Today, I am very honored to be invited to come and present my paper at this prestige University at a plenary session of the International Conference on Cyber Youth. First of all, I thank the Organizing Committee Chair, its members, and Dr. Dennis Wong for their invitation and kind assistance to come.

I. Introduction

Information Society is referred to a place where information is considered a dominant resource in the community. The nature of information technology has the power to rapidly reach the society and greatly affect it as a whole. In information society, information is used as a power to communicate in all arenas, whether it would be politically or economically. It is also considered as social goods, shared in two-way interaction among different parts of the country.

Information is referred to as a data or knowledge, which is processed in a electronic way to be a symbol, letter, sound, sign, or image. The processed information has been changed dramatically by the speed of information processing technology, such as advanced computer, as well as the advancement of computer network.

As information society is rapidly becoming part of our lives, the concept of time and distance have closed the gap and it is becoming almost non-existent. With the use of computer and network significantly altering our lives, we have what is now called cyberspace. Globally, there were 105 million Internet users, but it is estimated that by the end of year 2001, it will increase to 302 million people. By the year 2005, it will increase immensely to one billion people. It is evident that digital society is sweeping away our global society. In the newly transformed society, Net generation is placed on center stage and gaining attention. Net generation is referred to group of people, primarily youth and teenagers under 20 years of age, who have come to use the of Internet as part of their daily lives (Whang, et.al., 1999: 22-23). In fact, approximately 11% of the worldwide Internet users are younger than 15 years of age. It is the youth who are taking the leadership to shape the Internet culture and ultimately, the cyberspace.

Globally, information technology is sweeping the nation at a speed of light, in which South Korea is not an exception. Recent figures of Internet users were estimated to be 16 million people, as of end of July in year
2000, which is a 50% increase during the first half of the year (Joongang Daily Newspaper. 2000, 8. 24).
Also, recent studies show that the use of Internet is rapidly increasing among the younger generation. 75%
of teenagers 13 years and over are said to be users of the Internet (Hankyoreh Daily Newspaper, 2000. 9. 1).

The influx of Internet users in Korea have exploded in the past 10 years like never before.
There is no doubt that our society’s structure, art/culture have been influenced with the introduction of
Information technology to our lives. It has also shaped the values, in hence, behaviors of our youth.
Cyberspace is a place where youth can bring to life their vivid imagination. Most importantly, it is a place
they can call their own. By using the on-line network, they are able to recognize themselves and in doing so,
create their self-world. While the adults of latter era have built themselves through the physical world, the
youth of ‘net generation’ are shaping their values in a virtual space.

Due to the rapid spread of information technology in our society, the gap between the older and younger
generation is getting wider than before. Another component that cannot be ignored is the concern of
negative influence Internet use is having on our youths. Internet usage has become an essential component
to the lives of the youth. Parents are becoming alarmed as they witness the negative changes in their
children in correlation to the Internet use. There are efforts being made on a government level to control the
content of the Internet, in hence, control the content accessible to the youth.

As information technology and computer network is a new phenomena in the society, there has been
limited number of systematic research done to discover the effects of Internet use to our youth, and our
society as a whole. We are at the brink of discovering how this “ new phenomena” is affecting our younger
generation .

This paper is first aimed at examining the extent South Korea has been informatized and its problems in
correlation to informatization. Secondly, bringing to surface, both the positive and negative influences
information society is having to the youth. Finally, taking a look at both the countermeasures and
implications for solving problems caused by the development and spread of information technology. For
these purposes, relevant literature has been reviewed, while secondary data have been analyzed.

II. Recent Development of Information Technology

Science and technology of computer have developed and changed the face of humanity since the mid-
twentieth century. In 21st century, computer and network have become the governing force in our society.
It is said that since the onset of new technologies, the speed of social change has increased 100 to 400 times
faster than before.
Korea is included as one of the countries that have been transformed by computers to what is now referred to as information society. According to the government report, number of Internet users totaled 138,000 by end of year 1994. The number increased to 10 million people by end of 1999 and by April of year 2000, 14.6 million users were reported (Chosun Daily Newspaper, 2000, 7, 12). This is an exploding number, as we see that in the past 6 years, the numbers have increased to 100 folds.

