2450
	Non-users	7.0%	26.0%	29.0%	29.7%	8.3%	1481
3. People always think that I am unconventional.	Users	7.0%	21.0%	28.6%	34.5%	8.8%	2448
	Non-users	5.0%	15.4%	23.3%	37.8%	18.5%	1477
4. Although I won't color my hair, I am not against others doing so.	Users	38.9%	35.0%	14.4%	7.5%	4.3%	2452
	Non-users	30.1%	37.4%	15.2%	10.9%	6.4%	1480
5. Even if I disagree with someone, I am still interested in listening to his/her explanation.	Users	23.7%	47.8%	20.5%	6.4%	1.6%	2448
	Non-users	22.3%	44.9%	22.5%	7.9%	2.4%	1473
6. I always actively try to know or learn something new.	Users	27.2%	48.7%	20.7%	3.2%	.2%	2452
	Non-users	23.7%	42.6%	23.2%	8.3%	2.2%	1481
7. I always try to do some-thing new.	Users	19.3%	41.3%	30.0%	8.5%	.9%	2448
	Non-users	15.6%	34.8%	29.0%	16.3%	4.2%	1481
8. I can easily get along with those of different social positions.	Users	18.5%	42.4%	28.4%	9.6%	1.0%	2453
	Non-users	16.6%	35.5%	27.7%	15.7%	4.5%	1480
9. I often join some social activities for the collective well-being.	Users	7.0%	25.6%	38.6%	23.2%	5.5%	2450
	Non-users	8.1%	23.6%	30.0%	27.2%	11.2%	1478
10. Because of my ability to get to new things, I feel very young.	Users	19.4%	39.7%	27.9%	11.0%	2.0%	2452
	Non-users	14.6%	32.1%	29.3%	18.1%	5.9%	1483

DB. To what extent do you agree with the following statements?
(SA=Strongly agree, SWA=Somewhat agree, Neu=Neutral, SDA=Somewhat disagree, SD=Strongly disagree)

		SA	SWA	Neu	SDA	SD	N
1. I feel I am left out of things going on around me	Users	4.0%	20.1%	31.1%	38.4%	6.4%	2452
	Non-users	7.6%	25.2%	31.2%	31.2%	4.8%	1483
2. In general, I am a shy person.	Users	4.5%	23.1%	32.1%	30.9%	9.4%	2451
	Non-users	5.7%	22.2%	29.5%	32.5%	10.1%	1479
3. These days a person doesn't really know whom he or she can count on.	Users	14.8%	35.4%	30.4%	16.7%	2.7%	2445
	Non-users	23.7%	33.6%	25.5%	14.4%	2.8%	1478
4. My life could be happier than it is now.	Users	8.9%	24.9%	29.4%	30.9%	5.9%	2444
	Non-users	12.4%	27.4%	26.2%	26.9%	7.1%	1478
5. The world is becoming too dependent on computers.	Users	11.3%	34.0%	30.5%	20.9%	3.3%	2449
	Non-users	12.0%	30.7%	28.4%	22.1%	6.7%	1480
6. Adults should be allowed to purchase explicit pornography.	Users	5.6%	18.4%	31.9%	30.8%	13.3%	2445
	Non-users	3.9%	13.6%	23.7%	36.0%	22.9%	1479
7. People should be able to express their own opinions even if they are harmful or offensive.	Users	9.1%	26.1%	30.4%	25.9%	8.5%	2448
	Non-users	9.3%	28.1%	24.9%	26.1%	11.6%	1477
8. Most people really don't care what happens to the next person.	Users	6.0%	29.5%	36.5%	25.1%	3.0%	2445
	Non-users	7.9%	28.8%	34.6%	23.4%	5.2%	1475
9. I wish I had more confidence in social situations.	Users	38.9%	42.6%	13.9%	4.0%	.6%	2453
	Non-users	31.6%	47.2%	15.1%	5.0%	1.1%	1480
10. I feel no one really knows me well.	Users	7.9%	20.5%	31.9%	33.4%	6.3%	2442
	Non-users	8.5%	21.9%	30.4%	32.2%	7.0%	1479
11. Most of the things I do are boring or monotonous.	Users	4.2%	13.7%	25.0%	40.9%	16.2%	2452
	Non-users	5.1%	14.0%	23.7%	40.1%	17.0%	1481

DC. By using the Internet .....
(SA=Strongly agree, SWA=Somewhat agree, SDA=Somewhat disagree, SD=Strongly disagree, NS=Not sure)

		SA	SWA	SDA	SD	N
People have more opportunities to express their political views.	Users	17.5%	54.3%	25.8%	2.4%	2291
	Non-users	17.8%	51.9%	26.5%	3.8%	1184
People have more opportunities to criticize government's policies.	Users	13.0%	47.8%	35.1%	4.1%	2293
	Non-users	14.8%	46.7%	32.5%	6.0%	1190
People will have better knowledge on politics.	Users	25.2%	54.0%	18.4%	2.4%	2365
	Non-users	22.8%	54.6%	19.2%	3.5%	1217
Higher officials will learn the common people's views better.	Users	24.2%	48.1%	21.9%	5.7%	2285
	Non-users	25.2%	48.1%	22.5%	4.2%	1213

EA. Have you ever used the Internet?

