

The Investigation of Information Ethics Attitudes and Behaviors of Adolescent from the Behavior to Networks

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Abstract

The 21st century is a generation of information. Information technology and network have already been incorporated in life, study, and work in the information society. We always forget the ethics and moral in the information society, which lead to the constant situation of computer misuse and computer crime while we emphasize information technology in the speedy development of information age. It's shows that compatriots don't have complete cognition and conception of information ethics by network fraud, downloading illegal software, stealing someone's picture and text, infringing the individual privacy, and disseminating the unsightly speech. Adolescent is the main population for the network. Whether they have ethics moral conception when they use network, information service and information products, the cognition, understanding and inculcating of their information ethics shows more increasingly

important.

It's getting more serious day after day. The situations of network that computer misuse of adolescent, network crime and violation ethics in the information age at present. This investigates the adolescent knowledge towards the cognition and concept of information ethics under the information and computer education in the information era. This study based on the four issues of information ethics of (Mason,1986): Privacy, Accuracy, Property, Accessibility.

**Keyword: Information Ethics; Privacy;
Accuracy; Property; Accessibility**

1、INTRODUCTION

Electronic science and technology has been already flooding information-intensive society. Receiving and dispatching of e-mail replaces letter exchanging, communication software shortens distance among interpersonal relationship communication and helps the exchange of the emotion. Weird though shopping on the internet increases the selectivity and convenience, net-meeting avoids the hardship of

a journey. It's unthinkable imagine and change with the Computer-mediated communications of way of communication. This shows that the Internet has been an important global media (Seongcheol,1998). It has amazing speed, magical energy, and more choices of information age and information society from the spoken language. and printing reading to electronic medium and development internet disseminate via high technology. (Huang Zhao Song, 1999). New all-pervading tools and springing up all over the world and imbue with different activities of people, have changes with the mode of society interaction, life way, and originality technology.(Castells,1997). The internet has diploid group on different activity and domain, and create new mode of medium.

2. LITERATURE REVIEW

2.1 The behavior of network

2.1.1 The situation of networks

The population of the internet is receiving get 15,380,000 people , which is 67.969% of the total population. The public who use the internet among the ages of 12 to 15 years old reach 95%, (TWNIC,2006). Therefore we can know that adolescences occupy the higher rate of utilization. The main purpose of the individual is to browse the webpage. The function used frequently is browsing the information from the webpage, E-mail, searching for data, making a friend by messenger (MSN), ICQ, playing online games and downloading the software etc...

Table 1 The inference from population of network and over 12 years old — Distinguish from the age
(Source of the data: Taiwan Network Information Center)

Unit: People; % : Percentage point

Items Sex	Number of people on July of 2006	Individual has the experience of Internet				Increase and decrease Percentage point	Sampling error
		July of 2006		January of 2006			
		Number of people	Percentage	Number of people	Percentage		
Total	19,483,538	12,250,157	62.87	11,619,708	59.93	2.94	± 2.13%
12- 15 years old	1,291,092	1,161,863	89.99	1,065,696	82.30	7.69	± 6.25%
16- 20 years old	1,583,243	1,513,090	95.57	1,448,136	91.11	4.46	± 5.05%
21- 25 years old	1,901,487	1,755,836	92.34	1,736,601	90.19	2.15	± 6.16%
26-35 years old	3,751,687	3,062,538	81.63	3,046,881	81.41	0.22	± 4.14%
36- 45 years old	3,773,951	2,603,967	69.00	2,262,387	59.78	9.21	± 4.74%
46- 55 years old	3,484,163	1,786,975	51.29	1,606,060	44.79	6.49	± 6.65%
Over 56	3,697,915	365,888	9.89	453,948	13.19	-3.21	± 15.50%

2.1.2 Introduction to the characteristic

The reason the population of the internet grows up fleetly is because of the following three items (Guo Yun, 1995) :

1. There are abundant information resources on internet:

If users just keep computer contact internet, then they will get the information from all kinds of data bases and worldwide famous libraries and news groups or any time and at any where.

