

Impulsivity, social problem-solving abilities, and communication style of adolescent Internet game addicts

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The purpose of this study was to investigate characteristics of young adolescents who are addicted to Internet gaming. Participants were 836 high school students and they were administered the modified Young's Internet addiction inventory and other questionnaires assessing their Internet usage. We selected two groups of students -an addicted ($n=100$) and a non-addicted ($n=89$) group and compared their characteristics using the Eysenck impulsivity scale, social problem solving inventory (SPSI), social problem solving ability inventory, and the communication scale based on Satir theory. Results indicated that internet-addicted adolescents were more impulsive and showed low problem-solving abilities. In case of communication, they also showed poor abilities in seeing different points of view and understanding other's feelings. To determine the relative contributions of these variables to explaining the Internet game addiction, stepwise multiple regression was conducted. It was demonstrated that impulsivity, cognitive attitudes of problem solving, and interpersonal negotiation strategy explained 24.7% of variance of Internet game addiction. In conclusion, these results suggest that the excessive internet-gaming is associated with poor social skills in adolescents.

Keywords : internet, game, addiction, impulsivity, problem-solving, communication

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The Internet has opened up a new environment where people can interact without constraints of geography and time. However, certain aspects of the Internet—its accessibility, affordability, and anonymity—lead some individuals into very heavy use, even compulsive overuse. Although Internet addiction has not been considered as an official mental disorder, many clinicians have come to view this as a serious mental health problem. The core features of Internet addiction are compulsive use, withdrawal, tolerance, and impaired social and personal functions (Goldberg, 1996). They use Internet longer than they intended to and anticipate when they will use Internet again. They usually try but fail to cut down the amount of time they spend on-line. Gradually they feel the need to increase the length of the time spent using Internet for satisfaction. They end up neglecting their duties at work and home, and losing their intimate interpersonal relationships. Young (1996a) suggested the compulsive gambling as the most akin to the Internet addiction. She warned that it could result in tolerance, the loss of control, social withdrawal, marriage discord, job loss, and financial debt. Brenner (1997) also indicated that Internet addicts had problems with time management. Morahan-Martin and Schumacher (1997) said that Internet addicts tried to fill their emotional needs through Internet chatting, gambling, playing games, and engaging in cybersex. However, although they try to fill their needs, it turns out that they still feel lonely and empty because their needs are never truly fulfilled. In Korea, Youn (1998) indicated that college students with heavy Internet usage were generally more depressive and impulsive than non-addicts. Song (1998) demonstrated that self-efficacy in cyberspace and low self-controllability was associated with long hours of Internet usage

for college students.

This phenomenon of the Internet addiction is not limited to the college students and adults. More children and adolescents have gained an access to the Internet. With the advent of Internet, it is possible for adolescents to play games online and meet a human opponent online that could not be beaten by pattern or method. These provide new and exciting methods of playing games, which makes online gaming more addictive (Joongang Ilbo, November 23, 1998). Also, many reinforcing features of the Internet game may promote addictive tendencies (e.g. sound effect, color effect, and graphic effect, etc.). Internet game playing appears to be the major adolescent leisure activity of the recent 1990's. In Switzerland, a child died mistaking the meaning of 'eating' between the online game and in the real world. And in Korea, so called 'online game deception' happened (Daily sport, December 29, 1999). In Australia, the MUD games are prohibited by law (Daily sport, December 29, 1999), and in Korea, there is a regulation which prohibits children and adolescents to enter game rooms after P.M. 10:00. Despite of all these efforts, the number of adolescent with excessive Internet game usage has increased. According to the LA Times (May 10, 1999), 6% of Internet users became game addicts (Hankyoreh Shinmun, January 16, 1999). In Korea, as of Feb. 2000, there are 12,970,000 Internet users (KRINC, 2000), and therefore 780,000 are estimated to be Internet game addicts. However, there are few empirical studies to investigate Internet game addicts in Korea.

