

An Empirical Study on the Changes of Internet Privacy Concern: Differences Between American and Chinese Cultures

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Abstract

This study examines if there is any significant change in the level of concern about security or privacy among online populations over time, and demographics influences (age, gender, etc.) on privacy concerns, as well as the cross-cultural differences in the perception of privacy concerns while people are using the Internet between American and Chinese. The research was conducted based on various sources, which consisted of library searches and resources, news media, the Internet, scholarly articles, academic texts and other academic books, online databases, etc. The research results showed that people's privacy concerns may change a lot as time goes on. And unlike the age, gender does not have much influence on Internet users' privacy concern. The relationship between privacy concerns and gender of respondent was not statistically significant. Therefore, gender demographics do not have significant influence on net user's privacy concerns. But the relationship between privacy concerns and the age of respondent was found to be statistically significant. Moreover, the study roughly found that Chinese respondents disclose more personal information than the U.S. And why is there difference between the U.S. and Chinese Internet users' level of concerns about privacy? Through the research, the research believes that different culture and value play the most important role among all the possible reasons. The study tries to analyze the possible reasons from the perspective of culture and value. The western points of views in this study are mainly based on the United States and do not involve other countries.

Keywords: privacy concerns, internet, culture and value, demographics

INTRODUCTION

What would we feel if we learned that somebody had come into our house, walked around the rooms, checked the cabinets, and took a copy of all of our confidential documents, including our bank account numbers, medical records, telephone access codes, and similar personal information? Even if this was a law enforcement agent or another representative of the government and a completely lawful intrusion, it would be something we would not easily welcome. By extension, one wonders how immune our similar information, stored in our PCs or transferred over the Internet, is from similar intrusion, since we cannot take the internet out of our life?

There is no doubt that the Internet has been changing our lives and making them easier. According to Chamorro-Premuzi, T. and Nahai, N. (2017), they explain that despite the irritating retargeting ads on the web, online shopping behavior of many probably hasn't changed.

On the other hand, however, it has also significantly changed the dimensions of our conventional privacy concerns.

The Internet forms a part of many people's daily life, from doing the grocery shop, communicating with friends and relatives, to conducting specialist researching, teaching and working. The increased use of the Internet, together with rapid advances in technology has changed the way in which information about users is gathered, stored and exchanged. Accordingly, concerns about the privacy of Internet users have grown in importance. Academic research and press articles about Internet users' privacy concerns and behaviors appear regularly (e.g. Klein, 2004; Vise, 2005). However, privacy is a changeable concept that encompasses a variety of meanings.

In today's world, it is not difficult to find out why people's concerns vary a lot. For example, a web sites' privacy statement or policy is an important variable of information disclosure (Culnan and Armstrong, 1999; Miyazaki & Fernandez, 2000). Net users are not willing to give away any kind of personal information. The sensitivity of information also determines their willingness to give away privacy information (Cranor, Reagle, & Ackerman, 1999). Some users care more about their identity and prefer disclosing information only in an aggregate form (Ackerman, Cranor & Reagle, 1999), and because of the different scenarios the researchers proposed, they get different answers from net users regarding their online privacy concerns. Without systematically examining contexts, the scholars are only depicting one part of the whole picture of privacy concerns.

Privacy concerns are not purely in the mind of the user. They are shaped by the interaction of the individual and social contexts. Net users' privacy concerns are situated by the contexts they are involved in. It is necessary to examine those contexts (including privacy regulations, web sites performance, different information types, disclosure types etc.) systematically and find the explanatory power of each context. In addition, few researchers

further study whether people's concerns reflect on their practices and clarify the influencing variables. Thus, how to clarify the contexts influencing privacy concerns and privacy practices systematically is the next step for online privacy research.

LITERATURE REVIEW

Privacy

The concept of privacy is complex. Privacy has broad historical roots in legal, political, philosophical, sociological and anthropological discussion. Researchers study what is privacy, the activities that infringe on privacy, how to protect privacy, and people's perception of privacy all claim to do privacy research. However, they study different parts of privacy. Ruth Gavison (1980), in her article, "Privacy and the Limits of Law," provides reasons why anyone who studies privacy feels a sense of uneasiness. She says that it is because scholars are dealing with increasing needs of privacy protection, increasing threats to privacy and increasing demands for discussion about the nature of privacy clarify the relationship between privacy and other values. Gavison recognizes that there are several dimensions to studying privacy, and scholars confuse themselves as they are not aware of the dimensions they are studying. Without clarifying those elements, privacy is a puzzling concept. She does not point out what those aspects are. This study argues they are the nature of privacy, privacy risks, privacy protection and privacy concerns. Other disciplinary privacy research might have a different focus but it usually contributes to one of these aspects. For example, the architecture field concerns itself with people's feelings of privacy in different space settings. It contributes to the privacy concerns aspect. The computer engineering field concerns itself with how the new technology on the Internet collects users' activities. It contributes to the privacy risks aspect. The different aspects of privacy concepts are discussed below.

