This study examines the impact of the Internet on the well-being of older Chinese. Thirty-three older Chinese, who were current or former students of a senior-oriented computer training organization based in Shanghai, China, were interviewed about their use and perceptions of the Internet. Data analysis was guided by grounded theory. The findings indicate that Internet learning and use in this peer group makes these older Chinese’s lives more meaningful, and improves their self-evaluations as well as other people’s views of them. These findings suggest that Internet learning and use is positively associated with the well-being of these older Chinese. This study also finds culturally specific factors—including mandatory retirement and recent economic reforms in China—that mediate older Chinese people’s use and perceptions of the Internet. Finally, societal implications, limitations, and future research directions are discussed.

Keywords: aging; retirees; quality of life; information and communication technologies (ICTs)

Older Chinese, the Internet, and Well-Being

Bo Xie, PhD

As in many other countries around the world, the Chinese population is aging. According to the most recent Chinese national census, in November 2000, 6.96% of the Chinese population (88.11 million) were age 65 or older. It is projected that in 2030, 16.57% or 243 million Chinese will be age 65 or older (National Bureau of Statistics of the People’s Republic of China, 2001). Also as in many other countries, the aging of the Chinese population is coincident with the dramatic growth of Internet use nationwide. The first Chinese national survey on Internet usage indicated that in October 1997, there were only 620,000 Internet users in China; but since then Internet use in China has been rising constantly and dramatically. By the end of June 2005, the number of Chinese Internet users had increased to 103 million (China Internet Network Information Center, 2005). In other words, during the period from October 1997 to June 2005, the population of Chinese Internet users became over 166 times larger.

At the intersection of the aging trend and the technology trend is the (quietly but) constantly growing body of older Chinese Internet users. Although the percentage of Chinese Internet users above age 50 has been consistently lower than 5% of the total Chinese Internet population, because the size of the total Internet population has increased so much, the total number of older Chinese Internet users has also increased significantly. In June 1998, there were only 14,400 Chinese Internet users aged 50 or above. Yet by the end of June 2005, more than 4 million older Chinese were using the Internet (China Internet Network Information Center, 2005). In other words, during this period of time the population of older Chinese Internet users became over 277 times larger.

Surprisingly, however, until now very little, if any, attention has been paid to older Chinese Internet users (and older Internet users in general) and the ways in which the Internet affects their lives. Compared with the vast amounts of research on computers and the Internet and research on aging, studies on the intersection of the Internet and aging trends are scarce and limited to a few subjects (Xie, 2003). This oversight is in part due to the trend among social gerontologists, who conventionally do not pay much attention to the influence of technology on aging and later life—and when they do, they primarily focus on medical or assistive technologies (that can be used by others for older adults), as if those were the only technologies that mattered to older adults. Another factor that contributes to this oversight is that researchers who study the societal implications of new information and communication technologies (ICTs) often ignore the older population, as if new technologies were the exclusive province of younger people. More systematic research is needed to generate a better understanding of the impact of computers and the Internet on the older population.

Research in the Western context—which primarily focuses on younger people—shows that new ICTs affect individuals’ lives in fundamental ways (for reviews, see Bargh & McKenna, 2004; DiMaggio, Hargittai, Neuman, & Robinson, 2001; Wilson & Peterson, 2002). To what extent can these findings be generalized to the older population in China? How do older Chinese use and perceive the Internet in ways that might be similar to and/or different from those of their peers in Western countries? What social and cultural factors might have contributed to the similarities and/or differences? This ethnographic research project attempts to provide some answers to these important questions.

OLDER ADULTS, COMPUTERS, AND THE INTERNET

Recently, a number of academic studies have concentrated on the intersection of older adults and new ICTs in the context of Western cultures. However, the majority of existing studies focus on a very limited number of topics, especially the effects of age-related changes in visual, perceptual, motor, and cognitive abilities on older adults’ learning and use of computers and the Internet (i.e., human factors or ergonomics research), barriers and aids to older...
adults’ learning and use of new ICTs, and older adults’ attitudes toward, perceptions of, and general usage of computers and the Internet. Many important areas/issues are largely overlooked or understudied (for a review and critique of this body of literature, see Xie, 2003).

