

## **Plenary Session III**

# **The Ecological Factors of Media Uses and the Relationships between the Deviate Behaviors and the Perceptions of Society--A Case of Taiwan's Youths**

**By**

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There are three objectives of this study. First, based on the ecological theories and socialization process, this study will try to explore the relationships between internet and television uses of Taiwan's youths and ecological factors (i.e., the parental-children interaction, schooling, peer interaction and the participation of social activities.) Moreover, it will attempt to predict the relationship between deviate behaviors and social perceptions by above ecological factors. And third, it will seek to examine currently available consulting and measurements sponsored by the governmental policies with social needs of Taiwan's youths.

The data is randomly selected from Taiwan's youths (between 12 to 17 years old prior to December 31, 1998) population. The sample size is 2176.

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## Introduction

Adolescence is a transitional period between childhood and adulthood. During this changing period, the adolescent tries to break off the protection and constraint from the adult on the one hand, while s/he still ties up with his/her parent for economic and emotional support on the other hand. This subtleness relationship between parents and children is ascribed in the avoidance-approach conflict.

Accompanied with the subtleness relationship is the continuing socialization process that cultivates the adolescent's beliefs, attitudes, and sometimes-even behaviors in her/his adult life. Within this socialization process, the influences of parents and the family diminish gradually (Bandura, 1964; Newman & Newman, 1999; Papinu & Seby, 1988) while other social agents such as peers, school, and mass media become more important as the adolescent's reference and models of imitation. Especial prominence is the mass media for its omnipresence.

At the turn of the 20<sup>th</sup> century, Taiwan is a media rich environment. In addition to the widespread traditional print, radio, and television, Taiwanese government has met the global trend to promote the applications of the Internet.

With the advancing of communication technology and the fast-building infrastructure of communication network, the use of the Internet has become a global phenomenal around the turn of the 20<sup>th</sup> century. In accordance to this global trend, the Taiwanese government has set up a task force to establish a taskforce of the "National Information Infrastructure" (hence NII) in 1997. Among the goals of this project are to construct national wideband networks, to promote the adoption of Internet applications<sup>1</sup>(Executive Yuan, 2000), and to connect every grade and middle school to the TAIInet<sup>2</sup> (Administration of Education, 2000). Coming along with such widespread applications of the Internet, both social and academic critics have their eyes on the potential impacts of this newly developed communication apparatus.

Most dwellers of the cyberspace are the young and educated people called the "e" generation. Five years surveys of the surfers by the "yam.com" indicates that the average age of net-surfers was 26.2 in 1999 (Yam, 2000a) and 26.54 in 1996 (Yam, 2000b). While most of the surfer age between 15 to 29, those whose age between 10 to 14 only constitutes a less than 2% in each of the five-year sample. Furthermore, the number of surfer between 15 to 19 years old is 10.9% in the 2000 survey--a significant decrease from previous years.

Although these figures exhibit interesting composition of the cyber population, they, like most of the Internet survey, cannot infer to the population in general. Thus, we have little knowledge of the comparison between the surfer and non-surfer. In addition, nor do we know the differences and similarities between the "e" generation who surf the Internet and the non-"e" generation who do not access the cyber world.

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<sup>1</sup> At the end of 1998, the estimation of Internet uses exceeds three millions--a 7.7% of total Taiwanese population (National Information Infrastructure, 2000).

<sup>2</sup> The TAIInet, a short for the Taiwan Academic Network, is an educational network founded by the Department of Education.

As stated above that the socialization agents of the adolescent include family, school, peers, and mass media. In this study we would like to explore the relationships between these socialization agents and the adolescent's deviant behaviors and perception of social world. Furthermore, although a media rich environment surrounds the youth in Taiwan, we have little knowledge of who can access the Internet and who cannot despite the government's effort. Nor do we know that the differences and similarities between these two. Moreover, since the Internet application proliferates significantly in recent years, how and in what way the cyber reality affects the youth in Taiwan in comparison to the traditional mass media. These are the questions we intend to explore in this study.

## **Literature Review**

The social intervention of adolescence as a prolonged psychosocial process is undergoing further change, largely in response to the ongoing changes in society and the surrounding world. Youth in the 2000s tend to sense they are growing up in a different era and that their lives are being shaped by different forces, such as parents, peers, school, and mass media, etc., that are further modifying the experience of adolescence. Major social changes having great impact on adolescents include rapid technological and social change, greater variety of living arrangements, an emphasis on one's civil rights, heightened expectations about the quality of life, an emphasis on materialism, and the tempering of expectations by the realities of contemporary life (Atwater, 1992).

Various theories have ascribed the youth's socialization process. Developmental psychologists stipulate the psychological changes during the adolescence (Lerner, 1978) and the interactions between the youth and other socialization agents (Bandura, 1969, 1986; 張華蓀, 1988) have certain impacts on the mental development of the youth.

Elkind (1981) has pointed out that the adolescent is in the process of developing the mastering of his/her cognitive process of determining priority sequence or choosing a proper action plan. Furthermore, Newman and Newman (1999) have suggested that school is important agent to the cognitive developing process.