Internet privacy concerns

Internet privacy concerns refer to perceptions about opportunistic behavior related to the disclosure of personal information submitted over the Internet (Dinevand Hart, 2006a). These concerns reflect the extent to which individuals believe they might lose their privacy. Privacy has been studied by researchers in a range of disciplines over many years (Margulis, 2003) although research on privacy and the Internet has only emerged in recent years. Privacy concerns are the single most cited reason for declining to use the Internet (Westin, 2001). According to a series of UCLAR reports (2000 to 2004), privacy and the requirement to submit personal information are the primary factors that discourage users from shopping online. Many consumers do not register at web sites primarily because of privacy concerns and as many as 50% of consumers provide false information when asked to register at a web site or respond to online surveys (BCG,1998;Greenman,1999). Malhotra et al (2004) and Dinevand Hart (2004,2006a) reported a positive relationship between Internet information privacy concerns and perceived risk in providing personal information over the Internet, and a negative relationship between perceived risk and intention to provide personal information (see also Dinevand Hart, 2006b).

RESEARCH METHODOLOGY

In order to conduct this study, the main method of research employed was a comprehensive literature review. These data were based on the theoretical framework of existing scholarly work. The study proposes statements to determine the extent of internet privacy concerns by studying the current data trends. And analyzes and find answers to these statements. According to the results, the work conducts discussion, mainly including how the following aspects influence Internet users' privacy concern while they are using the Internet: governmental invasion, demographics, culture and value, etc. There are so many elements will influence people's privacy concern, while this study is mainly involved these three aspects.

Purpose of the study:

- To examine if there is any significant change in the level of concerns about privacy among online populations over time.
- To examine if demographics (age, gender) has any significant influences on net users' privacy concerns.
- To examine if there is any difference between the U.S. and Chinese Internet users' level of concerns about privacy.
- To examine if different culture and value have significant influences on Internet users' concerns about privacy.

The Research Data Sources

The scholarly articles, academic texts, and other data used in this study were gathered from various sources, including academic books, journals, and online databases. Academic journals explored for appropriate and recent articles include *The Information Society*, *Information, Communication and Society*, *Political Communication*, *Health Affairs*, and *Criminal Justice Policy Review*. These journals were identified by the keyword search that is

mentioned in the text section. Along with these sources, a number of Internet sources and online databases such as FIRST SEARCHSEARCH (OCLC Online Computer Library Center Inc., © 2002), Criminal Justice Abstracts (Silver Platter Information Lnc., 2001), LEXIS-NEXIS (Reed Elsevier, Inc., © 2002), and EBSCO *host* (EBSCO Industries Inc., © 1999-2002) were utilized.

Research Limitation

Due to the extremely broad and comprehensive nature of the subject, no effort would be unnecessary or futile to explore it within the existing dimensions. However, the existence of some unavoidable limitations, in practice, plays a determining role in forming the coverage and size of the study. These limitations are basically related to the nature of the subject and availability of sources.

The active history of the Internet does not date back more than two decades. Accordingly, legal materials in the field are still limited. For example, it is difficult to find a suitable Supreme Court case regarding online privacy rights and violations.

On the other hand, the “violation” aspect of privacy introduces further limitations due to its illegal nature. Examinations of both institutional (governmental) and individual violations are not available in an academically rigorous format. It is very difficult to document these kinds of violations because the activities take place in cyberspace, a highly intangible medium in which to prove something. For example, there have been allegations about the existence of the international surveillance system Echelon, however, there are few reliable sources that reveal the mysteries surrounding it, and the US government denies its existence. A large amount of the available data related to the violation aspect of privacy appears to lack scientific validity because a mentioned reason: empirical studies have not been done to a satisfactory extent.

Another limitation stems from the “newness” of the online privacy issue. It is often difficult to access newly published scholarly data. Some new issues of the subscriptions have been late to arrive while others have not been subscribed to by the library.

As a final limitation, the findings of this study are assumed to remain valid for a limited time period because of the inherently developing and active nature of the subject. In other words, the form and accordingly the concerns over privacy are subject to continuous changes. What will remain stable in the future is the importance of privacy.

RESEARCH FINDINGS

Internet Privacy concerns are changeable

To determine whether or not there was a significant change in the level of concerns among internet users, it was necessary to compare the 2001 and 2002 survey results. According to Sam C.’s research result (2004), the mean score for the 2001 survey respondents was 45% versus 41% for 2002.

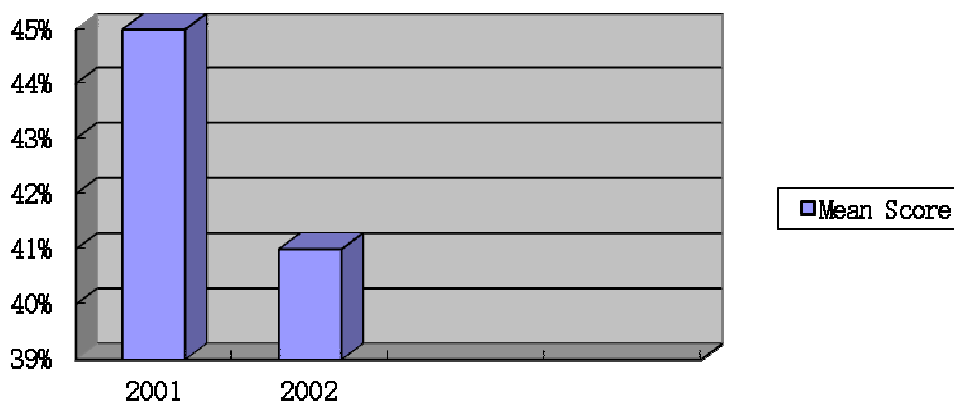


Figure 1: Mean score for the 2001 and 2002 survey Sam, C. extracted on July 06, 2018

The result indicated that over time, **the difference in mean measuring concerns about privacy was significantly different**. Specifically, the result suggested that the level of concern for security/privacy is gradually declining and implied that people were not as concerned about security/privacy in 2002 as they were in 2001. About the possible reasons, it consists of demographics, culture, perspective of value, governmental invasion and etc.