In particular, to date only a handful of empirical studies have examined the impact of Internet use on older adults’ well-being. For instance, White and colleagues’ studies compared the well-being of residents of a retirement community who participated in a computer and Internet training program with that of residents of the same community who did not participate in the program. The pre- and postintervention measures indicated that, although there was no statistically significant change in participants’ well-being as compared to the comparison group, there was an observable trend toward decreased loneliness among participants in the training program (White et al., 1999, 2002).

In an early study conducted among a small sample of residents of an urban retirement facility, researchers found that the use of computer games and computer-mediated communication was associated with increased self-confidence and a decreased sense of loneliness (Danowski & Sacks, 1980). Similarly, in a study of older Internet users in a long-term care facility, pre- and postintervention measures indicated that computer and Internet use was associated with not only decreased levels of depression but also increased levels of daily activities and cognitive functioning (McConatha, McConatha, & Demigny, 1994). A two-year ethnographic study at a senior center in California reported that computer learning and use increased participants’ learning and mental abilities, and provided them a with sense of accomplishment, self-confidence, and control over their environment (Eilers, 1989).

A study of homebound older adults’ learning and use of the Internet found that Internet use was positively associated with increased levels of communication and satisfaction with the amount of contact with others (Bradley & Poppen, 2003). A survey study reported that greater computer use (and computer knowledge resulting from computer use) was associated with higher self-efficacy, lower computer anxiety, and higher life satisfaction (Karavidas, Lim, & Katsikas, 2005). Similarly, another study of older American Internet users found that greater Internet use was associated with a lower level of perceived life stress (Wright, 2000).

McMellen and Schiffman (2002) reported that Internet use facilitated older Americans’ interaction and communication with family, friends, and those who share similar interests and, consequently, reduced their loneliness and enriched their lives. Chen and Persson’s (2002) study found that older American Internet users’ scores on two particular dimensions of psychological well-being (Ryff, 1989)—personal growth and purpose in life—were significantly higher than those of their age peers who did not use the Internet. Similarly, a qualitative study of older Israeli Internet users and nonusers reported that, compared with nonusers, older Israeli Internet users had more confidence in their ability to learn new technologies in later life and were more devoted to the present and the future instead of the past (Bit-Cohen & Litwin, 2004).

Overall, the limited number of available studies provides preliminary evidence that Internet use affects various dimensions of older adults’ well-being, including affection, happiness, sense of control, self-confidence, personal growth, and purpose in life, among others. However, it is important to note that research on the impact of the Internet on older adults’ well-being is still at an early stage and more systematic examinations of the issues are necessary. In particular, it is crucial to study the Internet’s impact on older adults in other national and cultural contexts, as such research can provide valuable insight into the relationship among new ICTs, social and cultural factors, and older adults’ well-being.

METHOD

Interviews

Semistructured open-ended interviews were conducted in May and October 2004 in Shanghai, China. Major interview questions (in addition to basic demographic questions) included the following: Has using the Internet affected your life in any ways? Have you changed your ideas about what kind of person you are since you started using the Internet? Have other people changed their opinions about you since you started using the Internet?

The majority of the interviews were conducted at the OldKids (lao xiaohai, a Chinese phrase that refers to active seniors and can be literally translated as “old kids”) computer classroom. Some were conducted at the participants’ homes, or at other locations of their choice (e.g., a nearby park). Each interview lasted about one to one and a half hours. An informed consent form was completed before each interview was conducted.

Participants

The interviewees were recruited from current or former students of OldKids, a senior-oriented computer training organization based in Shanghai, China (for a detailed discussion of the history, mission, and development of the OldKids organization, see Xie, 2005). A total of 33 OldKids students/former students were interviewed. The participants were within the age range of 50–79 (M = 62.5). Nineteen (57.6%) of them were female, and 14 (42.4%) were male. Twenty (60.6%) of the 33 participants were college educated, 5 (15.2%) high school educated, 4 (12.1%) technical secondary school educated, and 4 (12.1%) middle school educated. Compared with the average educational level of Shanghai residents, this sample of participants has a significantly higher level of education (as of the end of 2002, 12.6% of Shanghai residents had four or more years of college education. See Shanghai Municipal Population and Family Planning Commission, 2003). All the participants were retired and had relatively good pensions. Their average pension was about RMB1,500 (approximately $183) per month, which was almost 50% higher than the average monthly
income of urban older Shanghainese (in 2003 the average monthly income of urban older Shanghainese was RMB1,014.9 or approximately $123.8. See Shanghai Research Center on Aging, 2005).