Several studies on the computer game addicts were reviewed, which helped us understand the general characteristics of game addicts. Research

on the computer game shows that 13% of students were categorized into severely impulsive users (Egli & Myers, 1984). And among high school students, 26% used their lunch money in the recreation of playing games (McClure & Myers, 1984). Griffiths (1991) stated that both video games and fruit machines are inherently addictive and have negative effects on behaviors. Griffiths and Hunt (1998) used DSM-III-R to determine the game dependence of adolescents, and found out that 20% were dependent users. These studies also showed that males have a higher prevalence than females in dependency. In addition, the younger they start to use the computer games, the higher the rate of dependency to the computer games becomes. Game dependent children tend to be moodier and seem to experience the peak of interest prior to and during the game. They actually feel the sense of instability, even becoming aggressive in some way, while they are away from the game and feel the urge to play at any time anywhere. Consequently, these behavioral and emotional features are likely to have negative influences on their daily life.

It has been implied that game addiction makes people impulsive and superficial on social relationships (Egli & Myer, 1984; Kim, 1991; Stein, 1997; Youn, 1998). If people play games excessively, they will spend a great deal of time alone and consequently, the amount of time socializing and making friends will automatically decrease. Even if games are played with multi-player, it can't be defined as true socializing. Due to the fact that all Internet games are played in online and take a large amount of time, the peer relationship of adolescents is limited to only online relationships which tend to be extremely superficial. Because of these factors, excessive

game player may have few chances to learn social problem solving abilities in real world. Moreover, as conversation during games is created in one-way, they may have difficulties to learn meaningful reciprocal communication which is essential in building and maintaining social relationships. As communication is an important means of social problem solving, lack of meaningful communication may also hinder development of problem solving abilities.

Although there are clinical case reports indicating excessive Internet game usage is associated with negative impacts on adolescents daily life, there still are a few empirical studies investigating this particular type of addiction. Currently, in Korea, research has been conducted only on the video gaming and computer gaming. In this study, we will examine impulsivity, social problem solving ability, and communication style of male adolescent Internet game addicts. This study is the first one to explore the Internet game addiction of high school students. We chose male high school students as our sample because they are likely to be at high-risk for Internet game addiction (Atari, 1982; Gallup, 1982; Griffiths, 1991; Loftus & Loftus, 1983; Shotton, 1991; Surrey, 1982; Turkle, 1995).

Method

Participants

The participants were recruited from male high school students in Seoul area. Six hundred and sixty- three sophomore students and three hundred and fifty- three junior students participated in this study.

Out of 1,016 surveys, due to 177 improperly checked questionnaire and 3 inexperienced Internet game users, data of 180 students were excluded. The remaining 836 students were evaluated by their game addiction inventory and number of hours per week using Internet games. According to the scores of the game addiction inventory and hours using Internet games, two groups of students were selected -an Internet game addicted group ($n=100$) and a non-addicted group ($n=89$), and data of the remaining 647 participants were not included in this study. Students in the addicted group checked items more than 10 in the game addiction inventory and played games more than 17 hours per week. And students in the non-addicted group checked items less than 4 in game addiction inventory and played games less than 9 hours per week. The mean age for the addicted group was 17.05 years ($SD=.83$), and for the non-addicted, it was 17.09 years ($SD=.78$).

Measures

Impulsivity. The Eysenck Impulsivity scale was used, which Lee (1985) translated. This scale consists of 35 items using a dichotomous scale (yes or no). High scores mean high impulsivity. Huh (1999) reported that the reliability was .73. In this study, the reliability was .84.

Game addiction. The Young's Internet Addiction Scale, which was translated by Youn (1998), was modified to be a measure for Internet game addiction in this study. The total number of items is 20. Original inventory assesses Internet addiction via 5-point Likert scale but Youn (1998) modified 5-point Likert scale into a dichotomous scale (yes or no). In this study, Internet game

addiction was assessed by using a dichotomous scale (yes or no). Youn (1998) reported that the reliability was .79. In this study, the reliability was .80.