Demographics influencing People’s net concerns

To answer gender demographics effects, the U.S. and the Chinese’s responses are combined as one dataset for parsimony model building. In order to know the gender effect on privacy concerns, many tests were adopted in E

Motta's research. It is roughly found that there is only a slightly significant gender effect in general privacy practices and there is no significant difference between male and female. In E Motta's test majority of respondents, 56% stated they do have concerns about privacy when they are online. This pattern was true for both males and females. The relationship between privacy concerns and gender of respondent was not statistically significant. Therefore, **gender demographics do not have significant influence to net user's privacy concerns.**

To answer age demographics effects, respondents were split into four groups on the basis of their reported age (20 years and under; 21-30 years; 31-40 years; over 40 years). From E Motta's research, it can be seen that for all age groups above 20 years of age, the percentage of respondents who were concerned about privacy online was higher than the percentage that were not. However, for the age group "20 years and under", a lower percentage of respondents were concerned about privacy online than those who were not. **The relationship between privacy concern and the age of respondent was found to be statistically significant.**

And the study finds that there was no difference between those respondents who were concerned about privacy and those who were not concerned when considered in relation to: where they accessed the Internet from; the mean number of hours spent using the Internet per week; or the mean number of years spent using the Internet.

Different level of Internet Privacy Concerns in America and China

This section roughly found: **Chinese online users disclose more personal information compared to U.S. online users.** What are the privacy concerns and the priorities of the United States and China? (Chiung-wen Hsu, 2003) And why is there difference between the U.S. and Chinese Internet users' level of concern about privacy? The study tries to analyze the possible reasons from the perspective of culture and value.

Culture and Value Influencing People's Internet Privacy Concerns

Since there are many differences between the U.S. and the Chinese net users' Internet privacy concerns, it is believed that different **culture and value play the most important role among all the possible reasons.** American culture is based on individualism rather than on mass (collectivism). American culture is adventurous and exploration based. Westerners like to discover new things, invention and expand outwards. American culture is based on science, which attempts to resolve people and nature's relationship. American uses 'god' and religion to resolve human and spiritualism relationship. In case of problems with your own self, you just pray to god. While Chinese culture is a culture that based on masses (collectivism). People place country and family above one's own self, basing on humanism and people. There are many differences about culture and value between America and China. That is the main reason why the two different countries' net users will possess different level of concern about privacy.

DISCUSSIONS

According to the literature, how these privacy concerns have changed due to the integration of the Internet into our lives can be examined under four main headings: Government Invasion of Privacy; Privacy Invasions by Cyber marketers; Hackers, Deviants of Information Age as a Threat to Privacy; Online Privacy Invasions in the Work Place by the Employer and demographics (gender).

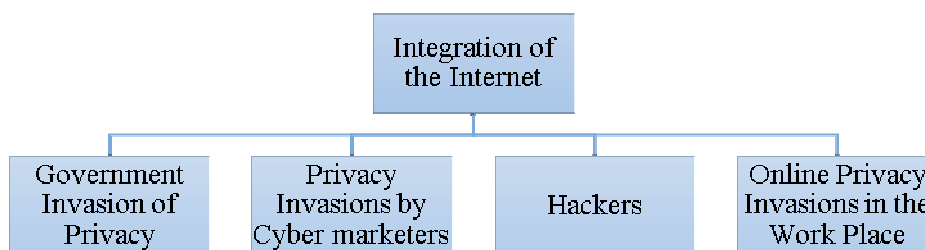


Figure 2: Integration of the internet in our lives

Demographics and Privacy concerns

Net users' demographics have been shown to affect their privacy concerns. Some studies indicate that women tend to be more concerned about privacy than men. And many other studies did not. In Kate's research (1998), fifty-three percent of female respondents strongly agree that the "use of computers must be sharply restricted in the future if privacy is to be preserved," compared to forty percent of male respondents. But the study totally

agrees with E Motta’s point of view.

In E Motta’s research, it was found that there is no significant difference between male and female’s privacy concerns while they are using the Internet. In this research fifty-six percent of respondents stated that they do have concerns about privacy when they are online. And this is true for both males and females. So, gender demographics do not have significant influence to net users’ privacy concerns. O’ Neil (2001) also finds that women (82.9%) with higher levels of education are more concerned about their privacy than those with less education.