Other theories have suggested that family and peer groups are closely related to the adolescent's cognitive development. For instance, Gold and Yanof (1985) have suggested that mother-and-children relationship sets up the foundation for the development of friendship. However, both Hunter and Youniss (1982) and Kendel (1986) have argued that parents and peer groups have different impacts on adolescent's cognition. Similar arguments can be found in both 吳明暉、王枝燦(1997) and 羅國英(1995).

The rapid rise in delinquency during adolescence is sometimes attributed to the onset of puberty. Other than that, the delinquency probably has more to do with the psychological and social processes of role taking and identity formation, especially negative identity, that take place during puberty, such that delinquency is intimately associated with the cultural process of adolescence itself. The potential contributing change in the industrial countries, social and economic inequities, the mobility of families that uproots teenagers from their schools and peers, the increase in dual income families, the importance of peer groups during adolescence, and changing sex roles. More recently, the adolescent

exposed in the cyber and media use learns the delinquency behaviors as the deviant identity, contributing the adolescent to commit crimes.

Studies of impacts of the mass media on the adolescent are fewer in comparison to similar attention to the children. Nonetheless, some longitudinal studies have suggested that the mass media, specifically the television, has a “cultivation” effect on its viewer. As part of “Cultural Indicators” project, Gerbner and his associates have examined television violent content and viewer’s perceived social reality since 1970s (Morgan & Signorielli, 1990). As the term indicated, the “Cultivation Analysis” suggests and demonstrates strong evidence that the longer someone watches television her/his worldview is closer to the television reality (i.e., the world presented on the television.).

Although TV watching is a major leisure-time activity for adolescents, overall viewing time decreases during early adolescence (Jaffe, 1998). When adolescents enter the junior high school, they become less interested in cartoons, and more interested in MTV and cable programming (Comstock, 1991). Larson (1995) suggests that adolescents turn into music more than television because popular music speaks directly to adolescents' developmental issues. Adolescents begin to use TV viewing more deliberately as a response to negative emotional states.

Aside from MTV or good programming, there are relatively few TV shows aimed directly at teenagers. On television, aggressive and antisocial behaviors often gain immediate rewards rather than disapproval or other sanctions.

Television provides viewers with an enormous amount of information, including information about sexual norms and expectations. By watching television, adolescents learn about attracting and selecting partners, dating and sexual decision-making (Ward, 1995: 596). This same finding can be found and influenced by Internet commercial and sites which adolescents witness sexual references, behaviors or allusions. Internet or cyber world feature heated often-irrational discussions about premarital sex, marital affairs, prostitution, sexual abuse, homosexuality, and abnormal love. Relatively little attention is given to topics such as abstinence and sexual responsibility.

Most video games, included in the adolescents' cyber use have violence as their major theme. Thus, millions of children and teenagers gain pleasure each day from symbolic acts of violence. Funk's (1993) survey indicates those boys of the seventh and eighth graders spent over 4 hours a week and girls spent about 2 hours a week playing these games. Video games allow the modeling and practice of symbolic violent behavior and constantly reward such behavior. Violent games sometimes increase players' hostility, anxiety, and aggression (Anderson & Ford, 1987).

The cultivation analysis has been tested in various geographic locations and on different television content. The similar result is recurrent. Specific studies of the pornographic content (Donnerstein & Linz ,1994) and television news(羅文輝、鍾蔚文，1991) of the mass media upon the adolescent have revealed a similar result.

In this century, adolescents have become massive consumers of media products and materials: films, television programs, CDs, tapes, records, computer games, comic books, magazines, newspapers and the Internet (Murray, 1997; Palladino, 1996). Arnett (1995) views this transformation in western cultural environment as a new and important source of socialization for adolescents. Adolescents

select their own media materials and programming as self-socializing (Mifflin, 1997). Arnett contends that adolescents use media for entertainment, identity formation, stimulation, coping and a way of identifying with youth culture. Roe (1995) extends this list to include "killing time", atmosphere creation and mood control. Adolescents do not react passively to music videos, movies, television or other pathways on the information highway, such as cyber world. Rather, they are "active makers of media choices" (Arnett et al., 1995).

In brief, the adolescence is the period when the youth develops his/her cognition. Socialization agents, such as family, school, peer groups, and mass media have certain impacts on the adolescent's perceived social reality with which she/he acts accordingly. Hence, we try to examine the interactive relationship of these social agents and the perceived social reality and behaviors of Taiwan's youth, in this study. Specifically, we try to explore the relationship between Taiwanese adolescent's television and the Internet use and family, school, and peer groups. Also, we attempt to explore the relationship between these social agents and Taiwanese youth's perceived social reality as well as her/his behavior.

## **Method**

The population of this study is the adolescent between the ages of 12 and 18 in Taiwan. A stratified sampling process has selected 3500 adolescents aged between 12 and 18 prior to December 31, 1998 to be surveyed. The final valid sample size is 2176.