2. The internet supplying the cheap and fast service of E-mail:

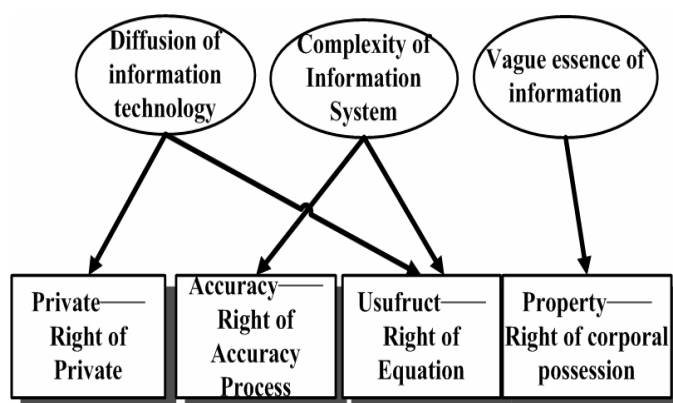
E-mail arrival the location almost all around the world as number of users of internet increase that make substance benefit of communication to users.

3. There are the limitless opportunities of business in the internet:

We can establish the advertisement of the goods, even open an internet shop on the internet, thus internet users choose the joyful goods. Although the security isn't perfect on the internet, but the advertisement of goods are being popularized day after day. This shows the internet have be a oncoming bargain way.

2.1.3 Impact to the society of the network

(Zwass,1996) thought the popularization of information science and technology will cause questions of the personal rights of privacy and ethics of information right. The complexity of the information system will cause questions about correct handling and using information. Besides, the indefinite information will bring the attack and the challenge to the individual, thus causing the dispute of information ownership. Picture 1 shows that its structure.



Picture 1 The problem of information ethics, source, and the basic right of individual
(Source of the data: V. Zwass, 1996)

2.2 The behavior and situation of using network of adolescent

The table 2 shows that the crime of computer and interne and the infringement of internet :

Table 2 The behavior of computer crime, internet crime and network tort
(Source of the data: This study)

The crime of computer and network	(1)Porn websites, post pornography , peddle the video-tape of pornographic, offering pornographic linking, spreading trade information of the porn; (2) Peddle illegal CDs; (3) Peddle contrabands, in charge of the products; (4) Sell the booty;	(5) Peddle or collected illegally the personal materials; (6) Threaten, deception; (7) Impairs someone's reputation; (8) Gambling; (9) The team of defraud on the internet; (10)Virus; (11)Invading others' websites;
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The infringement of internet	(1) Infringe the intelligence proprietary; (2) Infringe the right of privacy; (3) Downloading of music files from the internet	(4) Spreading the article and picture illegally in the network without permission; (5) Plagiarizing the content from website;
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The adolescent of the behavior that appears constantly in internet :

(1) Ignore the intelligence proprietary

The common tore of the intelligence proprietary includes accessing the paragraph from the article, re-creating others photos, quoting the exquisite picture, re-manufacturing the music disc, downloading the video division, borrowing copy software, and recording the allocation, sending on E-mail.

(2) Infringe the right of information – privacy

“The right of privacy of information” includes the passive right that the personal affairs are not interfered publicly by him. At the same time, it includes collecting the people concerned when don’t be agreed by themselves. (Zhang Jing Yun). Table 3 shows the common situation of infringing the right of privacy of information:

Table 3 The kind of infringe upon information-privacy right
(Source of the data: Ministry of Education, 2006)

Infringement of the right of privacy of personal attribute	The 3C (Computer–Communication–Customer Electronic) produces the functions which takes a picture, sound records and takes a photograph. It make the situations that feel free to take a picture to isn’t allowed by themselves, sound recording and taking a photograph, even upload to the internet and be surfed.
Infringement of the right of privacy of the personal materials	Collect the personal data as the commercial tool, distributed the advertising letter of electron indiscriminately, spread the software which encroaches on the right of privacy, invade others’ system and access the data and revealing others’ materials improperly.

Infringement of the right of privacy of the communication content	The monitors of network, the monitor of E-mail.
Infringement of the anonymous right of privacy	The new subjects of Cookies, dispute of the computer chip accede to the serial number identification

(3) The crime of the online game

There are thirty percent of the proportions that use the computer for more than 3 hours a day in adolescent, up to fifty percent on vacation, and 82% of the adolescent are engaged the online game in the network (The educational foundation of gold car) (Huang ManYing, 2004). Studying students spend a lot of time in the fictitious space that effect the time and quality interacting with others in reality, even it is unexpected since it develop game values not magical previous generation (Wu Jia Jin, 2002). Moreover, children in various kinds of internet information, they are used to choose by keyboard and choose the like thing and reject distaste, that cause lower consumption and the character renitence. In addition to the influence of body, mind and learning, the common crime of the online game in the table 4. (Ministry of Education, 2006).

