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A Study on Correlation between Age and Information Ethics Using Information Culture Index

Woochun Jun

Department of Computer Education, Seoul National University of Education
wocjun@snue.ac.kr

Abstract

Information ethics is very essential for everyone in the current knowledge-based society. Every citizen in modern society can enjoy various benefits of recent internet technologies. In the meanwhile, everyone also is exposed to the various side effects of information and communication technologies. The typical side effects include copyright violation, cyber crimes, cyber bullying, internet addiction, and so on.

The purpose of this paper is to identify correlation between age and information ethics. For this purpose, 3-year national survey works Information Culture Index are analyzed. After thorough statistical analysis work, it is concluded that there is a meaningful correlation between age and information ethics. In other words, the older people are, the higher information ethics they recognize and observe.

Keywords: *Information Ethics, Correlation, Age, Information Culture Index*

1. Introduction

Nowadays every citizen lives in under impacts of information and communication technologies. On the plus side, everyone can experience and enjoy various effects and benefits of such technologies. For example, we can use a car navigation application instead of a paper map, also can use email rather than postal mail, etc. On the minus side, we are facing with tremendous dangers in everyday life. That is, there are so many side effects of information and communication technologies. The typical side effects include infringement of personal information, copyright violation, internet addiction, cyber gambling, cyber crimes, etc. We need systematic and extensive plans to deal with those side effects since preventing and curing those side effects may not be dealt with personal problem anymore.

In Korea, National Information Society Agency(NIA, http://www.nia.or.kr) has published various survey works concerned with information-concerned work. Those survey works are Korea Informatized Progress and Status Overview, The Report on the Digital Divide, and Information Culture Index Survey, etc. Among various national survey works, Information Culture Index Survey is concerned with overall information ethics of all people. The survey work is extensive and analyzed with very thorough statistical techniques.

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Corresponding Author: wocjun@snue.ac.kr
Tel: +82-2-3475-2504, Fax: +82-2-3475-2177
Department of Computer Education, Seoul National University of Education

The purpose of this paper is to analyze correlation between age and information ethics. It is guessed and believed that older people have higher information ethics level. However, to my best knowledge, there is no work for this research issue. In this paper, 3-year national survey works from NIA have been used. That is, 2012 to 2014 Information Culture Index Survey works have been adopted in order to identify correlation between age and information ethics[1~3].

In this paper, the age group is divided into 7 specific groups as follows.

① Age 6-9

② Age 10-19

③ Age 20-29

④ Age 30-39

⑤ Age 40-49

⑥ Age 50-59

⑦ Aver over 60

The paper is organized as follows. In chapter 2, related works and literature review works are presented. In chapter 3, the statistical works are introduced for identifying correlation between age and information ethics. Finally, in chapter 4, the conclusions and further research issues are presented.

2. Related Works

2.1. Information Culture Index

NIA has published Information Culture Index Survey since 2008. The survey is extensive work concerned with informatization progress and status of Korean. The standard index for measuring overall informatization progress and status of all people is so called information culture index. The index consists of 3 areas.

-Application

Application area is concerned with how people are participating in productive activities using various ICT and smart technologies and devices

-Awareness

Awareness area is concerned with how people can trust other people and information in online

-Norm

Norm area is to test people’s sense and behavior patterns concerned with information ethics.

The sub-indexes of 3 areas are as follows

1) Application area

①Digital Life

Production, exchange, deal through internet in daily life

②Online Social Participation

Political and social issue search, production, donation experience through internet

2) Awareness area

①Online Trust

Reliability on online contents and sites

②Online Respect for Others

Listening and acceptance of other opinions

3) Norm area

①Information Ethics Sense

Sense for various side effects of internet such as
-Illegal use of personal information
-Slandering others
-Illegal use of online contents
-Distribution of unverifiable information
-Cyber bullying

②Information Ethics Behavior Patterns

-Control mind against deviant behavior
-Deviant behavior experience

2.2. Literatue Review

To my best knowledge, there is no work concerned with correlation between age and information ethis. However, in [4], correlation between school age and internet addiction is analyzed. The work is summarized as follows.

In [4], the purpose of the work is to identify correlation between school age and internet addiction. In order to achieve the purpose, 4-year national survey works on internet addiction have been used. That is, 2011-2014 Internet Addiction Survey and Analysis reports have been analyzed. Also, the school age group is classified into 5 further groups as follows.