Social problem solving. The SPSI (Social Problem Solving Inventory, D'Zurilla & Nezu, 1990) was modified by Kim (1998a) to properly evaluate teens (age below 20). The SPSI evaluates individual's attitudes and expectations of social problem solving, and self-report of one's problem solving skills. The SPSI consists of Problem Orientation Scale (POS) and Problem Solving Skill Scale (PSSS). The POS is defined as immediate cognitive, emotional, and behavioral responses in problematic situation, and the PSSS is defined as a series of skills to solve problematic situation effectively. The subscales of the POS are Cognition Subscale (CS), Emotion Subscale (ES), and Behavior Subscale (BS). The subscales for the PSSS are Problem Definition & Formulation Subscale (PDFS), Generation of Alternatives Subscale (GAS), Decision-Making Subscale (DMS), and Solution Implementation & Verification Subscale (SIVS). The SPSI consists of 49 items which assess attitudes of social problem solving using a 5-point Likert scale (0-4). According to Kim (1998), the SPSI had a reliability of .91, reliability of the POS and the PSSS were .90 and .93, respectively, and subscales' reliabilities were in the range of .71~.85. In this study, the reliability of SPSI was .89, the reliability of the POS and the PSSS were .81 and .89 respectively, and subscales' reliabilities were in the range of .53~.78.

Social problem solving ability. The Social Problem Solving Ability Inventory by Choi (1995) was a combination of the API (Adolescent Problem Inventory; Freedman, Rosenthal, Donahoe, Schlundt, & McFall, 1978) and the PIAG (Problem

Inventory for Adolescent Girls; Gaffney & McFall, 1981). In this inventory, the beginning parts of stories that have some dilemma or problems are given to the participants. The participants evaluate the story and try to make their own solution to the story. This inventory evaluates response competence and interpersonal negotiation strategy. According to the scoring criteria of API and PIAG, competent response is defined as expressing one's thoughts politely and clearly, being concerned about another's feelings, and showing proper respect to authority figures. Incompetent response is defined as exposing verbal or non-verbal aggression, demonstrating improper behavior from expected behavior that adults want, avoiding problems, and showing delinquent behavior. And interpersonal negotiation strategy is scored by Selman, Beardslee, Schultz, Krupa, and Podorfsky (1986)'s criteria. They defined interpersonal negotiation strategy as regulating between one's and other's view, and showing response to solve conflicts. In this study, we used four situations to evaluate response competence and interpersonal negotiation strategy.

Participants' responses were rated by three clinical psychology graduate students who were blind to the group of participants and other results of questionnaire. Cohen's Kappa values of response competence were in the range of .76~.89 and Cohen's Kappa values of interpersonal negotiation strategy were in the range of .77~.88.

Communication scale. You (1999) modified the original scale to properly evaluate teens, which was constructed by Sim and Lee (1998) on the basis of Satir's theory. Communication scale consists of 41 items which assess dysfunctional communication styles using a 5-point Likert scale (0-4). Dysfunctional communication style consists

of placating stance, blaming stance, super-reasonable stance, and irrelevant stance. We defined placating stance as unconditional agreement without providing opponent opinion; blaming stance as pointing out others' weakness and rejecting others' solicitations; super-reasonable stance as communicating based on overly rational data and logics; and irrelevant stance as confusional, pervasive and vague communication. The type of communication style for each participant is determined according to the the highest score among communication styles. To examine differences between two groups of students, scores of each communication style as well as the type of communication style were used in order not to lose information on each of four communication styles. You (1999) said the reliability of placating was .62, blaming was .72, super-reasonable was .51, and irrelevant was .68. In this study, the reliability of placating was .74, blaming was .69, super-reasonable was .59, and irrelevant was .68.

Procedures

The research participants recruited from male high schools. With the consent of the principal, students who had an experience to play an Internet games were selected. The participants were asked to fill out questionnaire in class after school. It took them 30 minutes to complete questionnaire.