	Yes	No	N
Users	100.0%	.0%	2457
Non-users	4.5%	95.5%	1446

YES NO

EB. The major reasons for your not going online are ..... (N=1393)

1. No computer at home (56.1%)
2. Do not know how to use the Internet (41.2%)
3. The computer is not good enough (2.9%)
4. No interest (25.3%)
5. Confused by/fear of technology (4.9%)
6. Too expensive (18.0%)
7. Worries about viruses (6.2%)
8. Privacy security concerns (1.7%)
9. Not good for Children (6.5%)
10. Too much pornography (5.9%)
11. Too slow (2.8%)
12. Too many advertisements (3.2%)
13. Too difficult to get connected (1.9%)
14. Useless (9.7%)
15. Too difficult to find useful information (1.9%)
16. Wastes too much time (9.0%)
17. The computer does not work (0.4%)
18. Hardly use it (3.8%)
19. Have no friends to Email (1.5%)
20. Too busy to access the Internet (21.0%)
21. Not enough Chinese information on the Web (1.1%)
22. Other (1.7%)

EC. Are you going to go online within the coming half-year? (N=1370)

1. Yes (12%)	2. No (50.7%)	3. Not sure (37.3%)

ED. The time length since you first access the Internet was within ..... (N=2493)

1 year	10.5%
1-2 years	15.6%
2-3 years	21.1%
3-4 years	23.1%
4-5 years	15.6%
5 years or above	14%

EE. Did you use the Internet during the past half-year? (N=2520)

	proportion	number
Users	97.5%	2457
Non-users	2.5%	63

Non-users please Stop here and do not answer the following questions.

FA. On average, how many times do you use the Internet per week? (N=2452)

Less than one time	10.0%
1~3 times each week	34.9%
4~6 times each week	23.1%
7~9 times each week	14.1%
10~12 times each week	5.3%
More than 13 times	12.6%

FB. What type of connection do you use to access the Internet?

1. T1 or T3 (17.8%, N=2450)	2. ISDN (11.3%, N=2449)
3. Cell phone (Including WAP) (4.2%, N=2449)	4. DSL (or ADSL) (24.9%, N=2449)
5. Phone line Modem (48.1%, N=2449)	6.Cable Modem (9.2%, N=2449)
7. Set-top box or WebTV (0.3%, N=2449)	8.Not sure (6.0%, N=2449)
9. Others (3.0%, N=2449)	

FC. Now the major problems for you in accessing the Internet are ..... (N=2443)

1. Too slow (61.6%)
2. Not enough Chinese content (7.3%)
3. Connection difficulties (34.4%)
4. The computer is not advanced enough (18.8%)
5. Cannot find the needed information (22.5%)
6. Children will be influenced by bad information (8.8%)
7. Too many viruses (27.1%)
8. Too busy to go online (22.3%)
9. Not interested in the content (23.8%)
10. Too expensive (44.5%)
11. Don't know (2.4%)
12. Other problems (2.0%)

FD. On average, how much time do you spend on the Internet at the following places each week? (N=2450)

	Mean (Hours)
Home	5.27
Workplace	2.8
School	1.3
Public library	.12
Relatives' or friends' homes	.33
Intenet café, Cafés or Game-room	2.84
Cell Phone or wireless connection to the Internet	.14
Other	.02

FE. You think your time online is ..... (N=2455)

1. Too little (7.3%)
2. Not enough (30.9%)
3. Enough (42.4%)
4. More than enough (16.3%)
5. Too much (3.1%)

FF. What do you think of the impact of the Internet on your work and study ..... (N=2454)

1. Positive (62.2 %)
2. Negative (4.0 %)
3. No impact (33.9 %)

FG. Suppose you could not use the Internet for a week, how would you feel?

1. Intolerable (6.4%)
2. Somewhat intolerable (15.8%)
3. Uncomfortable but OK (39.0 %)
4. It doesn't matter at all (38.9%)

FH. In a chat room or BBS you ..... (N=2444)

1. Often speak (10.8%)
2. Seldom speak (38.8%)
3. Only read, don't speak (24.9%)
4. Seldom or never use a chat room or BBS (25.5%)

FI. How often do you use the Internet for the following purpose?