Table 4 The mold of the crime of online game
(Source of the data: Ministry of Education, 2006)

Fake others account; Steal fictitious wealth	Instance	1. The high school students steal the gem of online game. 2. Embed the hobbyhorse program in the computer in the internet coffee. 3. Stealing the accounting, password.
Profit with	Camouflage	1. Getting the

fraudulency		account much alike a good friend. 2. Counterfeit the identity about a good friend form online game, and request to borrow the gem.
	Stealthy cover-up	The player in the online game takes advantage of the gap in the trades windows and alliance to fake transaction.
	Cabal	Deliver the message about wining a lottery or E-mail, and request to reply the account and password, in order to get gem.
The crime of violence	(1) Hold the lethal weapon and take treasures by force. (2) Rob in order to profit. (3) It isn't reconciled to failed or be blasted down, clustered together for revenge.	
The clerk of game company gained a lot of profit	The clerk of game company revises the game and gained a lot of profit.	
Share the bribes with others	Shard the other players for fictitious equipment and money by an improper method. That situation makes that the players of online game affront to affront of accepting the bribes.	

(4) The phenomenon of Internet-Coffee

Internet coffee became popular, because it can supply a site and solve the questions about persecution or schoolwork for adolescence in a positive view. But, it hides some crisis which one mainly situations:

a. The addiction of network

Internet addiction means using the internet more than 40 hours every week and ignoring the activities and the social contact of life. (Ministry of Education,2006). Some chronic or cyclic fascinated conditions due to use the internet repeated. It causes the desire which is hard to defy and use again. Moreover, it will want to

add the time of use the internet, the retreat of bearing and head, and have the dependence upon physiology and psychology for get the internet.

b .The Internet Coffee - Discontinue Schooling Tendency

The consumer of internet coffee mainly is a high school student under 18 years old. There are 70 percent amongst them that play online games, and 20 percent of them are surfing the website and making friends on the internet. This will cause the rust schoolwork, even suspend their schooling without losing their status as a student, especially, the internet coffee - discontinue schooling tendency was strong seriously after the winter vacation and the summer vacation.

c. The hotbeds of new crime for adolescent

The internet coffee has been the crime breeding ground, because, there isn't close-knit enactment about controlling the behavior of the users of use the internet, that lead to a few users deal with illegal activities to take advantage of the "convenience" and "esoteric".

d. Impact physiology and psychology healthy

The adolescent spends a lot of time at an internet coffee thus lead to "internet coffee syndrome". The common sequela that stay up for a long time, upside down day and night, the necks muscular pains, stiff senses, weep easy, short-tempered, mouthfuls of the universe tongue dry, have hickie, a sudden death for apoplexy seriously.

2.3 Information ethics

2.3.1 Define

Information Ethics was advanced by (Carbo & Almagno ,2001) that the administration chief of the National Library of U.S.A. and Information Science Committee. The main purpose is probe into the topic about using information technology. Many scholars give a quite clear definition of ethics of the information

shows in table 5.

Table 5 The table for the define of the information ethics

(Source of the data: This study)

Academic	Definition
Mason(1986)	Information ethics is the behavior or criterion that the norm uses information.
Fan Zheng Qiang (1997)	Information ethics is the ethics topic about the information society.
Zhuang Dao Ming (1998)	It calls the information ethics that delve into the problem that people use the information if it's true or wrong. The behavior that people use the information including the information collection, searching, storing, arrangement, utilizing and spreading. The behavior that people use the information begins long ago. Information ethics began that all man know to use the characters sign to communicate the message.
Schwartau (2001)	Information ethics is applying the ethics on the computer and network.
Yin MeiJun (2003)	Information ethics began with humans invention the written language and using it to communicate. Information ethics means that the users determine the standards and values for what is right and wrong when they use the computer or internet.
Xu Meng Xiang, Huang	Information ethics touch upon the rights and interests of a party and the decision of activity.

HenFang, Lin
DongQing
(1996)

2.3.2 Topic

The viewpoint from computer handles everything, the connotation of information ethics include intellectual property rights, the privacy right, the secret right, quality of specialty working, justice, the undependable duty, software risk, benefits conflict and non-authorized access. Many scholars talk about the all sorts of topic of information ethics that shows in table 6.