## **Results**

### *Media Experience*

Among the 2176 Taiwanese adolescents surveyed, 1511 (69.4%) say that they watch television everyday, while 33 (1.5%) say that they never watch television. Regarding to how long do they watch television, 1167 (53.6%) watch television from half an hour to two hours every time, while 289 (13.3%) spend more than four hours watch television every time. When asked about the purposes of their television watching, 1659 (77.8%) say that the reason to watch television is to entertain; 1196 (56.1%) are to gain new information; 1000 (46.9%) are to kill time; and 876 (41.1) are to find topics for peer group's discussion. As for the television content watched, 899 (42%) watch dramas, 889 (41.5%) watch cartoons, 861 (40.2%) watch singing and variety shows, 713 (33.3%) watch sport programs, 677 (31.6%) watch music channels, and 528 (24.7) watch news, whether and commentary programs. (See table 1 in the Appendix)

In comparison to the television watching, the Taiwanese youths have less experience to the cyber world. More than half of the surveyed Taiwanese adolescents, 1243 (57.2), have no Internet experience while 625 (24.7%) say they surf on the internet once or twice per week, 177 (8.1%) three or four times a week, and 131 (6%) more than four times a week. Among those who have cyber world experience, 206 (9.5%) say that they spend less than 30 minutes of every surf, 407 (18.7%) between half an hour to two hours, 235 (10.8%) between two to four hours, and 61 (2.8%) spend more than four hours every time they go on the net. Furthermore, among those surfers, 621 (58%) are looking for

new information; 517 (48.3%) seek entertainment; 308 (28.8%) try to find topics for peer groups' discussion; 305 (28.5) kill time; 129 (12.1%) are for the school assignment; for other purpose and someone else is surfing are 126 (11.8%) and 82 (7.7) respectively. Finally, regarding to the content of the Internet, 709 (76.2%) get on search engines; 298 (32) on game sites; 278 (29.9) on mass media sites; 163 (17.5%) on computer related sites; 103 (11.1) on library or database sites; 73 (7.8) on adult sites; and other or government sites are 72 (7.7%) and 37 (4%) separately. (See table 2 in the Appendix)

### *A Differential Analysis between Internet Users and Non-Users*

In response to the question that who are the cyber world tenants and who are not, we have compared the differences between these two groups. Table 3 of the appendix indicates that the adolescent Internet surfers and non-surfers differ in their age ( $\chi^2=15.390$ ,  $\alpha=.009$ ), education level ( $\chi^2=13.069$ ,  $\alpha=.011$ ), both father's ( $\chi^2=43.212$ ,  $\alpha=.000$ ) and mother's ( $\chi^2=44.866$ ,  $\alpha=.000$ ) educations, whether or not to attend the supplemental school ( $\chi^2=34.321$ ,  $\alpha=.000$ ), as well as time spend on TV watching ( $\chi^2=21.127$ ,  $\alpha=.000$ ); while their gender, both father's and mother's parenting styles, and perceived person who understand oneself do not appear differently. Furthermore, the adolescent Internet surfers and non-surfers also differ in their perceived social justice ( $t=-3.827$ ,  $\alpha=.000$ ), deviate behaviors ( $t=-2.487$ ,  $\alpha=.013$ ), and mimicking celebrities ( $t=-2.487$ ,  $\alpha=.025$ ), while their perceived social atmosphere, mishap suffered, and taking peers, teachers as well as parents as referents are statistically non-significant.

### *Regression Models of Media Uses, Perceived Social Reality, and Deviate Behaviors*

In order to understand the impacts of the surveyed adolescents' demographic characteristics, family, schooling, and peer groups on their media uses, perceived social reality, and behaviors, we have test six regression models.

In the first regression model (table 4 of the appendix), we have thrown perceived social reality, deviate behaviors and learning referents as independent variables to the dependent variable--the Internet uses. And the result indicates that in addition to the constant ( $B=2.151$ ,  $\alpha=.000$ ), only the variable of learning from parents has  $\alpha=.007$  with unstandardized coefficient ( $B)=-7.648$ . However, after we have thrown in other independent variables--demographic characteristics, education, parent's education and parenting style, as well as other media uses, the constant ( $B=1.043$ ,  $\alpha=.005$ ) and same variable stands statistically significant ( $B=-7.625$ ,  $\alpha=.007$ ) with additional independent variables of mother's parenting style ( $B=6.233$ ,  $\alpha=.029$ ) and of time spend on watching television ( $B=.119$ ,  $\alpha=.001$ ).