Results

Table 1 presents means and standard deviations for measures of Internet game addiction questionnaire, number of hours per day and week, the longest

Table 1. Means and standard deviations for measure of game addiction scores and number of hours playing games.

Variables	Addicted (<i>n</i> =100)		Non-addicted (<i>n</i> =89)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Score of addiction inventory	13.75	2.68	2.74	1.22
Hours per day (minutes)	213.40	107.07	51.36	32.85
Hours per week (minutes)	1596.50	753.99	199.27	149.49
Longest hours (minutes)	674.30	382.25	213.30	201.95
Experiences (months)	84.91	41.83	42.21	34.49

hours using Internet games at once, and the years of game experiences.

Impulsivity

There were significant differences in the scores of impulsivity between two groups, $t(187)=4.46$, $p < .001$. It was found that the addicted group had higher scores than the non-addicted group demonstrating that students of addicted group were more impulsive. The mean of addicted group was 18.56($SD=7.08$), while the mean of non-addicted group was 13.90($SD=7.27$).

Social problem solving

Table 2 illustrates means and standard deviations for participants in each group on general attitudes towards social problem solving. Based on the findings of previous studies indicating that impulsivity affects problem solving (Lee, 1998), we compared between two groups with controlling impulsivity.

It was found that the addicted group had significant lower scores than non-addicted group in self-report of social problem solving ability, t

(187)= -3.00, $p < .01$. However, there were no significant differences in problem solving skill (PSSS), $t(187)= -1.28$, *ns.*, in contrast, there were significant differences in attitudes toward problem (POS), $t(187)= -4.42$, $p < .001$. In specific, the addicted group had significant lower scores than non-addicted group in cognitive attitudes (CS), $t(187)= -2.10$, $p < .05$; emotional attitudes (ES), $t(187)= -3.83$, $p < .001$; and behavioral attitudes (BS), $t(187)= -4.54$, $p < .001$. However, there were no significant differences in definition of problem (PDFS), $t(187)= -.05$, *ns.*; generation of alternatives (GAS), $t(187)= -1.54$, *ns.*; decision-making (DMS), $t(187)= -1.45$, *ns.*; and solution and verification (SIVS), $t(187)= -1.46$, *ns.*

Next, analysis of covariance was executed with controlling impulsivity. There were significant differences in emotional attitudes (ES), $F(1, 186)=8.43$, $p < .01$, and behavioral attitudes (BS), $F(1, 186)=14.36$, $p < .001$. Consequently, after controlling impulsivity, there were no significant differences with self-report of social problem solving (SPSI), $F(1, 186)=3.36$, *ns.* It suggests that the differences of self-reported attitudes towards problem solving between two groups result from differences of impulsivity.

Table 2. Comparison of the addicted and non-addicted on social problem solving.

Variables	Addicted (n=100)		Non-addicted (n=89)		t	F (controlling impulsivity)
	M	SD	M	SD		
Attitudes toward problem(POS)	48.80	11.21	56.06	11.32	-4.42***	11.75***
Cognitive(CS)	16.05	4.36	17.39	4.42	-2.10*	2.13
Emotional(ES)	16.79	5.69	20.04	5.83	-3.88***	8.43**
Behavioral(BS)	15.96	4.18	18.17	3.83	-4.54***	14.36***
Self-reported						
Problem solving skill(PSSS)	54.95	17.22	58.15	17.19	-1.28	.08
Definition of problem(PDFS)	12.91	4.71	12.94	5.17	- .05	.43
Generation of alternatives(GAS)	13.86	4.72	14.98	5.17	-1.54	.76
Decision making(DMS)	14.26	5.28	15.31	4.66	-1.45	.08
Solution and verification(SIVS)	13.92	4.88	14.91	4.37	-1.46	.23
SPSI (total)	103.75	24.45	114.20	23.36	-3.00**	3.36
Rated						
Competence of response(20)	10.75	2.81	12.55	2.91	-4.32***	7.77**
Interpersonal negotiation strategies(12)	4.12	1.92	5.30	2.21	-3.94***	5.66*
total	14.87	4.51	17.85	4.88	-4.37**	7.66**