	Never	Sometimes	Often	N
1. Listen to or downloading music	13.0%	37.9%	49.1%	2447
2. Read the news	9.0%	34.1%	56.8%	2454
3. Search for medical information	57.3%	33.1%	9.5%	2445
4. Banking or payments	85.8%	11.5%	2.7%	2452
5. Check personal bank account	88.0%	9.4%	2.5%	2450
6. Stock business or search for stock information	76.2%	14.9%	8.9%	2454
7. Online professional training	77.1%	18.6%	4.2%	2450
8. Online study or study for a degree	57.6%	29.1%	13.3%	2452
9. Search for entertainment information	16.1%	39.7%	44.2%	2449
10. Find a new job	63.8%	26.9%	9.2%	2436
11. Online discussions or chat groups (IRC)	23.9%	41.7%	34.5%	2452
12. E-mail	16.7%	31.8%	51.5%	2453
13. ICQ or OICQ	42.0%	21.9%	36.0%	2450
14. BBS	40.5%	41.8%	17.7%	2449
15. Make or update web pages	69.5%	24.9%	5.6%	2446
16. Play games	28.6%	37.8%	33.6%	2452
17. Online shopping	73.4%	21.3%	5.3%	2444
18. Browse websites	11.7%	30.5%	57.9%	2451
19. Check classified advertisements	52.6%	37.1%	10.3%	2445
20. Download tools or virus-killing software	32.9%	36.3%	30.8%	2450
21. Other	79.1%	11.1%	9.7%	944

FJ. How much time do you spend on the following?

1. Foreign language websites:	6.40%	N=2446
2. Overseas Chinese websites:	13.32%	N=2445
3. Mainland Chinese websites:	79.88%	N=2448

FK. Do you use proxy server? (N=1619)

1. Frequently (13.2%)
2. Seldom (33.2%)
3. Never (53.6%)

FL. You are using OICQ ..... (N=2439)

1. To contact strangers (2.7%)
2. To contact acquaintances (35.4%)
3. To contact both (31.8%)
4. Seldom or never use (30.1%)

FM. How often do you check your E-mail? (N=2454)

1. More than 14 times a week (6.5%)
2. 11~13 times a week (2.5%)
3. 8~10 times a week (6.8%)
4. 5~7 times a week (15.8%)
5. 2~4 times a week (20.1%)
6. Once a week (16.3%)
7. Less than once a week (11.1%)
8. No E-mail (20.8%)

FN. How many paid E-mail accounts do you have? (N=1948)

1. More than three (2.7%)
2. Three (3.4%)
3. Two (8%)
4. One (21.1%)
5. None (64.8%)

FO. How many free E-mail accounts do you have? (N=1951)

1. More than three (14%)
2. Three (12.8%)
3. Two (27.1%)
4. One (38.7%)
5. None (7.4%)

FP. How satisfied are you with the following aspects of the Internet?

	Extremely satisfied	Satisfied	Neutral	Dissatis-fied	Extremely dissatisfied	N
1. The amount of available relevant information	20.3%	56.7%	20.7%	2.0%	.2%	2454
2. The availability of goods and services	6.3%	34.0%	50.2%	8.5%	1.0%	2451
3. The ease of finding information	14.1%	46.6%	31.8%	6.8%	.7%	2451
4. The speed of the connection	5.6%	24.9%	40.8%	23.1%	5.6%	2453
5. The ability to communicate with other people	14.2%	43.0%	37.3%	4.4%	1.0%	2452

GA. After using the Internet, has there been any change in the amount of time you spend with the following media?

	Much more than before	More than before	Same as before	Less than before	Much less than before	N
TV	3.8%	7.3%	53.1%	29.4%	6.3%	2449
Radio	1.3%	5.8%	53.7%	19.6%	19.6%	2450
Newspapers	1.9%	8.6%	60.8%	21.7%	7.1%	2451
Magazines	1.5%	9.0%	58.1%	22.8%	8.6%	2453
Books	3.0%	9.1%	59.1%	22.0%	6.8%	2453

GB. How much do you trust the following sources of news?

	Trust a lot	Trust	Partially Trust	Don't Trust	Don't Trust at all	N
Domestic TV	27.7%	57.5%	12.0%	2.1%	.8%	2436
Foreign TV	11.6%	51.9%	32.2%	3.9%	.3%	2298
Domestic Radio	18.2%	59.3%	18.6%	3.1%	.7%	2327
Foreign Radio	8.6%	46.0%	37.5%	7.1%	.8%	2155
Domestic Newspapers	19.3%	57.3%	19.2%	3.6%	.7%	2427
Foreign Newspapers	8.8%	47.3%	35.3%	7.8%	.8%	2148
Online news	5.1%	37.3%	45.3%	10.5%	1.8%	2415

GC. How much do you trust the following news providers on the Web?
1.Trust a lot 2. Trust 3. Half Trust 4. Don't Trust 5. Don't Trust at all

	1	2	3	4	5	N
Domestic traditional media websites	27.5%	59.5%	10.7%	2.2%	.2%	2269
Overseas Chinese news websites	7.9%	55.5%	31.9%	4.5%	.3%	1976
Foreign traditional media websites	5.2%	43.0%	42.6%	8.0%	1.1%	1989
Domestic portal websites	12.9%	60.2%	23.2%	3.0%	.7%	2357
Foreign portal websites	9.3%	51.1%	33.0%	5.9%	.7%	2182
News in e-mails from domestic sources	6.3%	41.9%	38.1%	11.7%	2.0%	2158
News in e-mails from foreign sources	3.9%	30.4%	46.8%	15.1%	3.8%	2010

GD. What types of online news do you mainly read? (N=2444)

Domestic news	59.7%
International news	56.9%
Social life	46.4%
Entertainment	71.3%
IT news	24.6%
Financial and economic information	19.0%
Sports	42.0%
Don't read online news	3.4%

GE. How much of the following Internet information resources are reliable?