It is important to keep in mind that this sample of older Chinese was not a random one. The older Chinese Internet users who participated in this study were better educated and in better financial situations than the majority of their age peers in China. As a result, this sample is not representative of the general older Chinese population. However, it is likely that this sample is representative of the educated elite older Chinese, which suggests a digital divide between the haves and have-nots among older Chinese. Another important point about the demographics of this sample is that many participants were still in their early 50s, yet they were all retired. This early retirement phenomenon (at least from the perspective of Americans, who tend to retire at more advanced ages) is largely due to the mandatory retirement system and recent economic reforms in Mainland China. Currently, the law requires all employed Chinese to retire at a certain age, which varies according to gender and profession (generally speaking, 55 for men engaging in heavy labor professions, 50 for women heavy labor workers, 60 for non-heavy labor men, and 55 for non-heavy labor women). The early retirement phenomenon has worsened during the past decade, as recent economic reforms have forced most state-owned enterprises to lay off large numbers of their workers, especially older workers (Price & Fang, 2002). As a result of the economic reforms, many Chinese people are forced to retire at even younger ages than those required by law (e.g., in their 40s). These factors have important implications for older Chinese's use and perceptions of computers and the Internet, which will be addressed in the discussion section.

Data Analysis

Data analysis for this research project was guided by grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1998), such that data collection and analysis occurred simultaneously to ensure the coevolution of data and theory. Specifically, following the constant comparative method provided by Glaser and Strauss (1967), immediately after each interview, the first step was to write a short descriptive and analytic summary to record general impressions of the interview process and the interviewee. Second, after each interview, audio data were transcribed into text as soon as possible, and then translated into English. Third, after the interview was transcribed and translated, the text data were coded on the computer, using the qualitative data analysis software Atlas/Ti. Fourth, after coding, memos were written to record recurring themes or significant ideas that emerged during the coding process. Fifth, commonalities in the integrated themes and their categories were sought and then explanations were formulated based on a smaller number of higher-level concepts. Finally, after developing these explanations and refining the categories, the theory that could best interpret the data was written.

RESULTS

The Internet Makes Life After Retirement More Meaningful

One salient theme that emerged from the interviews is that learning about computers has made these older Chinese once again feel that they are useful, and has made their lives after retirement much more meaningful. Below are several example statements that show how the Internet has changed these older Chinese's views of themselves and enriched their lives after retirement:

After I retired, all that I felt was emptiness. I felt that I was a waste and had been forgotten. ... I had many health problems at the time, and my husband just passed away. Although my children treated me well, they didn't live with me. I felt that my life had no meaning, no hope. ... Since I started learning computers at OldKids, I feel that now I have a new goal to pursue. Whatever I've learned makes me feel that I have accomplished something. So now I am very happy.

(Atian, female, 79)

After I was forced to take an early retirement [at age 51], I first felt that I was abandoned; I felt that I was totally useless. Then I started learning computers. ... I feel that, once again, I am useful. I am happy. I used to have nothing to do; but now I have something to do.

(Liping, female, 57)

When I first retired, I wasn't quite sure what to do with the rest of my life. I was worried and depressed about how to spend my spare time. ... My life after retirement has started changing ever since I joined OldKids. I have made many friends via OldKids, and I have left behind the loneliness I had when I first retired. Now I feel that I cannot live without the Internet.

(Linlin, female, 51)

The participants' experiences as illustrated by these statements have at least three things in common: first, when they were retired, they felt depressed and useless, and believed that their lives were meaningless and empty. These negative feelings are to a large extent due to the involuntary early retirement, which forced them to leave the workforce in their early 50s or even late 40s. Second, these older Chinese now feel happy and useful, and believe that their lives are meaningful and enriched, which constitutes a sharp contrast with the initial negative feelings and attitudes they had about postretirement lives. Third, joining OldKids to learn about computers and the Internet was the turning point for the major changes in how these older Chinese feel about life after retirement. These findings suggest that learning to use computer technology within a supportive peer group—OldKids—helps these older Chinese to better cope with the negative life changes associated with (involuntary
and early) retirement, and, consequently, improves their psychological well-being.