Table 6 Table of the information ethics topics
(Source of the data: This study)

Academic	A topic for discussion
Masson(1986)	Privacy 、 Accuracy 、 Property 、 Access.
Anderson, Johnson, Gotterbarn & Perrolle(1993)	The quality of life, the right of use, risk, dependability, the property right, the privacy right, equity access, honest and deception.
Huff and Martin(1995)	Quality of life, use of power, risk and reliability, property rights, privacy, equity and access, honesty and deception.
XieZhi Chen, Jian Ren Liu, JingJing Ke(2003)	Intellectual property rights, the privacy right, the information access right, usufruct, the norm of the behavior by internet public information, quote the software from the preceding work develop, spreading the hollowness news,

	information security, virtual group and the new topic of ethics society.
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Mason indicated that information ethics means to use and develop a topic about information technology. (Mason,1986). Information ethics means that when a user and bringer handle the information technology to induce the problem. However, these problems source to the mistakes of information technology for all man. So, Mason brings up four major topics of information ethics: Privacy, Accuracy, Property and Access. There are four topics of information ethics in table 7.

Table 7 Four major topics of information ethics
(Source of the data: Mason, R. O., 1986)

Privacy	What information about one's self or one's associations must a person reveal to others, under what conditions and with what safeguards? What things can people keep to themselves and not be forced to reveal to others?
Accuracy	Who is responsible for the authenticity, fidelity and accuracy of information? Similarly, who is to be held accountable for errors in information and how is the injured party to be made whole?
Property	Who owns information? What are the just and fair prices for its exchange? Who owns the channels, especially the airways, through which information is transmitted? How should access to this scarce resource be allocated?
Access	What information does a person or an organization have a right or a privilege to obtain, under what conditions and with what safeguards?

2.3.3 Target

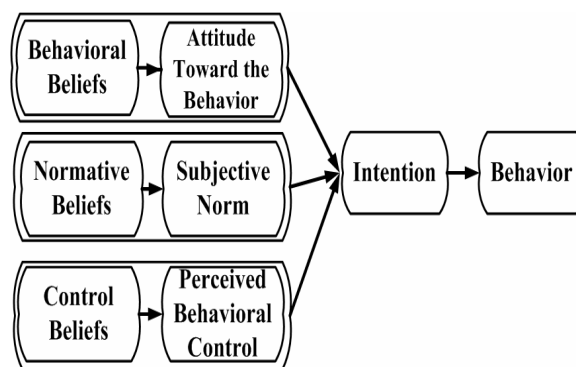
The adaptable target of the information ethics mainly the developer of information product, systems analysis, programmer, the elevated policymaker, Mason(1986), Xu MengXiang &

Lin DongQing (1997), Guo HongZhi (1998). However, the information ethics in the information society include the professional and general conception. So the applicative target of information ethics are not anymore to indicated that information professional staffs should observe the immanent normal and values while working about information.(Yang HuiYing ,2003).

2.4 Theory of Planned Behavior-TPB

Theory of Planned Behavior supposes the behavior from an accord, an individual can decide to execute the behavior completely. (Fishbein and Ajzen, 1975).

The TPB model in Picture 2 shows that intention is the essential factor of the behavior. The attitude, subject normal and perceived behavioral control combine to result intention.



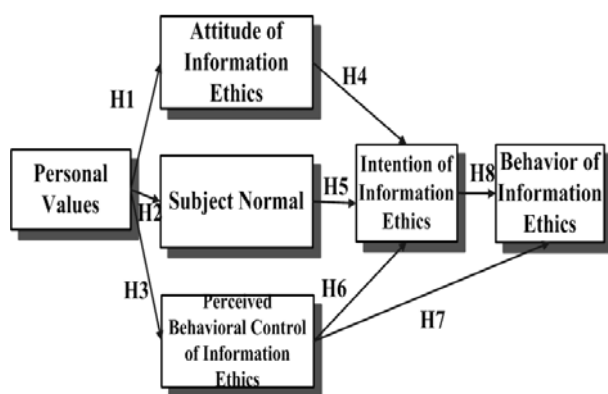
Picture 2 Theory of Planned Behavior-TPB
(Source of the data: Ajzen and Madden, 1986)