	All	Most	Some	Small portion	None	N
BBS	1.8%	23.9%	47.8%	23.4%	3.1%	2219
Chat rooms	2.1%	13.6%	38.9%	35.5%	9.8%	2243
E-mail	3.8%	28.0%	43.6%	20.3%	4.3%	2279
Advertisements	2.0%	18.6%	46.2%	26.6%	6.6%	2245

HA. How many friends have you met on the web? (N=2440)

0	35.7%
1~10	40.4%
11~20	11.1%
21~30	5.1%
31~40	1.4%
41~50	2.4%
More than 50	3.9%
Mean	13.46

HB. Among those friends you met on the web, how many .....

	Mean (persons)	N
keep in regular touch with you	3.35	2421
have met you face-to-face	2.37	2431
have never met you face-to-face	8.49	2418
are local residents	6.26	2413
are from a different place	4.59	2412
are overseas Chinese	.28	2409
are foreigners	.17	2408

HC. By using the Internet, have you changed the amount of time you spend on other forms of daily communication (i.e., by letter, telephone, etc.) with.....?
1. Much more than before 2. More than before 3. Same as before 4.Less than before 5. Much less than before

	1	2	3	4	5	N
Colleagues or classmates	5.5%	20.1%	67.2%	6.9%	.4%	2452
Friends (not including those met on the web)	4.0%	20.9%	67.9%	7.0%	.3%	2453
Parents	1.3%	5.2%	83.8%	9.0%	.6%	2450
Brothers and sisters	1.4%	7.7%	80.7%	9.3%	.9%	2451
Relatives or neighbors	1.1%	6.0%	75.2%	15.8%	2.0%	2452
Spouse or lover	3.2%	10.0%	79.2%	4.8%	2.8%	2408
Those with the same hobbies	8.3%	38.9%	50.8%	1.9%	.1%	2449
Those with the same political views	2.7%	18.4%	74.4%	3.6%	.8%	2447
Those with the same religious beliefs	1.5%	9.7%	81.5%	5.4%	1.9%	2437
Those with the same professions	5.3%	28.0%	62.8%	3.1%	.9%	2446
Those with totally different interests and hobbies	3.4%	16.0%	64.9%	11.8%	3.9%	2445

HD. What kind of people do you mainly communicate with on the web?

	Percentage	N
Those with similar point of views	58.8%	2416
Those with similar interests	82.1%	2416
Those with same sex	22.1%	2415
Those with different point of views	18.1%	2415
Those with different interests	13.1%	2415
Those of the opposite sex	33.5%	2415

HE. Your communications on the web are mainly with ..... (N=2263)

Colleagues or classmates	44.8 %
Relatives or family members	3.1 %
Friends	31%
Business or administrative connections	3.7%
Only to browse websites, very little communication with others.	17.4%

HF. Has communication on the web increased the number of friends whom you frequently contact? (N=2449)

1. Increased for more than 11 friends	7.4%
2. Increased for 6-10 friends	14.8%
3. Increased for 1-5 friends	40.5%
4. No	37.3%

HG. Have you ever fallen in love with somebody on the web? (N=2452)

1. More than 3 times	1.1%
2. 2-3 times	2.6 %
3. Once	6.7%
4. Never	89.6%

JA. In general, what do you think of the prices of Internet purchases compared with prices of similar purchases or services from local retail stores? (N=2400)

1. Much less expensive	4.3%
2. A little less expensive	35.0%
3. The same	21.9%
4. A little more expensive	31.1%
5. Much more expensive	7.7%

JB. If you purchase products or services over the Internet, to what extent are you concerned about the following problems:
1.Not at all concerned 2. Not concerned 3. Somewhat concerned 4. Concerned a little 5. Concerned a lot

	1	2	3	4	5	N
Waiting too long before receiving the products or services	3.9%	15.9%	19.7%	47.9%	12.6%	2441
Invasion of privacy or exposure of credit card number	2.9%	10.2%	16.9%	46.1%	23.9%	2443
Difficulty in getting information about the goods	2.2%	7.2%	12.9%	49.5%	28.3%	2445
Difficulty in returning or exchanging the goods	2.0%	6.1%	13.4%	49.1%	29.3%	2444
Expensive delivery costs	2.2%	9.1%	29.4%	45.6%	13.7%	2440
Not being able to directly communicate with the salesperson	2.9%	10.1%	25.9%	44.3%	16.8%	2444
Damaged products or failure to deliver	2.2%	7.3%	16.9%	43.4%	30.2%	2445
Have no idea about how to make a purchase over the Internet	11.7%	21.6%	31.2%	24.8%	10.7%	2447

JC. Do you often purchase products or services over the Internet? (N=2424)

1. At least ten times a month	0.2%
2. 5~10 times a month	0.7%
3. 1~5 times a month	5.2%
4. Less than once a month	14.5%
5. Never buy things online	79.5%

JD. In 2002, how much did you spend on Internet purchases excluding Internet connection costs? N=469

0	0.1-24	25-50	51-73	74-97	98-120	>120	Mean
8.1%	52.2%	12.4%	11.5%	1.3%	8.5%	6.0%	US$ 50

JF. Have your Internet purchases influenced your conventional mode of purchasing? N=493

1. Influenced a lot	2.4%
2. Somewhat influenced	27.2%
3. Not at all	70.4%

JE. What kind of goods or services have you obtained from Internet companies?