In comparison to the model of Internet use, the regression model of television watching is more complex. With the same independent variables, the dependent variable is time spend on TV watching. The result indicates that the constant ( $B=2.302$ ,  $\alpha=.000$ ), variables of perceived social justice ( $B=5.303$ ,  $\alpha=.047$ ), deviate behaviors ( $B=8.071$ ,  $\alpha=.002$ ), and learning from teachers ( $B=-6.232$ ,  $\alpha=.014$ ) are all statistically significant. Moreover, when we add demographic variables, education, parent's education and parenting style, and time spend on Internet use, the constant ( $B=1.708$ ,  $\alpha=.000$ ), perceived social justice ( $B=5.699$ ,  $\alpha=.032$ ), deviate behaviors ( $B=7.146$ ,  $\alpha=.008$ ), learning from teacher ( $B=-5.758$ ,  $\alpha=.008$ ) remain statistically significant with additional significant

independent variables gender ( $B=.120$ ,  $\alpha=.024$ ), age ( $B=4.103$ ,  $\alpha=.014$ ), and Internet uses ( $B=9.921$ ,  $\alpha=.001$ ). (See table 5, in appendix)

In terms of Taiwanese adolescents' perceived social reality, we have tested a regression model with deviate behaviors and learning referents as independent variables and perceived social atmosphere as dependent variable. The statistical analysis indicates that only the independent variable--learning from teachers ( $B=7.215$ ,  $\alpha=.021$ ) is significant. After we have entered more independent variables--demographic characteristics, education, parent's education and parenting style, and media uses, the same independent variable--learning from teacher remains statistically significant ( $B=6.556$ ,  $\alpha=.037$ ) with additional significant variables, gender ( $B=-.154$ ,  $\alpha=.022$ ) and father's parenting style ( $B=7.187$ ,  $\alpha=.025$ ). (See table 6, in appendix)

Regarding to the perceived social justice, our regression model has deviate behaviors and learning referents as independent variables. The regression model indicates that deviate behaviors ( $B=-7.055$ ,  $\alpha=.032$ ), learning from celebrities ( $B=-7.227$ ,  $\alpha=.027$ ) and parents ( $B=6.918$ ,  $\alpha=.030$ ) are statistically significant. After we have thrown more independent variable, demographic characteristics, education, both parent's education and parenting style, and media uses, into the regression model, the deviate behavior has dropped out of significant level neither the additional independent variables have shown significance while learning from celebrities ( $B=-7.935$ ,  $\alpha=.016$ ) and parents ( $B=6.614$ ,  $\alpha=.041$ ) remain statistically significant. (See table 7, in appendix)

The last two regression models are related to the deviate behaviors. Table 8 (in appendix) has mishaps as dependent variable while perceived social reality and learning referents as independent variables. The regression model has shown that the constant ( $B=.181$ ,  $\alpha=.000$ ), and independent variables--perceived social atmosphere ( $B=-3.354$ ,  $\alpha=.023$ ), learning from celebrities ( $B=3.302$ ,  $\alpha=.023$ ) are statistically significant. When we have added more independent variables--demographic characteristics, education, both parent's education and parenting style, and media uses, the regression model shows that both the constant and learning from celebrities have become non-significant while the perceived social atmosphere remains statistically significant ( $B=-3.733$ ,  $\alpha=.011$ ) with other significant independent variables, gender ( $B=-.148$ ,  $\alpha=.000$ ), age ( $B=3.321$ ,  $\alpha=.018$ ), education level ( $B=-5.780$ ,  $\alpha=.024$ ), and time spend on television watching ( $B=3.597$ ,  $\alpha=.050$ ).

Finally, the regression model of deviate behavior (table 9 of appendix) with perceived social reality and learning referents as independent variables and deviate behaviors as dependent variable indicates that the constant ( $B=.520$ ,  $\alpha=.000$ ), perceived social atmosphere ( $B=-7.699$ ,  $\alpha=.033$ ), perceived social justice ( $B=-7.587$ ,  $\alpha=.036$ ) and learning from teachers ( $B=-8.487$ ,  $\alpha=.013$ ) are statistically significant. Nonetheless, after more independent variables of demographic characteristics, education, both parent's education and parenting style, and media uses, both the constant and perceived social justice have dropped out of statistical significance while the independent variables--perceived social atmosphere ( $B=-7.921$ ,  $\alpha=.023$ ), and learning from teachers ( $B=-7.948$ ,  $\alpha=.016$ ) remain above the significant level with additional independent variables of gender ( $B=-.402$ ,  $\alpha=.000$ ), age ( $B=.125$ ,  $\alpha=.000$ ), education level ( $B=-.125$ ,  $\alpha=.041$ ), father's education ( $B=-8.731$ ,  $\alpha=.019$ ) and television watching time ( $B=0.139$ ,  $\alpha=.002$ ).

## Discussions and Conclusion

To reiterate our research questions from the beginning of this study: we ask the proportion of Taiwanese adolescents who have Internet experience. We also want to know the differences between Taiwanese youth surfers and non-surfers. And the third, we question the impacts of cyber experience on Taiwanese adolescent's perceived social reality and behaviors in comparison to other socialization agents.

We have found out that there is more than half, 57.2%, of the surveyed Taiwanese youth has no Internet experience in contrast to the most popular mass media--television watching of which only 1.5% has no experience. It is a rather surprised finding given the Taiwanese government's effort of building the infrastructure of the Internet and the general trend of the Internet surfer getting younger. Furthermore, in comparison to the purposes of the most popular mass media--television watching, the first two purposes of Internet surfing are to get new information (58%) and to entertain (48.3) whose order is reverse in television watching, 77.8% and 56.1% respectively. This information oriented purpose seems to reflect to the most visited web site--"search engine", which does not only provide the launch port to other web pages, but provides also various contents (including instant news) itself.