In 1998, Korea ranked 22 in National Computerization Agency, in the category of Computer, Wire Communication, & Wireless Communication, Broadcast, and Internet in the national ranking of countries. In 1997, United States placed first, followed by Finland, Sweden, Norway, who ranked second to fourth. In Asian countries, Singapore was in top 10, ranking in sixth place, followed by Japan and Hong Kong, who came in 12th and 13th place.

<table>
<thead>
<tr>
<th>Country</th>
<th>1997</th>
<th>1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Canada</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Denmark</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Finland</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Korea</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Netherlands</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Norway</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Singapore</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Sweden</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Swiss</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>U.S.A</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>


As illustrated in Table 2, Korea’s informatizational level has been driven to advancement by the national policy. Informatization level in Korea has increased at the rate of 42%, which is a high percentage in comparison with other nations.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>70</td>
<td>100</td>
<td>742</td>
<td>42.2%</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>688</td>
<td>952</td>
<td>5,350</td>
<td>34.9%</td>
</tr>
<tr>
<td>Japan</td>
<td>332</td>
<td>477</td>
<td>1,926</td>
<td>28.7%</td>
</tr>
</tbody>
</table>
1. Current Situation of Computerization

For the past ten years, production of computers has rapidly increased in our country. In 1985, there were 8000 computers, which increased to 10,300,000 computers by 1999 as illustrated in <Picture 1>.

<Picture 1> Number of PCs

(National Informatization White Paper, 2000)

<Picture 2> shows the number of equipment for mobile communication service, which started in the early 1990’s. Since 1995, there has been a tremendous increase in cellular equipment for the use of cellular service. Personal communication services have taken on the same effect beginning of 1997.

<Picture 2> Mobile Communication Services

Unit: lines
The graph in picture 3 compares the use of PC, PC communication, and Internet use by gender. <Picture 4> compares by age. Overall, the usage is highest for those in their teens. In Internet usage, those in twenties had slightly higher than those in their teens. For those using Internet usage of PC chatting and Internet was very low.
As shown in <Picture 5>, recently in the past 5 years, PC Communication subscriber has taken on an incredible leap in its numbers.

**<Picture 5> The number of PC Communication subscribers**  
*Unit: persons*

![Graph showing the number of PC Communication subscribers from 1990 to 1999.*](image)

2. Public Centers for Information Education

Public centers for information education is a concept that includes Local Information Center, Post Office Information Center, and Citizen Computer Class. This is the result of the research conducted in the level of information education.

| Local Information Center | - Established at a local level for providing resources, such as administration, Marketing, etc. for local residents.  
|                          | - As of 1998, there are 45 sites in the nation. |
| Post office Information Center | - Joint effort made by Ministry of Information and Communication and ICC  
|                             | (Information and Culture Center) to educate information resource to people in rural areas who have not had the privilege to take advantage of such resources.  
|                             | - As of 1999, there are 45 sites in the nation. |
Citizen Computer Class - Headed by non-governmental organizations or local government.
- Computer education geared toward those in rural area, career women, Elementary, Junior, and High school student.
- As of 1999, there are 16 sites in the nation.

(Whang, et. al., 1999, pp. 175-177)

3. Characteristics of those who use Public Centers for information education

1) Main users
Public Centers for Information Education was most utilized by housewives by 65%, followed by Junior and High School students by 25%, and elementary students and company employees by 5% respectively. Looking at three programs; Local Information Center, Post Office Information Center, Citizen Computer Class. Information center usage was highly dominated by Junior and High School students. Housewives or professionals/company employees did not have high usage in any categories.

Contrary to the results found in the local information Center, Citizen Computer Class and Post Office Information Center was highly utilized by housewives.

2) Use by the youth
In comparison to Post Office Information Center and Citizen Computer Class, the results show the highest utilization rate by youth in local Information Center.