	Never	Seldom	Often	N
Books, magazines, newspapers	30.0%	50.0%	20.0%	500
Travel (airplane, hotel, train reservations)	75.7%	19.5%	4.8%	497
Entertainment (movies, disco, CD)	42.3%	40.5%	17.2%	494
Food	82.1%	14.1%	3.8%	496
Apparel	80.4%	14.3%	5.2%	496
Home electronics (cell phones, stereo)	75.6%	20.6%	3.8%	495
Computers (hardware / software)	56.9%	31.2%	11.9%	497
Furniture, arts and crafts	80.2%	16.3%	3.4%	496
Medical treatment	86.0%	10.9%	3.0%	494
Online learning, online education degrees	60.8%	28.3%	10.9%	495
Home services (laundry, etc)	89.5%	8.1%	2.4%	496
Other	83.8%	13.3%	2.9%	278

APPENDIX II
SAMPLING METHOD AND EXPLANATION OF THE SAMPLE

SAMPLING METHOD

The CASS Internet Survey 2001 consisted of a total of 3153 samples collected from the cities of Beijing, Shanghai, Guangzhou, Chengdu, and Changsha (600 samples for each city). The 2003 survey continues to use a multi-stage sampling scheme. Considering the geographic location and the pace of the Internet development over the past two years, especially in the small cities, we suppose that there are certain differences in terms of Internet usage and popularization among the different cities. Therefore, we divide the sample into three levels of cities, namely metropolitan cities, provincial capitals, and small cities. We select several cities at each level, ensuring to consider cities that are relatively dispersed geographically; in addition, we include cities from the former survey in order to make comparisons.

Twelve cities were selected. They are Beijing, Shanghai, and Guangzhou (metropolitan cities); Chengdu, Changsha, Xi'an, and Shenyang (provincial capitals); Nanhai, Yima, Jimo, Guangshui, and Fengnan (small cities). They include two municipalities directly under the central government (Beijing and Shanghai), and cities in eight provinces (Guangdong, Sichuan, Hunan, Hubei, Henan, Hebei, Shandong, and Shanxi). There were 600 samples for each metropolis, 300 for each provincial capital, and 200 for each small city. Therefore, a total of 4,000 samples were planned (600 x 3+300 x 4+200 x 5=4,000).

The sampling frames under the city level are divided into three groups, based on population: Four stages of sampling (i.e., district, sub-district office, local residential community, and household), three stages of sampling (i.e., sub-district office, local residential community, and household), and two stages of sampling (i.e., local residential community and household). Regardless of how many stages of sampling are used in each city, the final sampling unit is a household.

At each sampling stage, we use equal-probability sampling. That is, regardless of the size of the sampling unit (i.e., district, sub-district office, local residential community, or household), every unit has an equal probability of being selected. The only difference lies in the method chosen to realize the equal probability; we use systematic sampling at the level of the local residential community, and we use simple random sampling at the other levels.