The differences between Internet surfers and non-surfers are presented in table 3 of the appendix. The age, schooling, parent's education, and time spent on watching television are different between the surfers and non-surfers. Furthermore, the perceived social justice, mishaps on oneself, and learning from celebrities are also different between these two groups.

In addition to the description and differential analysis of Taiwanese youth's media experience, we have tested six regression models to examine the third question--the impacts of socialization agents on Taiwanese youth's media behaviors, perceived social reality, and deviate behaviors.

Regarding to the Internet surfing, we have found out that learning from parents and mother's education level have negative impacts on the internet surfing while watching television has positive but minor impacts. Furthermore, Taiwanese adolescent's gender, age, Internet use, perceived social justice, and deviate behaviors all have positive influences on television watching while learning from teacher have negative impacts.

In terms of Taiwanese youth's perception of social reality, learning from teacher and father's parenting style have positive impacts on perceived social atmosphere while gender has negative influences. Moreover, in a narrow model, deviate behaviors has negative impacts on Taiwanese youth's perceived social justice while it becomes statistically non-significant in a larger model in which learning from celebrities remains negative impact and learning from parents has positive influences.

Moreover, as for Taiwanese youth's deviate behaviors, we have found out that learning from celebrities has positive impacts on one's mishaps while perceived social atmosphere has negative impact in a narrow model. However, in a larger model of mishaps, the variable of perceived social atmosphere remains statistically significant with additional negative variables of age and time spent on watching television as well as negative influential variables--gender and education.

Finally, in the last regression model, we have found out that perceived social atmosphere, perceived social justice, and learning from teachers all have negative impacts on Taiwanese youth's

deviate behaviors in a narrow model. However, in a larger model, perceived social atmosphere, learning from teachers, gender, education, father's education have negative influences on Taiwanese youth's deviate behaviors while age and time spending on watching television have positive impacts.

In conclusion, we have examined the Internet experience and compared the differences between the cyber and non-cyber resident from a sample selected from the Taiwanese youth population. Furthermore, we have analyzed the impacts of various socialization agents on Taiwanese youth's communication behavior, perception of social reality, and deviate behaviors. It is eminently important, we think, that to conduct similar studies across cultures and regions as the cyber world becomes a global phenomenon. And it is evident that the cyber space will become dominant world in the 21<sup>th</sup> century. Thus a joint study of global Chinese communities will be a good start.

Moreover, in response to this global trend, we would like to advocate some suggestions for parents, teachers, social workers, media producers, policy-maker, and anyone who concerns the welfare of youth to work on.

- 1.To improve media content and develop quality content for the youth and adolescent.
- 2.To educate parents and teachers the knowledge to help the youth and adolescent appropriate use of the media.
- 3.To advocate the media producers to provide health and positive content through the industrial self-disciplinary codes or government's regulations.
- 4.To conduct research on youth and adolescent's media literacy to help parents and educators.
- 5.To help government or non-profit social groups evaluate and publish guide of health and suitable cyber content for youth and adolescent.

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## Appendix

Table 1 Frequencies of Taiwanese Youth's Television Experience

Variables	Items	Frequencies	%
TV-Watching per Week	Once or Twice	224	10.3
	Three or Four Times	239	11.0
	Five or Six Times	169	7.8
	Everyday	1511	69.4
	Never	33	1.5
Duration of Each Time Watching	Never	33	1.5
	Less than 30 Minutes	134	6.2
	30 Minutes to 2 Hours	1167	53.6
	Two to Four hours	553	25.4
	More than Four Hours	289	13.3
©Purposes of Watching TV(N=2143)	Entertainment	1659	77.8
	New Information	1196	56.1
	Time Killing	1000	46.9
	Topics for Peer's Conversation	876	41.1
	Someone Is Watching	385	18.1
	School Assignment	137	6.4
	Others	79	3.7
©Watched TV Contents(N=2143)	Dramas	899	42.0
	Cartoon	889	41.5
	Singings and Variety Shows	861	40.2
	Sports	713	33.3
	MTV Channels	677	31.6
	News, Weather and Commentary	528	24.7
	Competitions	191	8.9
	Others	86	4.0
	Shopping Channels	69	3.2
	Discussions/Call-in	63	2.9
	Classic Music and Dancing	55	2.6
	Consumption and Finance	42	2.0
	Social Education	38	1.8
	Health Care and Hygiene	37	1.7
	Other Art Programs	33	1.5
	Folk Arts	22	1.0
Fortune-telling and Mythic Shows	20	0.9	