There is also evidence that the benefits of the Internet can go beyond the psychological aspects of human life. In the case of Atian, learning new technology has not only improved this 79-year-old widow’s mental condition but also her physical condition. As Atian explicitly states:

A major accomplishment [of learning and using the Internet] is that my health condition has been improved. Learning [computers and the Internet] has stimulated and improved my mental condition. Consequently, my physical condition has also improved significantly.

(Atian, female, 79)

Atian is not the only one who has noticed the significant improvement in her mental and physical condition. Her OldKids peers have also noticed how healthy and active she has become. In fact, during the interviews, many participants strongly recommended that the researcher interview Atian because “she’s just amazing!” For instance, one participant says:

Have you talked to Atian? You should really interview her. She’s almost 80 years old, but she’s so active and energetic! She’s really enthusiastic about computers. She takes computer classes from OldKids; she comes to the OldKids computer interest group meetings; she volunteers at her residential community to teach other older people about computers... She’s everywhere! She’s just amazing.

(Yang, male, 59)

These older Chinese Internet users’ experiences suggest that, instead of feeling depressed, useless, abandoned by society, and feeling that the rest of their lives will be meaningless and empty, these older Chinese actively and enthusiastically learn and use new ICTs to make their lives after retirement meaningful and enjoyable. In doing so, they have changed not only how they think of themselves but also how other people—family, friends, former coworkers, neighbors, and so forth—think of them, as will be further illustrated in the following subsection.

The Internet Improves Self-Evaluations and Other People’s Views

The previous subsection is based on participants’ responses to the general question “Has using the Internet affected your life in any ways?” Although that question did not specifically ask about participants’ own views of themselves, many participants’ answers, as shown above, have already indicated improved self-evaluations. This subsection examines participants’ responses to more specific questions about whether or not they perceive that others have changed their views about them. The results provide further evidence that Internet use has not only changed these older Chinese’s lives after retirement in general but also changed their views of themselves and others’ views about them. In contrast to their responses to the previous question (which are primarily based on the individual’s own experience), when specifically asked if their views of themselves have changed and if others’ views about them have changed since they started using the Internet, participants frequently use their age peers—especially former coworkers—and family members as frames of reference. For instance, one participant states:

Compared with my former colleagues who are close to my age, I look and feel much younger—they don’t have the appearance and frame of mind that I have. It’s all because of the Internet: surfing the Internet has greatly broadened my vision; now I can see many things in the larger world, which makes my own troubles [within my family] appear trivial.

(Qinyang, female, 58)

Similarly, a 55-year-old woman who lives with her husband and unmarried son (both are tech-savvy) says that being able to learn and use the Internet has greatly improved her view of herself, because now, 4 years after she was forced to take early retirement from her position as a technician, she still has a “common language” with her husband and her son:

Before I retired, I was really worried that, once I retired and went back home, I might become a housewife whose thoughts were aging rapidly and whose life became boring and meaningless. I’ve seen many older women living their later lives like that. The gaps between them and their children are deeper and deeper, and they don’t seem to have any common language with their children any more. I used to wonder, if I became one of those people, if one day would feel like a year.... Now it is totally different! Now I am pretty much at the same level as my son and my husband. Sometimes they even have to ask me for help with their computer problems, which makes me really proud of myself. We often exchange computer knowledge and skills, so my family has been a harmonious one. We have shared interests.

(Ben, female, 55)

In addition to having positive evaluations and feelings about themselves, many participants also reported that, ever since they started learning and using the Internet, the ways other people (e.g., family members and former co-workers) look at and think of them have also changed. The following quotations illustrate this:

Using the Internet has also changed other people’s opinions about me. The first one is my husband, who is a math teacher. He said
that before I started using the computer, he didn’t realize that I actually had math talent, too! Now he always jokes with me about how, if I had started doing math 30 years ago, by now I would have become a great mathematician… My former colleagues have also praised me. They said they didn’t know that I could still use my brain at this age because they couldn’t use their brains any more.

(Qinyang, female, 58)

The Internet has caused lots of changes in my life. It has enriched my life a lot. And I feel that the beliefs and energy I had when I was young have all come back. Maybe this is just my own feeling. But my daughter also said to me that, mom, it seems now you can get along really well with young people! I guess I’m not very modest. Am I flattering myself too much? [Laugh]

(Linlin, female, 51)

These older Chinese Internet users’ descriptions suggest that, because of their learning and use of the Internet, now they have a positive attitude toward themselves and their later lives. Based on their own evaluations of themselves and other people’s opinions about them, they accept and enjoy who they are and what they do in their everyday lives. This high level of self-acceptance, or possession of positive attitudes toward the self, is a key characteristic of well-being as defined by psychologists such as Ryff (1989).