Note. SPSI=Social Problem Solving Inventory; POS=Problem Orientation Scale; CS=Cognition Subscale; ES=Emotion Subscale; BS=Behavior Subscale; PSSS=Problem Solving Skill Scale; PDFS=Problem Definition and Formulation Subscale; GAS=Generation of Alternatives Subscale; DMS=Decision Making Subscale; SIVS=Solution Implementation and Verification Subscale.

* $p < .05$. ** $p < .01$. *** $p < .001$.

To compare rated social problem solving ability between two groups, response competence and interpersonal negotiation strategy were evaluated. Table 2 also illustrates the result. The original score of each variable was the sum of scores of 4 situations in inventory. There were significant differences in response competence, $t(187) = -4.32$, $p < .001$, and interpersonal negotiation strategy, $t(187) = -3.94$, $p < .001$. The addicted group had significant lower scores than non-addicted group in both variables. Even after controlling impulsivity, there were significant differences in response competence, $F(1, 186) = 7.77$, $p < .01$, and interpersonal negotiation strategy, $F(1, 186) = 5.66$, $p < .05$.

Communication styles

We compared the communication styles of addicted and non-addicted group. The highest score among four communication styles determined the type of communication style for each student. Both the addicted (78%, $n=78$) and the non-addicted group (87.6%, $n=78$) used a placating communication style mainly. For the addicted group, other frequent communication styles were blaming stance (17%, $n=17$), irrelevant stance (5%, $n=5$), and there was no super-reasonable stance. For the non-addicted group, the blaming stance was 10.1% and super-reasonable and irrelevant stance was 1.1%.

Table 3. Frequency of communication style for addicted and non-addicted group.

	Placating		Blaming		Super-reasonable		Irritable	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Addicted (<i>n</i> =100)	78	78.0	17	17.0	0	0.0	5	5.0
Non-addicted (<i>n</i> = 89)	78	87.6	9	10.1	1	1.1	1	1.1

Table 4. Comparison of the addicted and non-addicted on the scores of communication styles.

Variables	Addicted (<i>n</i> =100)		Non-addicted (<i>n</i> =89)		<i>t</i>	<i>F</i> (controlling impulsivity)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Blaming	18.79	6.49	16.66	5.50	2.41*	.79
Super-reasonable	11.29	4.08	10.02	4.41	2.05*	5.12*
Placating	26.10	7.76	25.90	7.77	.18	2.15
Irritable	17.49	5.76	13.98	5.44	4.30***	9.39**

* $p < .05$. *** $p < .001$.

and 1.1% respectively. The frequencies of each communication style are illustrated in Table 3. χ^2 -test could not be conducted because some expectation frequencies were below 5.

As we already described above, we also compared the scores of each of four communication styles. It was partly because the informative values of other communication styles could be lost if we use only the type of communication style (e.g. if the score of placating stance is 30; 28 for blaming stance; 15 for super-reasonable stance; and 20 for irrelevant stance, we determine the placating stance as the type of communication style and consequently, the information of other communication styles are lost). It also turned out that there were small differences between the two groups on the type of communication styles. Also, students may use different communication style according to the counterpart (e.g. authority figure-adolescent, parent-child, friend-friend) and situation. Therefore, *T*-test was

executed to investigate the differences between addicted and non-addicted group on the scores of each communication style. The results of analysis are illustrated in Table 4.

There was no significant difference in placating communication style, $t(187) = .18$, *ns.*, but addicted group had a significant higher scores in blaming style, $t(187) = 2.41$, $p < .05$; super-reasonable style, $t(187) = 2.05$, $p < .05$; and irrelevant style, $t(187) = 4.30$, $p < .001$. After controlling impulsivity, there were still significant differences in super-reasonable, $F(1, 186) = 5.12$, $p < .05$, and irrelevant communication style, $F(1, 186) = 9.39$, $p < .01$.