©Indicated multiple choose, the total does not equal to 100%

Table 2 Frequencies of Taiwanese Youth's Internet Experience

Variables	Items	Frequencies	%
Internet-Surfing per Week	Once or Twice	625	28.7
	Three or Four Times	177	8.1
	Five or Six Times	66	3.0
	Everyday	65	3.0
	Never	1243	57.2
Duration of Each Time Surfing	Never	1243	57.2
	Less than 30 Minutes	206	9.5
	30 Minutes to 2 Hours	407	18.7
	Two to Four hours	235	10.8
	More than Four Hours	61	2.8
©Purposes of Surfing the Internet(N=993)	New Information	621	58.0
	Entertainment	517	48.3
	Topics for Peer's Conversation	308	28.8
	Time Killing	305	28.5
	School Assignment	129	12.1
	Others	126	11.8
	Someone Is Surfing	82	7.7
©Internet-surfing Contents(N=993)	Search Engine	709	76.2
	Game Sites	298	32.0
	Mass Media Sites	278	29.9
	Computer Related Sites	163	17.5
	Library/Database Sites	103	11.1
	Adult Sites	73	7.8
	Others	72	7.7
	Government Sites	37	4.0

©Indicated multiple choose, the total does not equal to 100%

Table 3 Differential Analyses of the Users and Non-Users of the Internet

Variables	Statistics	$\chi^2$	Sig. (2-sided)	t-value	Sig. (2-tailed)
Gender		.940	.336		
Age		15.390	.009 <sup>a</sup>		
Education		13.069	.011 <sup>b</sup>		
Father's Education		43.212	.000 <sup>a</sup>		
Mother's Education		44.866	.000 <sup>a</sup>		
Father's Parenting Style		6.234	.284		
Mother's Parenting Style		7.758	.170		
Supplemental Schooling		34.321	.000 <sup>a</sup>		
Time of Watching		21.127	.000 <sup>a</sup>		
Perceived Understanding Person		13.110	.069		
Social Atmosphere				-1.622	.105
Social Justice				-3.827	.000 <sup>a</sup>
Mishaps				-1.311	.190
Deviate Behaviors				-2.487	.013 <sup>b</sup>
Celebrities as Referent				-2.239	.025 <sup>b</sup>
Peer Groups as Referent				1.829	.067
Teachers as Referent				-.172	.863
Parents as Referent				-.386	.699

<sup>a</sup>  $p \leq .01$

<sup>b</sup>  $p \leq .05$

Table 4 A Regression Model of Internet Uses<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	2.151		66.101	.000 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	-5.858	-.007	-.200	.842
	Social Justice	5.392	.006	.184	.854
Deviate Behaviors	Mishaps	-4.111	-.021	-.578	.563
	Deviate Behaviors	4.171	.052	1.439	.150
Learning Referents	Celebrities	1.140	.013	.395	.693
	Peer Groups	3.695	.004	.128	.898
	Teachers	-4.765	-.058	-1.724	.085
	Parents	-7.648	-.091	-2.723	.007 <sup>a</sup>
Model 2 <sup>f</sup>	Constant	1.043		2.804	.005 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	9.298	.001	.032	.975
	Social Justice	9.855	.011	.338	.735
Deviate Behaviors	Mishaps	-4.597	-.023	-.648	.517
	Deviate Behaviors	2.955	.037	.997	.319
Learning Referents	Celebrities	1.507	.017	.525	.600
	Peer Groups	-1.233	-.014	-.427	.669
	Teachers	-3.921	-.047	-1.429	.153
	Parents	-7.625	-.091	-2.713	.007 <sup>a</sup>
Demographics	Gender	1.821	.011	.311	.756
	Age	2.670	.051	3.262	.342
Education	Education	1.821	.055	1.034	.302
	Supplemental Schools	-1.722	-.010	-.291	.771
Parent's Education	Father's Education	-2.790	-.038	-.903	.367
	Mother's Education	6.202	.075	1.779	.076
Parenting Styles	Father's Parenting Style	1.150	.016	.412	.680
	Mother's Parenting Style	6.233	.081	2.182	.029 <sup>b</sup>
TV-Watching	Time	.119	.110	3.262	.001 <sup>a</sup>

<sup>a</sup>  $p \leq .01$

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on the Internet

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .119$ ,  $R^2 = .014$ , Adjusted  $R^2 = .006$ , Std. Error of the estimate = .85

<sup>f</sup>  $R = .219$ ,  $R^2 = .048$ , Adjusted  $R^2 = .030$ , Std. Error of the estimate = .84