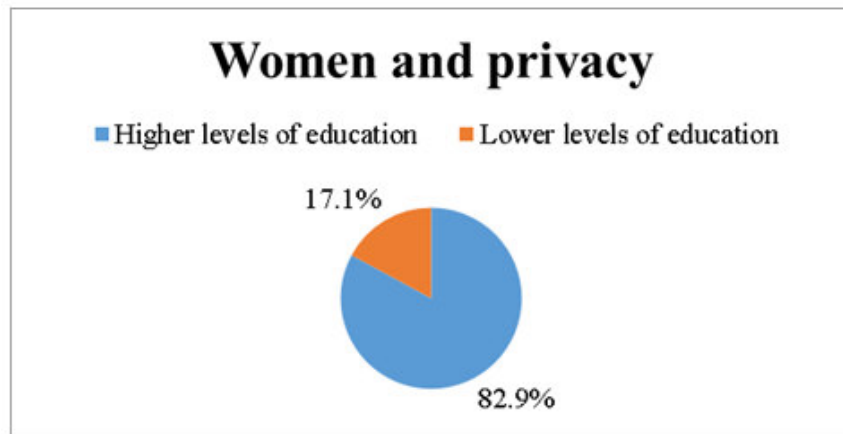


Figure 3: Women and privacy in O’ Neil Analysis of Internet Users' Level of Online Privacy Concerns

O’ Neil (2001) also finds that those with highest levels of education (a doctoral degree) expressed the highest percentage (68.9%) of being “very concerned” about their online privacy and security, 67.7% of those with a vocational or technical school degree pointed that they were “very concerned”, followed by those with a professional degree (65.1%), some college (57.9%), and high school (56.6%).

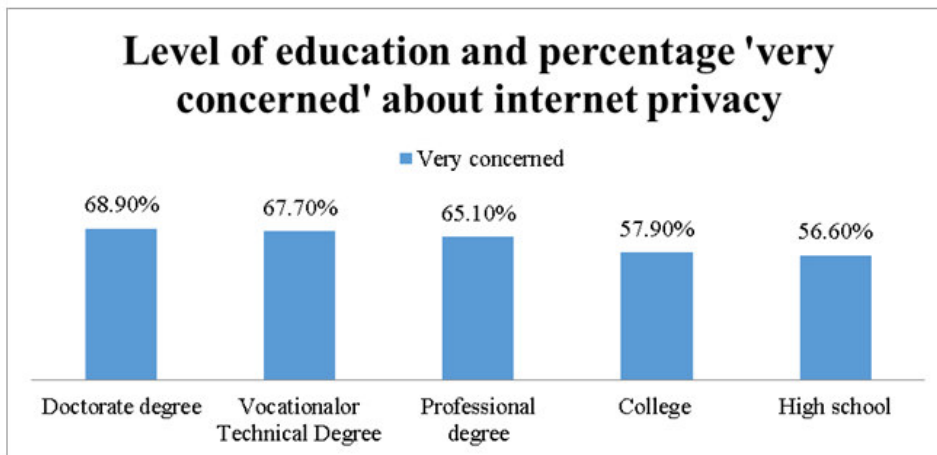


Figure 4: Level of education and percentage 'very concerned' about internet privacy in O’ Neil Analysis of Internet Users' Level of Online Privacy Concerns

Also in a poll commissioned by Silicon Valley (2018) in San Francisco Bay Area in the US, voters are deeply concerned about the security of their personal data online. More than four out of five voters on average said they’re concerned about the security of their personal and financial data online with 49% saying they are “very concerned”

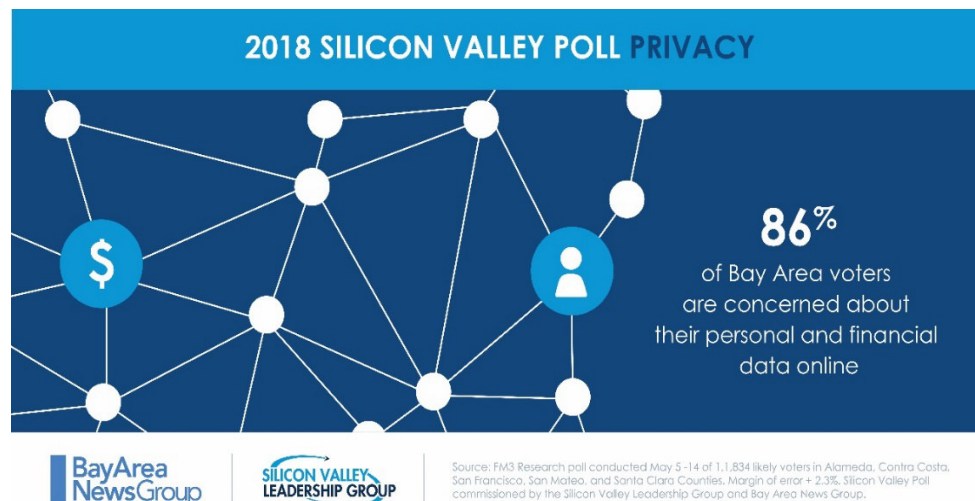


Figure 5: Bay Area's voters on personal and financial data online. Source: Silicon Valley (2018)

Milne and Rohm (2000) analyze people's perspectives of data collection awareness and knowledge of name removal mechanism across three channels (e-mail, mail and telephone) with their privacy state. Several demographic variables are statistically significant, such as age and income. Older consumers are more likely to delete their name from mail and e-mail lists and affluent consumers are more likely to desire removal from telephone lists. Their findings partially validate claims of the previous research that age and income are relevant to people's privacy concerns (Culnan, 1995, Milne & Boza, 1999). O' Neil (2001) provides a more precise hypothesis that people with higher incomes (more than \$50,000) tend to have lower levels of online privacy concerns than those with lower income levels, which is proved true. However, it contradicts the series of Equifax- Harris studies (Harris, 1990; 1995 quoted from Milne & Rohm, 2000) that less affluent people are more concerned about threats to their personal privacy. As for age, Sheehan (2002) has different results that people over the age of 45 years tend to be on two extremes either not at all concerned about privacy or highly concerned about privacy.