Stepwise multiple regression

Stepwise multiple regression analysis was carried out to find out variables that could explain the degree of addiction for addicted group. Table 5 shows the results.

Table 5. Stepwise multiple regression analysis on addiction (addicted group).

Predictors	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	ΔF	<i>Beta</i>	<i>t</i>
Impulsivity	.381	.145	.145	16.67 ^{***}	16.67 ^{***}	.38	4.08 ^{***}
Cognitive attitudes of problem solving	.445	.198	.053	12.01 ^{***}	6.42 [*]	-.23	-2.53 [*]
Interpersonal Negotiation Strategies	.497	.247	.048	10.48 ^{***}	6.15 [*]	-.24	-2.48 [*]

* *p* < .05. ** *p* < .01. *** *p* < .001.

For addicted group, impulsivity explained addiction significantly, *F* (1, 98)=16.67, *p* < .001. The other significant variables were cognitive attitudes of problem solving (CS) and interpersonal negotiation strategy, and these all three variables accounted for 24.7% of addiction variance.

Discriminate analysis

We already identified the variables which explained addiction significantly through the above regression analysis. It is also of interest to examine variables which discriminate between the addicted and the

Table 6. Significance of canonical discriminant function.

Function	Eigenvalue	Canonical correlation	<i>Wilks' Lambda</i>	<i>Chi-square</i>	<i>df</i>
1	.25	.45	.80	41.09 ^{***}	3

*** *p* < .001.

Table 7. Discriminant analysis between addicted and non-addicted group.

Variables	<i>Wilks' Lambda</i>	<i>F</i>	Standardized canonical discriminant function coefficient
Behavioral attitudes	.90	20.58 ^{***}	.63
Competence of response	.82	19.96 ^{***}	.51
Impulsivity	.80	15.29 ^{***}	-.40

*** *p* < .001.

Table 8. Rate of classification by canonical discriminant function.

Original Group	Predicted Group		Correctly classified %
	Addiction (<i>n</i> =100)	Non-addiction (<i>n</i> =89)	
Addicted group (<i>n</i> =100)	68 (68.0%)	32 (32.0%)	68.0%
Non-addicted group (<i>n</i> = 89)	23 (25.8%)	66 (74.2%)	74.2%
			total 70.9%

non-addicted group. Stepwise discriminant analysis was carried out to find out the variables that could discriminate between addicted and non-addicted group. The result is summarized in Table 6, 7, 8.

One discriminant function was induced from the stepwise discriminant analysis. Canonical correlation coefficient of induced discriminant function 1 was .45 ($\chi^2=41.09$, $p < .001$). The first variable which discriminated significantly between addicted and non-addicted group was behavioral attitudes toward problem solving (BS), *Wilks' Lambda* = .90, $F(1, 187)=20.58$, $p < .001$, the others were response competence and impulsivity in order. When using three variables, 68% of addicted group and 74.2% of non-addicted group were classified correctly and these three variables were able to classify the two groups with an accuracy of 70.9%.

Discussion

The purpose of this study was to examine impulsivity, social problem solving ability, and communication style of adolescents who play Internet games addictively. Major findings are as follows; first, the addicted group was more impulsive than non-addicted group. Second, with respect to attitudes towards problem solutions, it was found that the addicted group had lower scores than the non-addicted group. Lower scores showed lower ability. This could be interpreted that the addicted group evaluates their own ability to solve problems more negatively. However, these differences resulted from negative evaluations in orientation toward problem (POS) rather than the general attitudes towards problem solving skills (SPSI). This suggests that the addicted group perceives problem situations negatively and has cognitive distortion or has negative feelings in

