

Parents' perspectives on relationships with adolescents with
internet addiction

(インターネット依存を持つ思春期の子どもとの関係性に関する親の視点)

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Abstract

Background: Parents of adolescents with Internet addiction are confronted with their children' Internet problems on a daily basis. Parents may notice that adolescents with addiction may also have emotional and behavioral problems including impulsivity and violence. Parenting styles have been found to be related to Internet addiction.

Objective : The purpose of this study is to investigate parents' perspectives on their parenting style, relationship with their child, and the degree of internet addiction, emotional and behavioral problems of their child.

Methods : A web-survey was conducted with 600 parents of children between the ages of 12 and 17. Respondents were recruited through an internet research company and were asked to complete an anonymous online questionnaire. The survey was divided into two groups: 300 parents who answered "yes" to the question "Do you think your child is dependent on the Internet?" and 300 parents who answered "no." Questionnaires were collected until each group had 300 participants. The questionnaire included the (1) Parent-Child Internet Addiction Test (PCIAT), (2) Daily time spent using Internet, (3) Strength and Difficulties Questionnaire (SDQ), (4) Parenting Style and Dimensions Questionnaire

(PSDQ) and (5) Self-Report Attachment Style Prototypes (Relationship Questionnaire (RQ)).

Results : Mean scores of PCIAT and daily time spent using Internet of group with Internet addiction were significantly higher than those of the group without Internet addiction, respectively. Total difficulty score (TDS) in the SDQ of group with Internet addiction were significantly higher than that of the group without Internet addiction. Mean score of authoritarian parenting in PSDQ of group with Internet addiction were significantly higher than that of the group without Internet addiction. In RQ, there was no significant differences between the two groups.

Conclusions: Our findings suggest that parent who think their child is addicted to the Internet may recognize emotional and behavioral problems of the child and have an authoritarian parenting style.

Keywords

Internet addiction, mental health , parent-child relationship

Introduction

The Internet is a highly convenient tool for the instantaneous and comprehensive exchange of large amounts of information with the world. It is no exaggeration to say that our lives are directly or indirectly supported by the Internet, and it has enriched our lives through information accessibility, entertainment, communication, and trading. Recently, however, the negative aspects of the Internet have been attracting attention, and in addition to fraud, crime, bullying, and wastage of time via the Internet, the problem of Internet dependence, the subject of this study, has been highlighted.

It was not until 1990 that reports of Internet dependence began to appear sporadically. Overuse of the Internet causes serious problems such as poor grades, withdrawal to one's room, disordered eating habits, and lack of sleep. On the mental side, it causes depression, aggression, worsening of general mental symptoms, and a decline in self-esteem, which is undesirable for an individual's career path and social support. Due to this trend, the diagnostic criteria for Internet Gaming Disorder (IGD) were included in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) in 2013 [1]. In addition, the International Classification of Diseases, 11th Edition (ICD-11), published by the World Health Organization (WHO) in June 2018, also included diagnostic criteria for gaming disorder [2].

In recent years, various studies have been conducted on adolescents with Internet addiction. It has been found that among junior high school students, not only attention-deficit/hyperactivity disorder (ADHD) but also autism spectrum disorder (ASD), caused by developmental disabilities, is related to the risk of Internet dependence.

Direct parental factors, such as lack of affection from parents, increases children's online dependence, while a good parent-child relationship is negatively associated with online dependence, particularly among adolescents, and there are reports that parents' discord is associated with increased online dependence among children [3, 4].

The purpose of this study was to conduct a survey of parents of children in the Internet society, using an anonymous web questionnaire, to examine their own awareness of their children's dependence on the Internet and the characteristics of their parenting style, and to investigate the relationship between the two.

Methods

Participants

We used an online research agency (Cross Marketing Inc., Tokyo) to oversee the web-based survey. After understanding the purpose of the study and voluntarily agreeing to participate, 600 participants from Japan were recruited through the online research

provider.

The participants were parents with children between the ages of 12 and 17, and were asked to fill out an anonymous questionnaire on the web.

The survey was divided into two groups: 300 parents who answered "yes" to the question, "Do you think your child is dependent on the Internet?" (35-65 years old, mean age 49.2 years [SD=5.67]), and 300 parents who answered "no" (33-64 years old, mean age 49.1 years SD=5.06]). Questionnaires were collected until the number of parents in each group reached 300.

Items for observation, examination, survey, and reporting

Candidate respondents received brief text-based information about the study, including the purpose of the study and informed consent was obtained. The survey consisted of two parts. The first part asked for general information about the respondents (age, gender, area of residence, and employment status of the parents, and the age, gender, birth order, and hours of Internet use per day of their children).

The second part of the survey asked respondents to selectively answer the following four questionnaire items:

(1) Parent-Child Internet Addiction Test (PCIAT)

The items of the questionnaire pertaining to children's Internet addiction from the parents' point of view were adapted from the Parent-Child Internet Addiction Test (PCIAT) [5, 6], a 20-item inventory adapted from the Internet Addiction Test (IAT) developed by Young [7]. Items were rated on a 5-point Likert scale (1=not at all to 5=frequently) to indicate the degree to which Internet use affected daily life, family relationships, social life, personal health, and state of mind. The minimum score was 20 and the maximum score was 100, with higher scores indicating greater problems caused by Internet use. Young defines a score of 20-49 as an average user who has control over their use of the Internet, a score of 50-79 as a dependent user who has occasional or frequent problems with their use of the Internet, and a score of 80-100 as a dependent user who has major problems with their use of the Internet.