**DISCUSSION**

The findings of this study suggest that, by helping these older Chinese to better cope with the mandatory retirement requirement and recent economic reforms, Internet learning and use in OldKids results in improved well-being. As mentioned above, in recent years a large number of older Chinese—who might be in their early 50s or even their 40s—have been forced to take early retirement. The main reason is that older Chinese’s work units—which, for this generation of Chinese workers, typically are state-owned enterprises (SOEs)—have not been doing well since the mid-1990s economic reform that targeted SOEs (Price & Fang, 2002). The involuntary nature of this early retirement makes it even more difficult for many older Chinese to adjust to and enjoy later life. As participants in this study stated, having to leave work so early in their lives made them feel abandoned by society and others and feel that they had become useless. In other words, Chinese retirees, who might still be in their early 50s or even their 40s, are likely to be in good mental and physical condition. They have the need, desire, and capability to stay active and connected. However, the current Chinese social system does not seem to be providing adequate support to these early retirees.

It is within this particular context that the opportunities provided by the Internet are especially appreciated and valued. As reported above, the Internet has become a useful tool that helps the participants in this study to overcome the negative feelings that resulted from involuntary early retirement and an unfavorable social environment. In particular, the participants report that learning and using the Internet within the supportive OldKids peer group gives their lives after retirement new purpose and, furthermore, improves not only their self-evaluations but also other people's views of them. These findings suggest that the Internet, combined with a supportive environment, can have positive effects on older Chinese’s psychological well-being.

The findings of this study have important implications for policymaking agencies and nongovernment organizations that serve older adults. At a time when the world population is aging rapidly, it is imperative that government and nongovernment agencies develop effective and efficient interventions that may help both society and individuals to better cope with aging-related changes (e.g., retirement, relocation, deteriorating health condition, and loss of loved ones). Because the aging of the population is coincident with the dramatic development of new ICTs worldwide, it is only logical to envision that, in an increasingly technological world, some of the interventions will involve new ICTs.

Yet can older adults learn to use and, furthermore, benefit from new ICTs? As reviewed above, the limited number of previous studies has provided preliminary evidence that older adults can benefit from learning and using new ICTs (Blit-Cohen & Litwin, 2004; Bradley & Poppen, 2003; Chen & Persson, 2002; Danowski & Sacks, 1980; Eilers, 1989; Karavidas et al., 2005; McConatha et al., 1994; McMellon & Schiffman, 2002; White et al., 1999; White et al., 2002; Wright, 2000). This study adds to the literature by providing empirical evidence that new ICTs may have similar effects on the older Chinese population. As such, policymakers and administrators of senior-oriented organizations should be further convinced of older adults’ potential in adopting new ICTs and be more compelled to design interventions that may facilitate older adults’ learning and use of new ICTs. This is important to all nations experiencing a graying of the population but especially important to nations like China, where recent social changes, in addition to age-related psychological and physiological changes, have had negative effects on older adults’ well-being. Within this context, it is necessary to make use of the potential of new ICTs—although technology cannot be the sole solution, it certainly can be a solution to the problems and issues faced by aging societies and individuals.

It is important to keep in mind that, because the sample of this study was small and nonrandom, the results should not be generalized without caution. In particular, participants of this study were better educated and in better financial situations than most of their age peers in China; both of these factors, as has been well documented in the literature (for a review, see DiMaggio et al., 2001), put them in a better position than most of their Chinese age peers to adopt new technologies. As such, older Chinese who have less or no formal education and/or poor financial situations may have different experiences in learning and using the Internet. To test the generalizability of the findings of this study, future research will need to examine in larger
and more representative samples how education and financial situation mediate the impact of computers and the Internet.

A related limitation of this study is that the participants were all from Shanghai, which is the largest city in China and has resources—such as an advanced ICT infrastructure, government awareness of the importance of new ICTs, public financial support for older adults, and a high percentage of college-educated older Chinese—that most Chinese cities do not have. In the future, it will be interesting to conduct qualitative and quantitative research among older adults in other areas of China, including medium- and small-sized cities and rural areas to compare and contrast the impact of new ICTs in different Chinese contexts.

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