<Table 3> illustrates the usage of Centers for Information Education among different school levels. The results indicate that elementary students utilize the program by 40%, which is the highest usage among school levels.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Elementary</th>
<th>Junior high</th>
<th>Senior high</th>
<th>College or University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0</td>
<td>40.0</td>
<td>30.0</td>
<td>20.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Information center</td>
<td>100.0</td>
<td>-</td>
<td>33.3</td>
<td>66.7</td>
<td>-</td>
</tr>
<tr>
<td>Post office center</td>
<td>100.0</td>
<td>14.3</td>
<td>42.9</td>
<td>14.3</td>
<td>28.6</td>
</tr>
</tbody>
</table>
Junior High students followed it by 30%, High School students by 20%, and College students by 10%. By looking at results of usage in different categories, in Local Information Center, High School students had the highest usage, whereas in Post Office Information Center, Junior High students ranked highest and in Citizen Computer Class, elementary students ranked highest usage.

4. Current Internet Use and Its Problems

A national survey revealed at the end of March 2000 that there are 13.93 million Internet users in Korea, which is a hundred fold increase from the end of 1994 with 138,000 Internet users during the following 6 years.

Internet user is defined as an individual, aged seven years or older, who regularly uses the Internet more than once a month. In Korea, children begin taking Internet training courses at the age of seven in the elementary school.

The nationwide survey was conducted by National Computerization Agency (NCA) in March 2000. During the survey, a researcher visited each sample household to conduct a face-to-face interview regarding actual conditions of Internet usage (National Informatization White Paper, 2000, pp. 337-338).

<Picture 6> The number of Internet users in Korea

Unit: Number of persons

(National Informatization White Paper, 2000, p. 337)
1) Distribution of Internet users by gender
The distribution of Internet users categorized by gender indicate that there are 6,314,365 male users (30.1%), compared to 3,118,833 (14.7%) female users. The numbers of male users are doubled compared to female users (National Informatization White Paper, 2000, p. 338).

2) The number of Internet users by age
Looking at the number of Internet users by age bracket, it shows that 5,080,000 people were those in their twenties. Following the next highest age bracket with 4,780,000 people were those in age between 7-19 years old. The increase in the two age groups showed considerable increase in Internet use. 89.4% of Internet users that are under 30 years of age (National Informatization White Paper, 2000, p. 338).

3) The number of Internet users by education
Comparing the number of Internet users to the level of education, it showed that the number of users increased as the level of education went up. (Elementary students: 22.8% → Junior High students 65.8% → High School students 82.9% → College students: 92.2%) .

65% of students enrolled in junior high, high school, and college were Internet users. Percentages of students in college who utilize the Internet were high as 92.2%. Among adults, 52.2% of college graduates were Internet users, while 16.2% of high school graduates were using the Internet. The use of Internet among people with education level below high school was very low, which is due to the fact that those in the education level bracket are people over 60 years old.

<Table 4> Distribution rates of Internet users by education

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate of use (2000. 3)</th>
<th>Rate of use (1999. 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>22.8</td>
<td>13.2</td>
</tr>
<tr>
<td>Middle</td>
<td>65.8</td>
<td>48.7</td>
</tr>
<tr>
<td>High School</td>
<td>82.9</td>
<td>57.1</td>
</tr>
<tr>
<td>College</td>
<td>92.2</td>
<td>82.1</td>
</tr>
<tr>
<td>Adult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Below High School</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>16.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Post College education</td>
<td>52.2</td>
<td>37.1</td>
</tr>
</tbody>
</table>

(National Informatization White Paper, 2000, p. 339)
5. Problems with Internet Use among the Youth

1) Internet use period

Research shows that those who have used Internet for less than one year was 42.4%, those with minimum experience of one year but less than 2 years were 31.0%, those with more than 2 years experience resulted in 26.7%. It is speculated that people who had less than two years of Internet experience came to be such a high number of 73.4%, since the exploding Internet usage by teenagers are still a new phenomenal. Also, the results illustrate how rapidly Internet usage has spread in the nation (Yun, 2000, pp. 3-4).

Research was done to find out how many hours teenagers used the Internet in the period of one week. Teenagers who used the Internet from one to four hours came to be 28% and those who used from nine to twenty hours were 19%. There were 7% of teenagers who spent up to forty hours, averaging to six hours a day in front of the computer.

2) Purpose of Internet use

For what purpose does teenagers utilize the Internet? The most popular answer was the use for electronic mail at 30.7%, with network game at 13.7%, information search for homework at 10.8%, file download at 10.8%, and entertainment and sports at 9.5% (Yun, 2000, p. 5).