Technology demographics are also important variables on the Internet setting. However, research finds significance difference between Internet usage and privacy concerns (Sheehan, 2002). As indicated above, the demographics (sex, education level, income level and age) and Internet usage are found to have significant influence on people's concerns but most of them are slightly significant, which implies that there is something more important than demographic variables influencing people's privacy concerns.

Different Culture and Value's Influencing on Internet Privacy Concerns

There are differences between the Americans and Chinese's privacy concerns while they are using the Internet. The possible reasons cannot be listed one by one hence only tries to explain it in the perspective of culture and value.

American Individualism and Chinese Collectivism

Most westerners believe that each person has his own separate identity and personality, which should be recognized and reinforced. Therefore, one cannot comprehend western and its people without understanding individualism. Only with the cognition of individualism can we understand how westerners conceptualize family, friendships, and privacy. The core of individualism is the pursuit of personal and achievements. It is highly valued, earnestly believes and well appreciated as a fundamental social virtue. In Christianity traditions, individuals are important not only to each other, but also to the society and God. Individualism has been handed down from their ancestors. Therefore, to westerners, individualism is not selfishness but rather virtue. They emphasize individualism so much that they believe that there must be something wrong with someone who fails to demonstrate individualism. Just likes the sentence "God helps those who help themselves." However, to Chinese people, the word "individualism" is related to the derogatory meaning as egoism, with represents selfishness in quality and looseness in discipline. In traditional Chinese beliefs, especially in Confucianism, collectivism is appreciated. It emphasizes cooperation among group members and individual success is due to the collective effort of the staff in a unit, an organization or a community. The sacrifice of individual interest for that of the collective is a noble quality eulogized so much by Chinese people that being modest and thoughtful of others are highly praised.

Scholars Samovar believes that the United States is in the cultural values of individualism, self-motivation, self-choice, self-reliance. Americans respect each others' right of privacy and individual freedom. American's

value of individualism has been showed in the performance of the major personal privacy, individual self-reliance, individual performance, and personal freedom and so on.

American individualism developed with the progress of society. First, individualism performance of "liberty, equality," have become the slogan which encouraged people to educate the people, mobilization of the people of great spiritual strength; second, the individualism of early Americans won the full enjoyment of life "opportunity" to ensure the success of the country; third, the pursuit of individualism brings out people's diversity. All in all, individualism in the history of the United States has played such an important role that no others can replace. It is the core value of American culture. Americans believe in the dignity of the individual, and they respect personal privacy, depending on themselves to achieve personal interests. These are the positive performance of individualism. However, the United States extremist individuals and the community also have resulted in serious harm. It is obviously showed that Americans have strong notion of individualism than that of Chinese.

Now on collectivism in China: in today's Chinese society, people still have a strong sense of belonging for collective and group. Under the influence of group-oriented culture, Chinese people always advocate family, community and collective ideas, advocating "fair and impartial". Traditionally, Chinese make enclosing wall as the boundary line while Americans uphold space and never intervene in other's space, even though there are no walls to separate the space.

In China or in America, the officials usually have their own offices. On this point, there is something in common in both China and America, but it is more common that two or more people share one office in China, and their tables are usually put together, while it's another case in American office. Everyone tries to have access to a personal office to deal with official affairs though it is rather small. If the condition is not permitted, they will divide the large room into small ones or separate the tables in different directions instead of piecing together to make sure that everyone has his own room.

Confucianism Influencing Chinese Internet Privacy Concerns

Some researchers found that Confucianism has played an important role in Chinese society and has influenced the concept of privacy (McDougall, 2001; Moore, 1984). Generally speaking, the word "privacy" is not rooted in the Chinese culture and the sense of "self" is not essential. Influenced by Confucianism, Chinese culture promotes that the behaviors of noble and persons with integrity should be examined in public. They have nothing to hide and are willing to disclose their lives to other people. Only hypocrites dare not share their lives with others. In this context, privacy is not encouraged and sometimes has a negative implication (Fu, 2002). In Chapter 7 of the Analects of Confucius, Confucius says, "The Superior Man is always at ease with himself. The inferior man is always anxious." In Chapter 12 of the Analects of Confucius, one of his students asked about the qualities of the Superior Man. Confucius said, "The Superior Man is free from anxiety and fear." The student said, "Free from anxiety and fear? Is this all it takes to be a Superior Man?" Confucius said, "If you reflect within yourself and find nothing to be ashamed of, how could you have anxiety or fear?" Those sayings imply that the Superior Man has nothing to hide or be ashamed of and only the Inferior Man is afraid of his misbehaviors being known. Moreover, people are encouraged to observe other people if they are really the Superior Man.

In addition to Confucianism, the long history of the empire system of government has downplayed the importance of self and justified government surveillance. China has been keeping close track of its citizens; therefore, Chinese people were used to disclosing their information and observing others' behaviors until the introduction of western culture (EPIC, 2001a).