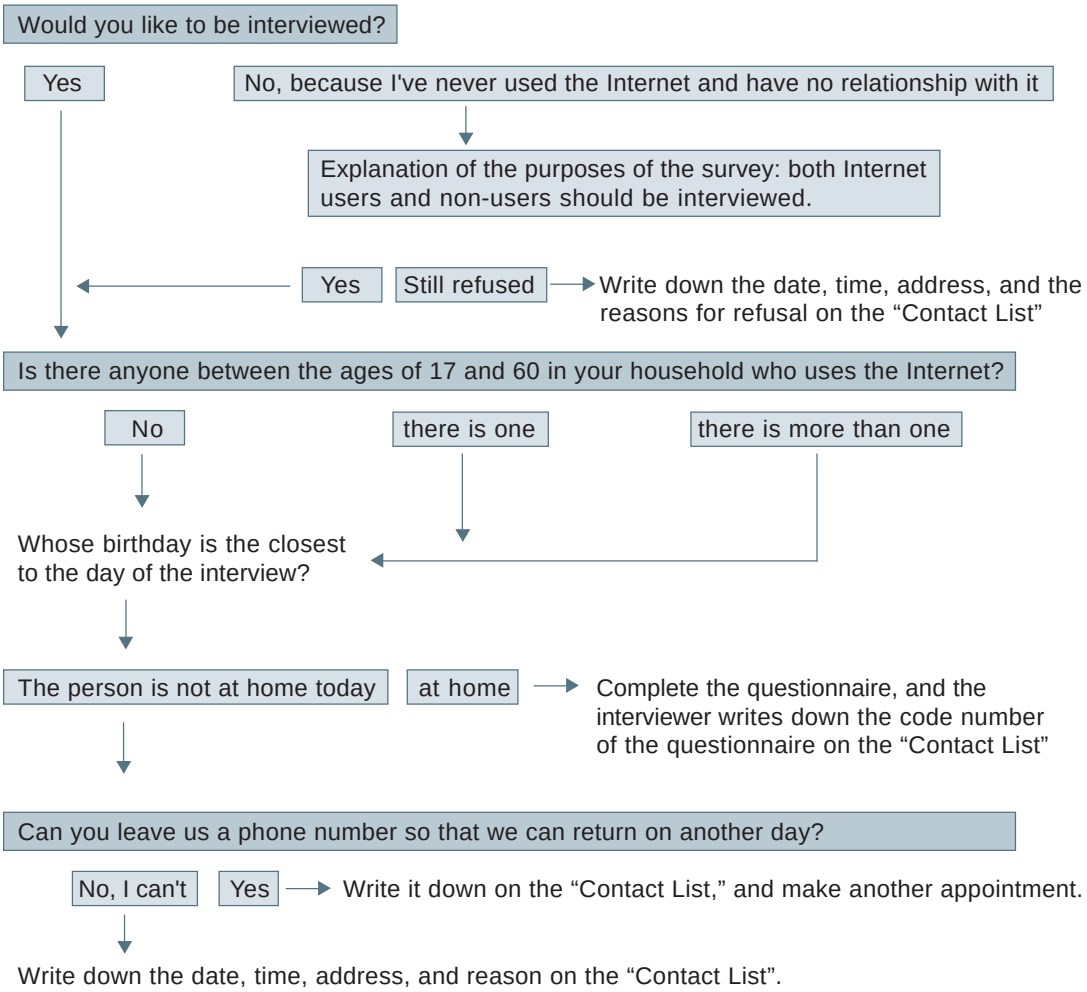
For convenience, we decide that each local residential community will have 10 cases in the sample (one member in one household to be interviewed, with a total of 10 households in one local residential community), regardless of the sampling stage. Therefore, the number of local

residential communities in the sampling frame is 60 for the metropolises (600/10), 30(300/10) for provincial capitals, and 20 (200/10) for the small cities. Considering the huge migrant population, mobility, and social transformation in urban China, we select another 10 percent of the number of local residential communities in the sampling frame as an alternative sampling frame. In the fieldwork, once a sampled local residential community was no longer accessible (for example, it had relocated to another place), the interviewers informed the fieldwork supervisor, and selected the other local residential community in the alternative sampling frame. If the local residential community in the alternative frame was unavailable, the local residential community near the sampled one was chosen by the fieldwork supervisors and the local officials.

Due to time and budget limitations, household lists and member lists in the local residential communities were not available until the fieldwork began. The selection of the households and its members for interviewing was therefore done by the fieldwork interviewers according to the following procedures: first, the local residential community's officials were contacted to seek their cooperation; second, a full list of all the households in the local residential community was compiled; each household was coded and sorted with an ID number (for example, according to the building number and gate number); then to a household whose ID number equaled a random initial number (e.g., 3) given by the field supervisor was chosen as the first sampled household; the second household was selected according to the sampling interval (e.g., 20) given by the supervisor. This process ended when the sample size reached 10 in the local residential community. In each sampled household, only one member was interviewed.

Since the Internet penetration rate in China is still low (even in metropolitan areas it does not reach as high as 40 percent) and the purpose of the survey is to determine Internet usage and its effects, priority was given to those household members who are Internet users. Within the household, the interviewer first asks if any member uses the Internet. If there is only one Internet user among all the members of the household, then he (or she) is chosen as the interviewee. If there is more than one user, the household member whose birthday is closest to the date of the visit is chosen. Otherwise, we choose the person whose birthday is closest to the date of the visit among the non-users in the household. (See the following sampling flow chart within the household)

A detailed household sampling flow chart:



Explanation of the Sample

In the fieldwork, the sampling and interviews are city-specific. The following are the distribution and composition of the final sample:

Sample composition

Ultimately, 3,941 valid cases were processed, somewhat fewer than the planned 4,000. There were 1,799 cases collected from the metropolitan cities, 1,206 cases from the provincial capitals, and 956 cases from the small cities. The sample size of the provincial capitals was a bit larger than the planned 1,200, but the sample sizes of the metropolitan cities and the small cities were somewhat smaller than the planned 1,800 and 1,000 respectively. For each specific city, the valid sample size also met the requirements of the sampling design. With the exception of Shenyang, Yima, and Jimo, whose valid sample size exactly matched the original design, the other cities were either a bit larger (Shanghai, Chengdu, Xi'an, etc.), or a bit smaller than planned (such as Changsha, Nanhai, Fengnan, etc.). The details are shown in the following:

	Metropolises			Provincial capitals				Small cities					Total
City	Beijing	Shanghai	Guangzhou	Chengdu	Changsha	Xi'an	Shenyang	Nanhai	Fengnan	Yima	Guangshui	Jimo	
Number of valid cases	603	587	589	303	299	305	299	196	199	192	183	186	3941
Percentage	15.3%	14.9%	14.9%	7.7%	7.6%	7.7%	7.6%	5.0%	5.0%	4.9%	4.6%	4.7%	100%
Number of valid cases	1779			1206				956					3941
Percentage	45.1%			30.6%				24.3%					100%

Table of area-specific and city-specific valid cases.