3) Internet Addict

Numerous questions can be asked to determine if an individual is an Internet addict. According to a recent research, 25%-30% said that they are being negatively affected in other areas of their life because of the Internet. Four out of ten admitted that they have used the Internet throughout the night. Three out of ten have said that they have chosen to use the Internet in order to avoid social contact. 75% answered “yes” to the question, “My life would be boring without the Internet.” 17.4% answered “yes” to the question, “I start using the Internet because I feel depressed and become anxious.” (Yun, 2000, pp. 6-7).

4) Change of life pattern by computer use

Question was asked to student to examine how their lifestyle and values have been affected and taken on change after using the computer. The answers resulted in these categories; 1) existing media equipment use 2) change of life pattern due to Internet use 3) study ability and concentration 4) social adaptability and ability to express 5) study ability and concentration. The results indicate that the hours spent in dialogue increased, the usage of existing media equipment decreased, and the study ability and concentration increased.
5) Change in hours of dialogue
The study examined if there has been a change in hours in dialogue with the use of computers. The results showed that although amount dialogue hours have not changed with friends, hours in dialogue with family have decreased.

![Change in dialogue hours]

'2'(very increase), '1'(increase, '0'(no change), '-1'(decrease), '-2'(very decrease)

III. Characteristics and Needs of Cyber Youth

In the information society we live in, the use of computer and network has become a core center of our lives. It is important, therefore, to examine how the use of this technology has altered our life pattern and has effected our society as a whole.

In an information society, information technology is an inevitable source that governs the society and it is an essential matter to explore if information technology is creating a positive or a negative effect. In an information society, there can be both, optimistic/positive perspective, as well as pessimistic/negative perspective.

Optimistic perspective:
1) Informatization is a method to bring about social development. The development in computer network and communication equipment allows people to easily access large amount of information.

2) With the wide accessibility, everyone can utilize the service, and therefore bridge the gap between social class.

Pessimistic Perspective:
In information society, national regulation and surveillance by government will become heighten, giving them control to what citizens can access.

The significant change in our society in the past couple years is due mainly to information technology and its rapid spread to our lives. During the course of the process, there have been several positive influences that have affected our society.

1) In the education department, mutual communication has been fostered and has come to have significant value in the education system. Whereas the teaching method have been solely feeding student with knowledge, the importance of raising consciousness of the problem is being fostered and centralized in the education department. Also, the focus from teachers are being re-centralized to students, and shift from text-book to life-long education is being emphasized.

2) In the information society, diversity is being recognized and more than ever before, it is being pursued by individuals. Also, it gives individuals unique opportunities that were not available before.

3) Through the cyberworld, teenagers have gained the freedom to explore and express their identity more freely than before without trying to gain anyone’s approval. In hence, this freedom has empowered the teenagers to have a voice and self-worth that they can creatively express in their own unique way. It is also a place where they can come and get recognition they are not able to in an adult dominated society by creating sub-culture within their youth culture. For example, there are able to access information regarding sports, such as, skating, dancing, and quick boarding, as well as meeting peers with the same interest to get the latest information on the sport. In cyberspace, there is a specific culture, which dictate such thing as web language.

In cyberspace language, the traditional grammar and syntax, which have shaped our thinking pattern and essentially our lives, are broken and teenagers have established their own unique way to voice and express themselves to meet their needs. This signifies the change in culture for those who are partaking in cyberspace and is seen as a positive empowerment by the teenagers to recognize and fulfill their need in a way that is suitable for them.

As much as there are positive attributes for teenagers to partake in the cyberspace, there are negative influences that are recognized.

1) When adults think of negative influences cyberspace has on teenagers, adults are quick to judge that
cyberspace promote extreme assertion of individualism, as well as creating unhealthy behavior like Internet addicts. However there has been no empirical research done to examine both the positive, as well as negative influences of partaking in cyberspace.

2. In the information society, its lack of current information and its inability to keep up with the mainstream news can raise a compliant on a societal level. Research shows us there are complaints regarding computer and Internet use at different region of the country, mainly having the mentality of “the richer become richer, the poorer become poorer” and blaming it as a social inequality. There cannot be a quick judgment made to blame information society on teenagers who become alienated and left behind. It is highly possible that teenagers are exhibiting deviant behaviors and committing crimes because of the maladjustment they suffer from school or society.