problem solving situations. These tendencies could affect entire self-report of problem solving ability. Third, for rated problem solving ability which evaluates response competence and interpersonal negotiation strategies, the addicted group had significant lower scores than the non-addicted group. This indicates that the addicted group has poor abilities to explain their opinions politely and persuasively or to perceive the differences of views between themselves and others. Then, they don't try to find a compromising solution to their disagreements. The fourth, because both of the two groups used placating communication mainly, there were no differences with the type of communication style. However, in the scores of each style, the addicted group used irrelevant, blaming, and super-reasonable style significantly more than the non-addictive group. Finally, impulsivity was found out to be the strongest variable in explaining addiction. And the Behavioral attitudes towards problem solving (BS), response competence, and impulsivity were able to classify the two groups with an accuracy of 70.9%.

In brief, this study implies that adolescents who use the Internet games addictively are more impulsive, have more negative attitudes towards the problem solving, and have lower problem solving ability. Also, as for communication, addicted group tended to be domineering, use vague and irrelevant communication style, and emphasize overly rational situation.

There are several limitations in this study. First, since this study was conducted cross-sectionally, we were not able to find long-term effects of Internet game addiction. Therefore, further research should be established to find out the longitudinal effect of addictive Internet game usage. Second,

variables such as the knowledge, experience, and intelligence and so forth could have an influence on the performance of social problem solving, however, this study couldn't control these variables. Therefore, further research should be established to control these variables. Lastly, for this research, the participants were asked to give a free-response about possible conflict situations to measure social problem solving abilities. Even though this free-response style could give more descriptive information than self-report in multiple-choice method, there are possibilities that they use somewhat different problem solving ability in real life. In that the questionnaire was carried out as a groups due to the limited environments of the Korean high school, this difference could be much more.

In spite of these limitations, this study leads us to acknowledge that Internet games rises as a new kind of addiction and should be taken seriously for their negative impacts. However, continuous research and study, plus approaches to the existing fact should be interpreted carefully as the Internet games become the adolescent leisure phenomenon of the 1990's. Moreover, this new phenomenon such as Internet game addiction needs to be studied further based on this exploratory study, and it is necessary for future studies to investigate mood, traits, characteristics, interpersonal relation, and social adjustment of addicted gamers in the longitudinal study.

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인터넷 게임의 중독적 사용이 청소년의 문제해결 능력 및 의사소통에 미치는 영향

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본 연구의 목적은 인터넷 게임을 중독적으로 사용하는 청소년들 ($n=100$)과 비중독적으로 사용하는 청소년들 ($n=89$)을 대상으로, 두 집단 사이에 충동성, 사회적 문제해결에 대한 태도와 능력, 의사소통 유형과 정도에 차이가 있는지를 알아보고자 하는 것이다. 각 집단은 Young의 인터넷 중독검사와 주 평균 사용시간을 사용하여 분류되었으며, 종속변인을 측정하기 위하여 Eysenck의 충동성 척도, 사회적 문제해결 양식 (SPSI), 사회적 문제해결 능력검사, Satir 이론을 바탕으로 구성된 의사소통 유형검사가 사용되었다. 연구결과, 게임을 중독적으로 사용하는 청소년들은 더 충동적이었으며, 문제해결에 대한 태도가 부정적이고, 문제해결 유능성이 낮은 것으로 나타났다. 또한 두 집단 모두 회유형 의사소통을 주로 사용하는 것으로 나타났으나, 정도에 있어서는 중독집단이 더 산만하고, 지나치게 합리적으로 상황만을 중요시하거나, 지시적이고 명령적일 수 있는 것으로 나타났다. 마지막으로 중독정도를 설명해주는 변인은 충동성이 가장 중요한 것으로 나타났으며, 두 집단을 가장 잘 판별해주는 변인은 SPSI의 문제지향적 접근행동에 대한 자기평가 (BS)였다. 이러한 결과는 과도한 인터넷 게임 사용이 청소년의 사회 기술 습득에 부정적인 영향을 미칠 수 있음을 시사하는 것이다.

주요어 : 인터넷, 게임, 중독, 충동성, 문제해결, 의사소통