-Kindergartener
-Elementary schoolchild
-Middle school student
-High school student
-Unversity student

After statistical analysis using Cross Analysis, it is concluded that there is a meaningful correlation between school age and internet addiction. It means that, the higer school age is, the higer internet addiction ratio is.

3. Correlation Analysis between Age and Information ethics

In this work, for statistical analysis, Cross Analysis technique is adopted. Also, SPSS 21.0 program is also used for correlation analysis. Norm area in Information Culture Index is used to test correlation. The following Table 1 shows survey results depending on years and correlation between age and information ethics. Each number represents point per 100.

Table 1. Correlaton between Age and Norm

Age \ Year	2012 (N=5,000)	2013 (N=4,650)	2014 (N=4,300)	χ^2(p)
6-9	87.9	89.5	88.4	11.017* (.047)
10-19	86.4	88.2	86.6	
20-29	87.4	88.9	88.0	
30-39	88.7	90.2	88.8	
40-49	90.3	91.6	89.7	
50-59	90.9	91.8	90.8	
Over 60	91.1	92.5	91.6	

As we can see from Table 1, Norm index depending on age group is as follows. In 2012, 87.9 for age 6-9, 86.4 for age 10-19, 87.4 for age 20-29, 88.7 for age 30-39, 90.3 for age 40-49, 90.9 for age 50-59, and 91.1 for age over 60. It means that, the higer age is, the higher Norm index is. In 2013, 89.5 for age 6-9, 88.2 for age 10-19, 88.9 for age 20-29, 90.2 for age 30-39, 91.6 for age 40-49, 91.8 for age 50-59, and 92.5 for age over 60. It also means that, the higer age is, the higher Norm index is. Finally, in 2014, 88.4 for age 6-9, 86.6 for age 10-19, 88.0 for age 20-29, 88.8 for age 30-39, 89.7 for age 40-49, 90.8 for age 50-59, and 91.6 for age over 60. It also means that, the higer age is, the higher Norm index is. Based on the above survey results, after application of Cross Analysis, it is concluded that there is a meaningful correlation between age and information ethics. In other word, the older people are, the higher information ethics they recognize and observe.

On the other hand, Table 2 and 3 shows correlation between age and Application area, and correlation between age and Awareness area, respectively.

Table 2. Correlaton between Age and Application

Age \ Year	2012 (N=5,000)	2013 (N=4,650)	2014 (N=4,300)	χ^2(p)
6-9	28.0	25.1	23.9	12.778* (.037)
10-19	37.7	41.2	44.7	
20-29	61.2	50.2	54.9	
30-39	57.8	48.3	51.5	
40-49	51.7	43.7	45.6	
50-59	38.9	39.5	39.9	
Over 60	32.8	34.7	30.8	

According to survey results from Table 2, it is concluded that there is a meaningful correlation between age and Application area.

Table 3. Correlaton between Age and Awareness

Age \ Year	2012 (N=5,000)	2013 (N=4,650)	2014 (N=4,300)	χ^2(p)
6-9	73.2	73.2	72.9	.155 (.879)
10-19	72.0	72.5	73.4	
20-29	71.7	73.4	73.9	
30-39	71.1	73.4	74.2	
40-49	71.9	73.4	73.8	
50-59	71.7	73.0	73.1	
Over 60	72.5	73.3	73.3	

According to survey results from Table 3, it is concluded that there is no meaningful correlation between age and Awarness area.

4. Conclusions and Further Works

For every citizen in modern society, recognition and observation of information ethics could be very essential for daily living. Thus, measuring information ethics level is a key point to lead people to enjoy benefits of IT society and prevent various side effects of advanced IT and smart technologies.

The purpose of this paper is to identify correlation between age and information ethics. For this purpose, 3-year national survey works from NIA have been used and Cross Analysis technique has also been adopted. After statistical analysis, it is concluded that there is a meaningful correlation between age and information ethics. In other words, the older people are, the higher information ethics they appreciate and observe.

The further research works are as follows. First, for further areas in information ethics, it is necessary to identify correlation with age. Second, case study works from other countries need to be analyzed in order to compare works from different countries.

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