Table 5 A Regression Model of TV Watching<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	2.302		77.453	.000 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	-3.702	-.046	-1.384	.167
	Social Justice	5.303	.066	1.987	.047 <sup>b</sup>
Deviate Behaviors	Mishaps	2.836	.016	.437	.662
	Deviate Behaviors	8.071	.109	3.049	.002 <sup>a</sup>
Learning Referents	Celebrities	3.050	.038	1.159	.247
	Peer Groups	2.422	.030	.918	.359
	Teachers	-6.232	-.082	-2.470	.014 <sup>b</sup>
	Parents	2.672	.003	.104	.917
Model 2 <sup>f</sup>	Constant	1.708		5.077	.000 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	-3.100	-.038	-1.165	.244
	Social Justice	5.699	.071	2.148	.032 <sup>b</sup>
Deviate Behaviors	Mishaps	5.977	.033	.923	.356
	Deviate Behaviors	7.146	.096	2.650	.008 <sup>a</sup>
Learning Referents	Celebrities	3.914	.049	1.495	.135
	Peer Groups	1.245	.016	.473	.637
	Teachers	-5.758	-.076	-2.302	.022 <sup>b</sup>
	Parents	2.046	.026	.794	.427
Demographics	Gender	.120	.076	2.256	.024 <sup>b</sup>
	Age	4.103	.009	.160	.014 <sup>b</sup>
Education	Education	3.430	.039	.737	.461
	Supplemental Schools	.132	.084	2.452	.873
Parent's Education	Father's Education	2.626	.039	.931	.352
	Mother's Education	-4.344	-.057	-1.364	.173
Parenting Styles	Father's Parenting Style	1.068	.016	.419	.675
	Mother's Parenting Style	-9.149	-.013	-.350	.727
Internet Uses	Time	9.921	.108	3.262	.001 <sup>a</sup>

<sup>a</sup>  $p \leq .01$

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on TV watching

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .175$ ,  $R^2 = .031$ , Adjusted  $R^2 = .022$ , Std. Error of the estimate = .78

<sup>f</sup>  $R = .252$ ,  $R^2 = .064$ , Adjusted  $R^2 = .046$ , Std. Error of the estimate = .77

Table 6 A Regression Model of Perceived Social Atmosphere<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	1.517		.411	.681
Deviate Behaviors	Mishaps	-.129	-.057	-1.599	.110
	Deviate Behaviors	-4.583	-.050	-1.396	.163
Learning Referents	Celebrities	4.685	.047	1.435	.151
	Peer Groups	-1.244	-.013	-.379	.705
	Teachers	7.215	.077	2.304	.021 <sup>b</sup>
	Parents	4.627	.048	1.455	.146
Model 2 <sup>f</sup>	Constant	.298		.694	.488
Deviate Behaviors	Mishaps	-.153	-.068	-1.889	.059
	Deviate Behaviors	-5.022	-.055	-1.480	.139
Learning Referents	Celebrities	4.470	.045	1.362	.174
	Peer Groups	-1.374	-.001	-.042	.967
	Teachers	6.556	.070	2.083	.037 <sup>b</sup>
	Parents	5.047	.053	1.563	.118
Demographics	Gender	-.154	-.079	-2.290	.022 <sup>b</sup>
	Age	1.112	.345	.345	.730
Education	Education	-6.694	-.062	-1.144	.253
	Supplemental Schools	2.424	.012	.358	.721
Parent's Education	Father's Education	-3.932	-.047	-1.109	.268
	Mother's Education	1.555	.016	.388	.698
Parenting Styles	Father's Parenting Style	7.187	.086	2.252	.025 <sup>b</sup>
	Mother's Parenting Style	-1.773	-.020	-.540	.589
Media Experiences	Internet Surfing Time	1.240	.001	.032	.974
	TV-Watching Time	-4.898	-.040	-1.167	.244

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on the Internet

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .138$ ,  $R^2 = .019$ , Adjusted  $R^2 = .012$ , Std. Error of the estimate = .966

<sup>f</sup>  $R = .184$ ,  $R^2 = .034$ , Adjusted  $R^2 = .017$ , Std. Error of the estimate = .964

Table 7 A Regression Model of Perceived Social Justice<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	-6.764		-1.828	.068
Deviate Behaviors	Mishaps	3.919	.017	.485	.628
	Deviate Behaviors	-7.055	-.077	-2.144	.032 <sup>b</sup>
Learning Referents	Celebrities	-7.227	-.073	-2.209	.027 <sup>b</sup>
	Peer Groups	3.113	.031	.947	.344
	Teachers	4.908	.005	.156	.876
	Parents	6.918	.072	2.170	.030 <sup>b</sup>
Model 2 <sup>f</sup>	Constant	.578		1.346	.179
Deviate Behaviors	Mishaps	2.912	.013	.358	.721
	Deviate Behaviors	-6.595	-.072	-1.941	.053
Learning Referents	Celebrities	-7.935	-.080	-2.414	.016 <sup>b</sup>
	Peer Groups	3.981	.040	1.201	.230
	Teachers	1.052	.011	.334	.739
	Parents	6.614	.069	2.046	.041 <sup>b</sup>
Demographics	Gender	-3.749	-.019	-.559	.577
	Age	-4.332	-.073	-1.342	.180
Education	Education	-7.553	-.007	-.129	.897
	Supplemental Schools	-7.621	-.039	-1.123	.108
Parent's Education	Father's Education	1.402	.017	.395	.693
	Mother's Education	-3.837	-.041	-9.56	.339
Parenting Styles	Father's Parenting Style	3.576	.043	1.119	.264
	Mother's Parenting Style	-4.904	-.056	-1.492	.136
Media Experiences	Internet Surfing Time	1.304	.011	.339	.262
	TV-Watching Time	9.039	.073	2.150	.735