In the Chinese Constitution, Article 37 provides that the "freedom of the person of citizens of the People's Republic of China is inviolable;" and Articles 38 states a citizen's "personal dignity" is a lawful interest. Although the Constitution does not explicate "freedom" and "personal dignity", most Chinese legal scholars recognize that those terms include a citizen's privacy (Fu, 2002). Article 40 states, "Freedom and privacy of correspondence of citizens of the People's Republic of China are protected by law," which is relevant to privacy of communications. Therefore, the Constitution should protect privacy. There is an exception "to meet the needs of state security or of investigation into criminal offences, public security or organs are permitted to censor correspondence in accordance with procedures prescribed by law."

There is privacy protection under the Civil Law of People's Republic of China. Article 101 states, "Citizens and legal person shall enjoy the right of regulation. The personality of citizens shall be protected by law, and the use of insults, libel or other means to damage the reputation of citizens or legal persons shall be prohibited." According the Supreme People's Court (1988, cited from Fu, 2002), personal reputation includes privacy but it is unclear whether persona data is part of privacy.

There is not a general data protection privacy law covering data protection in China. Self-regulation has not been established yet either. Therefore, China is a case out of EPIC's models. There are merely some laws or administration orders which carry some relevant points regarding data protection. The Postal Law of the

People's Republic of China (promulgated in 1986) ensures "freedom and privacy of correspondence" in Article 4 and regulates that "postal enterprises and postal staff shall not provide information to any organization or individual about users' dealings with postal services except as otherwise provided for by law" in Article 6. But Article 21 of the Postal Law provides a legal source of possible examination of "the contents of postal materials, other than letters, to be handed in or posted by users." The Practicing Physician Law (promulgated in 1998) regulates that physicians cannot needlessly invade the patients' privacy and will have their license revoked and sentenced to fixed-term imprisonment if the consequence is serious, as stated in Article 37. Those regulations fulfill part of the *purpose limitation principle*. These are also some regulations regarding *sensitive data*. The Minister of Health published a working standards of AIDS monitoring and control in 2002 and Certain Regulations on the Monitoring and Control of AIDS in 1987, which declare that the HIV/AIDS patients' information should be kept secret, such as name and address and "no unit or individual shall discriminate against persons suffering from AIDS, AIDS virus carriers or their families."

In the computer age, China has amended the Criminal Law of People's Republic of China (promulgated in 1999) to regulate the invading of computer systems which are, to some extent, relevant to data protection. Article 285 states, "Whoever, in violation of State regulations, invades the computer information system in the fields of State affairs, national defense construction or sophisticated science and technology shall be sentence to a fixed-term imprisonment of not more than three years or criminal detention." Article 286 regulates the violation of computer information system by a virus, changing the functions and handling the data, which make it impossible for the system to operate normally and has serious consequences. The convict shall be sentenced to a fixed-term imprisonment. Article 287 regulates against the use of "computers to commit crimes such as financial fraud, theft, embezzlement, misappropriation of public funds and theft of State secrets." Those articles ensure the security of computer information systems, which can be seen as part of *security principle* in data protection.

To protect privacy in the computer age, Article 7 of the Computer Information Network and Internet Security, Protection and Management Regulations (promulgated in 1997) states, "The freedom and privacy of network users is protected by law. No unit or individual may, in violation of these regulations, use the Internet to violate the freedom and privacy of network users." This is the only article in the whole regulations mentioning about privacy. But there is no further explanation of it. Article 13 states, "people who register public accounts should strengthen their management of the account and establish an account registration system. Accounts may not be lent or transferred." There is no definition of "management of the account." This regulation provides some privacy for data protection but the main idea is to prevent possible anti-government activities and opinions as a control apparatus. Article 8 and Article 10 require "units and individuals engaged in the Internet business must accept the security supervision, inspection and guidance of the Public Security organization" and they are responsible for establishing a comprehensively secure, protected and well managed network, training users on security education and managing bulletin board information.

The Rules Concerning the Administration of the Provision of Internet Bulletin Board Service (promulgated in 2000) is seen as a more specific regulation than any other in China on personal data protection (Fu, 2002). Article 12 requires service providers to keep users' information confidential and cannot disclose to any other third party without the users' consent except if the disclose is required by law. Article 19 authorizes the administration to rectify the illegal disclosure and allows the users to seek compensation. By the same token, the Rules are tailored for monitoring and control of revolutionary messages and restrict access to some news and sensitive web sites inside or outside territories. The rules cover part of *transparency* and *provision of appropriate redress* principles.

Due to special needs of the communist government, there are few laws that prevent government intrusions of privacy. Although there are some laws regulating the public sector, the exemption could make them invalid. Thus, most of the laws regulate the private sectors and serve as a speech-control mechanism. Based upon Bennett's models, China hardly fits any of the models.

Government Surveillance Influencing Privacy Concerns in America

There is no unambiguous right to privacy in the U.S. Constitution. The Supreme Court has ruled that the privacy exists within the penumbra of the Bill of Rights. Citizens can expect a right to privacy without government surveillance, a right of anonymity and the right of preventing disclosure of one's political party to a government agency (EPIC, 2001a). However, there are some rights to privacy with no constitutional protection dependent on enacting a specific law. Data protection is one of them.