3. Internet addiction can be seen as a societal illness that results from excessive use of the Internet. The formulation of the word alone illustrate the extreme devotion our society has on the Internet and it possess a potential danger for teenagers to socially alienate themselves from their friends, families, and social functions. Especially for students, there can be a negative effect on their school life and grades, resulting in lose self-esteem and potentially causing students to become isolated and depressed.

4. Teenagers also have the potential to develop an impatient personality as they become immersed in this new culture. As they become accustomed to instant gratification, they can potentially foster the characteristic of an impulsive person.

5. Teenagers are having a difficult time finding their own identity as they are exposed to overwhelming influx of information. Also, the exposure to foreign culture adds onto the complexity of finding their identity.

In a research that looked at negative effects and images computers have, there are approximately 30% of teenagers, categorized as ‘avoiding type,’ who have no interest in computers. They are said to have computer phobia, as well as computer anxiety (Lee, 2000, p. 11).

6. There is also danger that the values of teenagers can become extremely individualistic and uniform.

IV. Countermeasures and Implications

In the information society we live in, computer and Internet use have seeped through our daily routine and have taken on a significant place in our daily lives. There are concerns raised because of the negative effects resulting from adults, but especially for teenagers, who devote themselves to using the Internet. For teenagers, their lives are changing at a rapid pace and their family, as well as school life is being negatively affected. It is, therefore, inevitable for parents to be concerned about the teenager’s usage of the Internet and the content that are accessible to them.

As concerns are raised on a societal level, there is a discussion on a government level on the content on the
Internet, as well as exerting control on the accessibility of the contents.

On the other hand, as teenagers have taken part in the information technology, they have gained a unique niche of their own in the cyberspace, where they have new possibilities and opportunities to express themselves, which was not fathomable before in the society. It is, therefore, important to provide support for these teenagers who have found their own kind of culture, whether it is physically attainable or not.

The informatization policy has never recognized the potential teenagers have to contribute to the information society (Whang, et. al., 1999: 245). The results from this research allow us to explore the findings and suggest implication on how to solve the negative influence found in cyberspace/cyber era.

First, by educating the ethics of information and communication, it teaches the teenagers about the value of communication. It is important to communicate the ethics of information and communication to teenagers, to raise the level of consciousness, so that there will be an awareness of the proper ‘use of information.’

Second, accessibility to information needs to be distributed equally. There needs to be a closure in the gap between people, whether it would be regional, financial, educational, or social differences that sets them apart. There needs to be aggressive efforts made to have information accessible to people equally.

Thirdly, there are concerns about teenagers being able to access pornographic sites at an early age. In fact, the youth do not have any protection against sites that carry sexual materials. The Internet cannot rob the youths of their innocence. To control the pornographic materials on the Internet, there needs to be control exerted from a governmental level. It is equally important to raise the consciousness and awareness amongst the youths.

Fourth, as a society, we must not forget that the youth are leading frontiers in the cyber era. They are the ones who will need to adapt to the fast moving society. Adults have limited ability to lead the youth of this generation in many ways, therefore adults need to shed from their existing mindset so that they can recognize the potentials the youth have in our society. The teenagers in the Net Generation are not merely consumers, they are users who have the ability to select, utilize, and analyze the information that are offered to them.

Fifth, it is necessary to change the notion of computer and culture of cyber era by acknowledging that the youth are the “main drivers” in this newly founded culture. We, as a society, need to deeply consider who would carry on this culture of cyberspace other than our youths. Government is playing the role of a supporter, rather than the leaders in this new era, to guide and prepare the groundwork for the youth to carry on this newly found culture.
Biography
Dr. Imho Bae is an associate professor in the Department of Social Work at the Soong Sil University, Seoul Korea. He received his Ph.D. from the University of Minnesota and spent one year as a visiting scholar at the University of California at Berkeley, School of Social Welfare in 1998. Dr. Bae serves on the International Prison Chaplain Association as the Asian Representative since 1995 and on the editorial board of two journals in the United States. He was a winner of the 1998 Junior Scholar Competition of the International Society of Criminology. He has published a book, Social Work in Criminal Justice: Its Demand and Response and also published numerous articles on juvenile delinquency, restorative justice, sentencing, youth issues and community.