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on the Internet

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .131$ ,  $R^2 = .017$ , Adjusted  $R^2 = .011$ , Std. Error of the estimate = .969

<sup>f</sup>  $R = .185$ ,  $R^2 = .034$ , Adjusted  $R^2 = .017$ , Std. Error of the estimate = .966

Table 8 A Regression Model of Mishaps<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	.181		12.636	.000 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	-3.354	-.076	-2.280	.023 <sup>b</sup>
	Social Justice	-4.743	-.011	-.323	.747
Learning Referents	Celebrities	3.302	.076	2.279	.023 <sup>b</sup>
	Peer Groups	-1.501	-.034	-1.031	.303
	Teachers	7.056	.002	.051	.959
	Parents	-2.438	-.057	-1.725	.085
Model 2 <sup>f</sup>	Constant	-5.432		-.289	.772
Perceived Social Reality	Social Atmosphere	-3.733	-.084	-2.559	.011 <sup>b</sup>
	Social Justice	-4.763	-.011	-.326	.744
Learning Referents	Celebrities	2.581	.059	1.791	.074
	Peer Groups	-9.483	-.022	-.654	.513
	Teachers	2.025	.005	.147	.883
	Parents	-2.333	-.055	-1.647	.100
Demographics	Gender	-.148	-.171	-5.145	.000 <sup>a</sup>
	Age	3.321	.126	2.370	.018 <sup>b</sup>
Education	Education	-5.780	-.120	-2.264	.024 <sup>b</sup>
	Supplemental Schools	-6.583	-.001	-.022	.982
Parent's Education	Father's Education	-1.510	-.041	-.975	.330
	Mother's Education	8.541	.020	.487	.627
Parenting Styles	Father's Parenting Style	9.360	.025	.668	.505
	Mother's Parenting Style	8.940	.023	.621	.534
Media Experiences	Internet Surfing Time	-5.485	-.011	-.326	.745
	TV-Watching Time	3.597	.066	1.962	.050 <sup>b</sup>

<sup>a</sup>  $p \leq .01$

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on the Internet

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .126$ ,  $R^2 = .016$ , Adjusted  $R^2 = .009$ , Std. Error of the estimate = .43

<sup>f</sup>  $R = .236$ ,  $R^2 = .056$ , Adjusted  $R^2 = .039$ , Std. Error of the estimate = .42

Table 9 A Regression Model of Deviate Behaviors<sup>cd</sup>

Model	Variables	B	Beta	t	Sig.
Model 1 <sup>e</sup>	Constant	.520		14.796	.000 <sup>a</sup>
Perceived Social Reality	Social Atmosphere	-7.699	-.071	2.1343	.033 <sup>b</sup>
	Social Justice	-7.587	-.070	-2.1056	.036 <sup>b</sup>
Learning Referents	Celebrities	3.542	.033	.997	.319
	Peer Groups	-1.771	-.016	-.496	.620
	Teachers	-8.487	-.083	-2.494	.013 <sup>b</sup>
	Parents	-5.040	-.048	-1.454	.146
Model 2 <sup>f</sup>	Constant	-.695		-1.549	.122
Perceived Social Reality	Social Atmosphere	-7.921	-.073	-2.270	.023 <sup>b</sup>
	Social Justice	-6.749	-.062	-1.931	.054
Learning Referents	Celebrities	2.209	.021	.641	.522
	Peer Groups	-1.256	-.012	-.362	.717
	Teachers	-7.948	-.077	-2.415	.016 <sup>b</sup>
	Parents	-3.188	-.030	-.941	.347
Demographics	Gender	-.402	-.189	-5.849	.000 <sup>a</sup>
	Age	.125	.194	3.373	.000 <sup>a</sup>
Education	Education	-.125	-.106	-2.049	.041 <sup>b</sup>
	Supplemental Schools	.170	.080	2.046	.016
Parent's Education	Father's Education	-8.731	-.097	-2.357	.019 <sup>b</sup>
	Mother's Education	2.083	.002	.050	.960
Parenting Styles	Father's Parenting Style	5.305	.006	.158	.874
	Mother's Parenting Style	-2.733	-.028	-.794	.427
Media Experiences	Internet Surfing Time	3.322	.027	.825	.410
	TV-Watching Time	.139	.103	3.170	.002 <sup>a</sup>

<sup>a</sup>  $p \leq .01$

<sup>b</sup>  $p \leq .05$

<sup>c</sup> Dependent Variable: Time spent on the Internet

<sup>d</sup> Selecting only cases for which Internet Use > 0

<sup>e</sup>  $R = .147$ ,  $R^2 = .022$ , Adjusted  $R^2 = .015$ , Std. Error of the estimate = 1.05

<sup>f</sup>  $R = .327$ ,  $R^2 = .107$ , Adjusted  $R^2 = .091$ , Std. Error of the estimate = 1.01