There is no general privacy law for data protection or an independent privacy oversight agency in the U.S. The first law relevant to data protection is the Fair Credit Reporting Act (1970, version of 2000). The Act prevents individuals from the abuse of personal data by Credit Reporting Agencies (CRAs) and regulates CRAs to only disclose personal data for credit, employment, insurance, license, and governmental benefit (*purpose limitation*), and send notice to and entitle to individuals a copy when their credit report is requested. In the case of disputed accuracy, the CRA must investigate and correct mistakes but there is no article of rights of

opposition of the individual (*transparency and part of rights of access, rectification and opposition, and data quality and proportionality*). The Federal Trade Commission is in charge of enforcement of the Act.

Another important data protection law is the Privacy Act of 1974 which ensures the citizen's records in the database of the U.S. government are used and disclosed by certain guidelines. The Act was known as an implementation of fair information practices brought about by the Department of Health, Education and Welfare Special Advisory Commission (EPIC, 2001b). The Act requires government agencies to collect data with data users consent (*transparency*) and to use the data in the specific purpose (*purpose limitation*). The citizen has the right to access, review copy, and correct the data but no right to reject the data collection (*part of rights of access, rectification and opposition*). The Act also requires the government agency to maintain accurate, relevant, timely and complete data (*data quality and proportionality*). The *security principle* is required by the Act that government agencies have to protect the database from breaches. The citizen who suffers damage from data misuse can ask for civil remedy through administrative and judicial machinery (*delivery of compliance, support and help to data subjects, and provision of appropriate redress*). The Drivers Privacy Protection Act (1994, amended in 1999) specifically regulates the government database of motor vehicle records. This database is full of important and complete information about any individual who has a driver's license permit or title including the driver's name, address, phone number, Social Security Number, driver license number, height, weight, gender, age, and even some disability information. The Act states, a state department of motor vehicles shall not disclose or make available to any person or entity personal information about any individual (*purpose limitation*). There are some exceptions, such as any court or law enforcement agency, in carrying out its functions. In 1999 the amended law requires state DMVs to obtain a driver's express consent before disclosing any information (*transparency*). The violated individual is granted the right to take civil action and may be awarded remedies (*support and help to data subjects and provision of appropriate redress*). And the violated individual or state DMV shall be fined and responsible for damages, attorney's fees and litigation costs (*delivery of compliance*).

There is a law fully focusing on the *security principle* called the Computer Security Act (1987). It requires all government agencies to develop safeguards for protecting data stored in their computers.

Those data protection laws discussed above all apply for public sectors. Private sectors are not regulated except those which handle sensitive data or deal with minor data subjects. Financial institutions are one of them. The Right to Financial Privacy Act (1978) regulates the banks or financial institutions disclosure of the clients' information to government agencies in accordance with guidelines of the Act. But the Act doesn't regulate the disclosure to private sectors. The financial institutes can only disclose clients' information under the conditions of authorization from the clients, and in response to an administrative subpoena or summons, court order or judicial subpoena. Furthermore, clients have the right to receive the delay of notice (*transparency*) and to challenge the disclosure (*support and help to data subjects*). The violating government agencies and financial institutions are liable to the clients (*delivery of compliance and provision of appropriate redress*).

The Cable Communications Act (1984) protects cable subscribers' personal information. The Act is seen as an implementation of the OECD Privacy Guidelines of 1980 (EPIC, 2001b). Cable providers are required to provide written notice which specifies what information is collected, how information is used, to whom information is disclosed, and how long information is stored (*transparency*). Under the Act, cable subscribers have the rights to access and correct their information, and to ask for deletion if information is no longer necessary to be kept (rights of access, rectification and opposition). Any person aggrieved by the cable providers in violation of the Act may bring a civil action in a district court. Remedy, attorney's fees and litigation costs for cable subscribers are required if the cable providers violate the provisions (*delivery of compliance, support and help to data subjects, and provision of appropriate redress*).

The Family Education and Privacy Right Acts (1984) protect the privacy of student education records. Educational institutions shall not disclose student education records without written consent of students or their legal representative (*transparency*). Students also have the rights to access and correct data, obtain a copy, and stop the personally identifiable information (rights of access, rectification and opposition). Students who have complaints regarding the disclosure must appeal first to the head of educational institutions for redress and second to the Secretary of Education if they are not satisfied with the results. The Secretary of Education will limit the federal funding to those violating institutions (*delivery of compliance, support and help to data subjects, and provision of appropriate redress*).

Video rental is another type of business holding much personally identifiable information. The Video Privacy Protection Act (1988) prohibits the video rental provider from disclosing consumers' information unless they obtain the written consent of the consumer (*transparency*) or the disclosure is pursuant to a warrant, a subpoena, or a court order. Consumers can ask for destruction of old records (*rights of access, rectification and opposition*). Any person suffers the violation of this Act may bring a civil action and may be awarded actual and punitive damages, attorneys' fees and litigation costs (*support and help to data subjects, and provision of appropriate redress*). Video service providers who knowingly disclose personally identifiable information in violation of the Act shall be liable to the aggrieved person (*delivery of compliance*).