Internet user composition

In terms of the level of the cities, the Internet user penetration rate all surpassed 50%; 70.7% for the metropolises, 58.2% for the small cities, and 53.3% for the provincial capitals. In terms of the specific cities, the highest penetration rate is 86.2% in Nanhai, a small city, followed by the metropolises of Shanghai (75%) and Guangzhou (75.4%). The lowest penetration rate is in the provincial capital of Changsha (46.5%), and then the small city of Yima (47.2%).

It should be noted that Internet users were more likely to be selected for the survey than the Internet non-users since the sampling scheme was not based on an equal probability method (i.e., priority was given to household members who use the Internet). Therefore, we included questions such as "How many people are there in your family" and "How many people in your family are using the Internet?" in the questionnaire so as to roughly extrapolate the Internet user penetration rate in each city.

	Metropolises			Provincial capitals				Small cities				
City	Beijing	Shanghai	Guangzhou	Chengdu	Changsha	Xi'an	Shenyang	Nanhai	Fengnan	Yima	Guangshui	Jimo
Total number of Internet-users in the household	589	637	732	229	244	246	204	319	158	196	167	149
Total number of household members	1942	1872	2136	977	943	952	974	894	619	711	725	659
Proportion of Internet users in total households	30%	34%	34%	23%	26%	26%	21%	36%	26%	28%	23%	23%
	33%			24%				27%				

Table of proportion of Internet-users among total household members in each city

From the table above, we can see that the lowest Internet-user penetration rate is Shenyang (21%), and the highest is in Nanhai (36%). Therefore, we concluded that the Internet user penetration rate does not depend on the size of the city; rather, it may be related to the economic, cultural, and social status of the specific city.

In addition, we also note that the proportions of Internet users and Internet non-users in the survey are not representative of the proportion in the total population of each city. In other words, the survey data are more suitable to compare the characteristics of Internet users and non-users than to estimate Internet user penetration rates in the population. This is in line with one of the major objectives of the survey, which was to determine the social influence of the Internet by comparing attitudes and demographics between Internet users and Internet non-users.

Gender composition

Among the final sample, males accounted for 52%. Based on the city level, the highest percentage of males was in the small cities (56.4%), and the lowest was in the provincial capitals (48.3%). In terms of each individual city, the highest percentage of males was in the small city of Guangshui (68.7%), and the lowest was in the provincial capital of Chengdu (42.6%). These differences in the gender composition among the cities may be the result of the sex ratio in each city as well as the interviewers' non-random selection of interviewees. Therefore, the numbers in the table above do not reveal the real differences in the sex composition of the population in each city, but only the differences in the gender composition of the sample.

Age composition

We divided the interviewees into four age groups: 17-24 years, 25-34 years, 35-44 years, and 45-60 years. The survey data show that the first age group accounted for over 40%, and the fourth age group accounted for 17%. The age distribution of the interviewees is similar in each city. This shows that as the age of the interviewee becomes younger, the proportion of Internet users increases accordingly.

Educational composition

The educations of the interviewees were divided into four groups: middle school or below, high-school, two-year college, and bachelor's degree or above. The results show that a high-school education accounted for the highest percentage (40.8%) of users, followed by two-year college (24.6%) and bachelor's degree or above (18%). The distribution did not change based on city or city level. However, the education distribution of the sample is different from the distribution in the sampled area; for example, the high-school education is actually over--sampled in the population. This is because the survey focuses only on persons between the ages of 17 and 60, and priority is given to Internet users.

In general, the sample composition of this survey is obviously biased toward Internet users. In other words, the sample actually consists of two sampling frames: Internet users and Internet non-users. If the interviewee is an Internet user, he or she is immediately included in the Internet-

user sampling frame. This sample composition is useful for comparison and analysis of the similarities and differences between Internet users and Internet non-users as well as for determining the influence of the Internet. But, as noted earlier, it is not suitable to make general inferences about the population.

APPENDIX III

Logistic Regression Model of Internet Use[1]

Location **(Beijing as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
Shanghai	2.175	0.304	7.160	0.000	1.580	2.770
Guangzhou	0.666	0.267	2.490	0.013	0.142	1.190
Chengdu	1.687	0.326	5.180	0.000	1.049	2.326
Changsha	1.109	0.307	3.610	0.000	0.507	1.710
Xi'an	1.139	0.315	3.610	0.000	0.521	1.758
Shenyang	0.317	0.314	1.010	0.313	-0.299	0.932
Nanhai	1.527	0.504	3.030	0.002	0.539	2.516
Fengnan	1.531	0.349	4.390	0.000	0.847	2.214
Yima	0.907	0.364	2.490	0.013	0.193	1.621
Guangshui	1.455	0.366	3.980	0.000	0.739	2.172
Jimo	0.003	0.373	0.010	0.993	-0.728	0.734

Gender **(male as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
Female	-0.979	0.150	-6.530	0.000	-1.273	-0.685

[1] Developed by Associate Professor Xia Chuanling.