Finally, the external variables personal value, belief, attitude and situation determine on the attitude of behavior, subject normal, and perceived behavioral control. The perceived behavioral control is necessary for the theory of planned behavior, because the conflict of the

ethics is mired in determine space difficulties. For this reason, survey the relationship among the factor and the intention of the TPB. The scholar of information ethics explores the relation between the attitude and behavior of the ethics depending on the theory of planned behavior.(Eining & Christensen, 1991; Randall & Gibson, 1991; Vallerand, et al., 1992; Loch & Conger, 1996; Banerjee, et al., 1998; Chang, 1998)。

3. The structure and discuss

This study bases on a behavior of the adolescent use the internet by questionnaire to know the information ethics attitude and behavior for the adolescent. Picture 3 shows that in accordance with the theory of TPB[Ajzen and Madden · 1986] and the construct which this study desire to confer. This study is based on the study model, and further more, treats about the attitude of information ethics for adolescent, subject normal, and perceived behavioral control of information ethics impact to the intention of information ethics, and intention of information ethics impact to the behavior of information ethics.



Picture 3 The model of information ethics attitudes and behavior of adolescent
(Source of the data: This study)

- Hypothesis 1: Personal Values will influence the ethics attitudes of information.
Hypothesis 2: Personal Values will influence the Subjective Norm.

- Hypothesis 3: Personal Values will influence the Perceived Behavioral Control of Information Ethics.
Hypothesis 4: The attitude of information ethics will influence the Intention of Information Ethics.
Hypothesis 5: The Subjective Norm will influence the Intention of Information Ethics.
Hypothesis 6: The Perceived Behavioral Control of Information Ethics will influence the Intention of Information Ethics.
Hypothesis 7: The Perceived Behavioral Control of Information Ethics will influence the Behavior of Information Ethics.
Hypothesis 8: The Intention of Information Ethics will influence the Behavior of Information Ethics.

4. The conclusion and follow-up study direction

This study regards TPB theory as the main research structure and confers on the information ethics attitudes of teenagers and behavior. We get the information that is necessary to have the information ethics conception from the literature review and ratiocination. Establish course about the knowledge of the security of the network and the basic way to guard an undue behavior before get the internet, in order to enhance the conception for children and adolescent correct use the information of internet from a concluding report by “The Development Meeting of the all over the country knowledge economy” in 2002. It should bring into the course schema with information ethics and use of internet, also teaching the program about information security to students from the National Information & communication Security Taskforce of paper in 2001. Ministry of Education advances the

research and study of information equipment and ethics for high schools and vocational school teachers in 2006. Besides, the Ministry of Education sets up the website named “eTeacher.edu.tw – teacher network equipment and conception web”, moreover, provide the resource, handout, and teaching materials about information ethics.

This show that information ethics has been attached importance by society day by day.

The later research will base on the hypothesis of this study, and further, it will have questionnaire to adolescent and verify the hypothesis. Expect the result of this study as the reference materials to schools, teachers, and parents.

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從青少年網路使用行為探討其資訊倫理態度與行為之研究

張瑞觀

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摘要

二十一世紀乃屬於資訊的世代，處於資訊社會中，資訊科技及網路已融入於生活、學習及工作上，並且有著密不可分的關係。在這資訊時代網路快速發展，日漸強調、重視資訊技術及依賴資訊科技的同時，往往忽略了資訊國度中的倫理道德，不斷地發生電腦誤用和電腦犯罪的情形，如網路詐騙、下載非法軟體、盜用他人圖文、侵犯個人隱私、散播不雅言論等情況層出不窮，顯示出國人對於資訊倫理的認知及概念頗為不足。青少年為主要網路使用人口，使用網路、新興資訊服務及產品的同時能否持有基本的倫理道德，其資訊倫理的認知、瞭解及灌輸更顯日益重要。

基於目前資訊時代，青少年電腦誤用、網路犯罪及違反倫理等網路使用情形日益嚴重。本研究主要探討現今資訊世代中、推行資訊教育下，青少年擁有資訊倫理認知與概念之重要性，主要以 Mason(1986)所提之資訊倫理四大議題：隱私權 (Privacy)、正確性 (Accuracy)、財產權 (Property)、及存取權 (Accessibility) 為主要探討方向。

關鍵字：資訊倫理、隱私權、正確性、財產權、存取權