Different Mode of Thinking in America and China

Mode of thinking and cultural differences will affect people's views and understanding of the outside world. Different countries develop different culture, so there are inevitable differences in the mode of thinking of each country. This is especially evident in the eastern and western cultures. Western culture's emphasis on logical thinking and analysis, and the Oriental culture mode of thinking showed intuitive wholeness. This is also a characteristic of traditional Chinese culture and way of thinking. This traditional culture advocates Chinese people to pay special attention to intuition, experience and emphasize on understanding. Compared with the Westerner's mode of thinking, Chinese mode of thinking is obviously general and vague. The passage of time will create a set frame of mind, which can be interpreted as recognition of the outside world and simplify the process of perception. Essentially, the fixed pattern of thinking often ignores the difference between individuals. For example, A famous cross-culture scholar, one of professors in Beijing Language and Culture University, once said that the people from English-speaking countries are dissatisfied to the situation that when the doctor gives a check-up to a patient but other patients sitting beside in the waiting room (ibid: 85). What the professor said reveals one of the aspects in viewing privacy in china and America. When the doctor checks up the patient, there is no other person present, because in American's eyes, patient's illness is a secret only between doctor and patient. In American hospitals, no matter how large or small, many separated rooms are provided for patients and many boards or pieces of cloth are put up in order to protect patients' privacy to a large extent. But when a Chinese patient comes to see the doctor, his or her friends or relatives always company the patient as he or she is diagnosed. To a certain extent, this is a kind of violation of other's privacy subconsciously. It is possible that the patient has not been truthful about their sickness for fear of being known by other people. In that case, it may mislead the doctor's diagnosis. Actually, doctors can easily protect patient's privacy in many ways, but they are always unaware of it. Maybe it is because doctors are busy diagnosing lots patients every day, or may have no notion of privacy concerns in their mind.

CONCLUSION AND FURTHER RESEARCH

The development of the information age has brought many invaluable conveniences to human life, as well as new problems. Wide use of the Internet in society has added new dimensions to existing privacy concerns, if it has not outright turned them upside-down. New problems naturally require consistent solutions as the existing ones often fail or at least become ineffective in dealing with new problems.

New threats to privacy have basically come from government applications, online merchants, hackers, and employers. Solutions offered with regard to the issue are proposed under three sections. The first solution might be amending new laws or broadening the coverage of existing ones in order to fix the inefficiencies in this context. In addition to the problem of the lack of a complete constitutional perception, lower level laws are also outdated and seem to fail to meet the needs in this area. One of the laws in this area the Omnibus Crime Control Act of 1968 and the other is the Electronic Communications Privacy Act of 1984, both of which were amended before the emergence and widespread use of the Internet in society. In order to fill the gap between the actual needs and the current laws, new laws have to be implemented that would cover the newly emerged needs in detail, or existing laws need to be modified.

The law is the outer coverage of privacy protection provided by the government and it will not work by itself even if amended perfectly. In accordance with the depth and importance of the issue, some other measures need to be taken along with the law. Encryption has turned out to be one of the most effective technical methods for protecting online privacy. It has been used by Web sites running important activities, such as business, providing services, or representing institutions on the Web. It is also often used by individuals to secure their online communications.

The final solution, then, is personal measures that can be taken by individuals as part of their everyday life while they engage in activities on the Internet. There are a number of measures that should be taken, including effective use of Web browsers, controlling cookies, eliminating spam, privatizing e-mails, keeping a low profile while surfing on the net, and keeping up with new laws and technical improvements. However, it is important to note that a considerable amount of the average Internet user uses software and hardware that is outdated, despite advancements in these technologies. Moreover, governments, Web marketers, Hackers, and employers seem to be better in pursuing technology than the average Internet user. This obviously increases the chance of vulnerability at the users' side. Therefore, some of the solutions offered by this study may not even be applicable for some shoes privacy is under the threat of invasion.

The above paragraphs briefly outline the coverage of this study. However, the subject is so comprehensive, living, and open to improvement that there may be a lot of issues that could not have been handled within the possibilities and limits of this study. For example, privacy advocates have begun revealing serious concerns about a new tool of digital surveillance called the "Magic Lantern". It is argued that this one has incomparably broader skills than the controversial program Carnivore since it leaves even encryption useless. It can reportedly be placed on a target computer by an FBI agent by employing a virus-like program to log the keystrokes of the

user. Moreover, not only written and sent messages but also deleted thoughts or data are said to be accessible, as this program enables the agent to track every single keystroke of the target from a remote computer's monitor. Some consider this as the worst government intrusion into home and even the minds of the citizen without knocking on doors as required by the law. However, this is a fairly new issue and there are not enough scholarly resources to discuss it yet. It seems to be a task for future researchers to handle.

As a final thought, nobody can make a sound estimation of future privacy concerns as, just two decades' age, none of us could have estimated today's privacy problems coming with the prevalent use of the Internet. Accordingly, even the most particular findings of this study may keep their validity for a time limited to the near future. Nonetheless, the only thing that can be said for the future of the issue is that while the form of privacy may change in an unexpected manner, privacy, as a social value, will never lose its magnitude, and concerns about privacy will always exist as it is deeply related to the nature of the human being as an inherent need.

Further research be conducted to discern the significance of the study by race and region. Therefore, the overall goal of the study was to create knowledge and provide empirical evidence of the impact of concerns for security or privacy in the online environment and this goal was accomplished.

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