Education **(middle-school or below as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
High-school	1.472	0.241	6.110	0.000	1.000	1.944
Two-year college	2.517	0.271	9.290	0.000	1.986	3.047
Bachelor or above	3.840	0.342	11.230	0.000	3.170	4.511

Marital status **(married as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
Single	1.912	0.266	7.200	0.000	1.392	2.433
Divorce, etc	0.555	0.318	1.750	0.081	-0.067	1.178

Professions **(white-collar as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
Blue-collar	-1.456	0.251	-5.810	0.000	-1.947	-0.965
Unemployed, Retired	-1.348	0.230	-5.860	0.000	-1.799	-0.897
Students	-0.718	0.320	-2.240	0.025	-1.345	-0.090

Age **(17-24 year-old as reference):**

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
25-34 year-old	-2.236	0.306	-7.310	0.000	-2.836	-1.637
35-44 year-old	-4.203	0.369	-11.390	0.000	-4.926	-3.480
45-60 year-old	-4.694	0.389	-12.060	0.000	-5.457	-3.931

Other variables:

	Regression coefficient	Standard error	Standardized score	P>z	95% confidence interval of regression coefficient	
Number of computers at home	3.950	0.212	18.600	0.000	3.534	4.366
Individual income logarithm	0.185	0.062	2.970	0.003	0.063	0.307
Individual quantity form	0.639	0.105	6.090	0.000	0.434	0.845
Negative attitude	-2.500	0.298	-8.400	0.000	-3.083	-1.917
Bad information quantity form	0.887	0.223	3.970	0.000	0.449	1.324
Recursion intercept	-0.917	0.559	-1.640	0.101	-2.012	0.178

Therefore, the effects of the independent variable in the model are all statistically significant. However, this does not mean that, other variables not included the model has no significant effects to the Internet usage, this model tells that net effects of other variables not included are not statistically significant.

The only exception is the variable “the number of personal using Internet in household”. It has very significant effect on predicting whether the interviewee use Internet or not. The conclusion is that there ia a contagious effect on using Internet, that is, if one household member uses the Internet, the probability of using Internet by other household members will increase dramatically. However, during the fieldwork, we didn't clarity, in the question to the interviewee, whether the interviewee himself/herself should be counted in or not, which may result in higher measurement error of the variable, and in the model estimation there is a warning against the variable (completely predicting the dependent variable). Therefore, we had to delete this variable in the logistic regression model, and hope that this error could be corrected in the follow up survey.

The marginal effects of independent variables on the Internet use:

Variable	Marginal effect	Standard error	Standardized score	P>z	Sample average of independent variable
Shanghai*[2]	0.134	0.304	0.440	0.659	0.148
Guangzhou*	0.057	0.267	0.210	0.830	0.139
Chengdu*	0.104	0.326	0.320	0.749	0.080
Changsha*	0.081	0.307	0.260	0.792	0.083
Xi'an*	0.082	0.315	0.260	0.794	0.082
Shenyang*	0.030	0.314	0.090	0.925	0.083
Nanhai*	0.095	0.504	0.190	0.851	0.047
Fengnan*	0.095	0.349	0.270	0.784	0.053
Yima*	0.068	0.364	0.190	0.851	0.046
Guangshui*	0.091	0.366	0.250	0.803	0.039
Jimo*	0.000	0.373	0.000	0.999	0.041
Female*	-0.104	0.150	-0.690	0.488	0.483
High-school*	0.142	0.241	0.590	0.555	0.410
Two-year college*	0.178	0.271	0.660	0.510	0.247
Bachelor or Above*	0.207	0.342	0.610	0.545	0.186
Single*	0.194	0.266	0.730	0.466	0.449
Divorced, etc. *	0.047	0.318	0.150	0.882	0.049
Blue-collar*	-0.225	0.251	-0.900	0.370	0.109
Unemployed, * Retired, etc.	-0.197	0.230	-0.860	0.391	0.144
Students*	-0.085	0.320	-0.260	0.791	0.260
25-34 year-old*	-0.355	0.306	-1.160	0.246	0.223
35-44 year-old*	-0.739	0.369	-2.000	0.045	0.200
45-60 year-old*	-0.810	0.389	-2.080	0.037	0.173
Number of computer at home	0.408	0.028	14.390	0.000	0.638
Individual income logarithm	0.019	0.007	2.940	0.003	2.858
Individuality quantity form	0.066	0.011	5.970	0.000	1.507
Negative attitude	-0.258	0.033	-7.790	0.000	1.171
Bad information quantity form	0.092	0.023	3.940	0.000	1.332

[2] stands for dummy variable, whose marginal utility means probability change of using the Internet when switching from reference category to the current category, other independent variables in the model holding constant.

Surveying Internet Usage and Impact in Twelve Chinese Cities

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