(2) Strengths and Difficulties Questionnaire

The Strengths and Difficulties Questionnaire (SDQ) [8, 9], developed by Goodman, is a comprehensive measure of children's adjustment and mental health status and is a reliable screening method for assessing positive and negative aspects of children's behavior. It is a highly reliable screening method for assessing positive and negative aspects of

children's behavior [10].

It consists of 25 items, with five scales (emotional symptoms, conduct problems, hyperactivity/inattention, peer problem, and prosocial Behavior), with five items in each subscale. Each question was answered by selecting from three options: "Yes: 2 points," "Fairly true: 1 point," and "No: 0 points. The total score for each subscale was calculated, and the Total Difficulties Score (TDS) was calculated from the total score of the four subscales except for prosocial behavior.

In addition, by setting a cutoff point, the need for support in that area was classified into three categories: normal range, borderline range, and clinical range.

(3) Parenting Style and Dimensions Questionnaire

The Parenting Style and Dimensions Questionnaire (PSDQ) by Robinson et al. [11] which consists of subscales based on Baumrind's [12] classification of authoritative, authoritarian, and permissive parents was used. It measures various characteristics of parents and children [13] and is an excellent scale for measuring parents' nurturing attitudes.

(4) Self-Report Attachment Style Prototypes (Relationship Questionnaire)

Four categories of attachment style scales (Relationship Questionnaires (RQs)) were used to measure the attachment styles of parents and children. Bartholomew et al.'s [14, 15] RQ consists of a statement describing the characteristics of four attachment styles in relation to the "general other." Subjects were first asked to rate the degree to which each of the four sentences introduced as "types of feelings toward people" matched their own on a 7-point scale (1=not at all, 7=very much). Next, they were asked to choose one of the four styles that they thought was the most applicable to them. In the analysis, the attachment style chosen at the end was considered as the subject's attachment style.

Statistical analysis

A descriptive analysis (numbers, frequencies, percentages, means, and standard deviations) of the 600 respondents was conducted. The responses of the 300 respondents in the "yes" group and the 300 respondents in the "no" group were compared for differences in items using a t-test. Frequencies of gender, marital status, and birth order were analyzed using chi-squared test or Fisher's exact test. For the characteristics of the participants, p-values were considered by applying a two-tailed significance level of less than 0.05. For SDQ, PSDQ, and RQ, we used the Bonferroni correction and set the p

value threshold of $0.05/19 = 0.0026$ in order to avoid increasing the risk of a type I error by multiple comparisons. All data were analyzed using the IBM SPSS ver. 22.0.

Ethical approval

This study was approved by the Ethical Review Committee of the Graduate School of Medicine, Chiba University in September 2021 (M10095).

Results

The characteristics of the participants are shown in Table 1. The mean age of the parents in the "yes" group was 49.24 years (SD = 5.67) and 49.07 years (SD = 5.06) in the "no" group, with no significant difference between the two groups. Regarding marital status, about 95% of the total respondents in both groups were "married" with no significant difference. There were significant differences in gender ration between two groups. Male ration in the "yes" group were more than "no" group.

The age of the participants' children was 15.01 years (SD=1.59) in the "yes" group and 14.95 years (SD=1.58) in the "no" group, with no significant difference between the two groups. In terms of birth order, the first child accounted for about 60%, the second child about 30%, and others 10% with no significant difference.

The total score of the PCIAT for the group that answered "yes" (55.41, SD=15.78) was significantly higher than that for the group that answered "no" (35.55, SD=11.64).

As for the daily time spent on the Internet, the children in the group that answered "yes" spent 4.0 hours (SD=2.06) and those in the group that answered "no" spent 1.7 hours (SD=1.06), showing a statistically significant difference between the two groups ($P < 0.01$).

1. Comparison of the SDQ, PSDQ, and RQ values of the two groups

The results of SDQ, PSDQ, and RQ are shown in Table 2. In the SDQ, the mean score of the TDS of the group that answered "yes" was significantly higher than that of the group that answered "no." In subscale items, mean scores of emotional symptoms, conduct problems, and hyperactivity/inattention of "yes" group were significantly higher than those of the "no" group, respectively. There was no significant difference in prosocial behavior.

In the PSDQ, the mean score of authoritarian parenting of the "yes" group was significantly higher than that of the "no" group. There were no significant differences in authoritative parenting and permissive parenting.

In the RQ, there were no statistically significant difference between the "yes" and "no"

groups of parents and children on the whole among secure, rejecting, obsessive, or fearful relationships.

2. Comparison of high Internet users vs. low Internet users

From the 300 parents who answered "yes," we extracted those who scored 50 or higher on the PCIAT (63.3% (190/300)), to examine users who experience occasional or frequent problems due to Internet use. From the 300 parents who answered "no," 86.0% (258/300) had a PCIAT score of less than 50. The two sets were compared to each other. The results of SDQ, PSDQ, and RQ are shown in Table 3.

The SDQ showed statistically significant differences in all subscales of TDS, emotional symptoms, conduct problems, hyperactivity/inattention, peer problem, and prosocial behavior.

The PSDQ showed a significant difference between authoritarian and permissive parents, but not between authoritative parents.

In the RQ, no statistically significant differences were found for parents under any of the items. On the other hand, the children showed a significant difference only in the fearful type.

Discussion

In this study, we conducted a questionnaire survey to investigate the relationship between parenting styles and adolescents' internet addiction and mental health problems.

In recent years, various studies on adolescents have suggested that Internet dependence is associated with developmental disorders, and that not only ADHD but also ASD has been found to be associated with the risk of Internet dependence. Cakmac et al. [16] reported that weekly internet usage among children with ADHD aged 12–16 years was higher than the control group. Kawabe et al. reported that 25 out of 55 participants with ASD were classified as having Internet addiction using IAT. [17]

In the current study, we did not take into account diagnosis of ADHD and/or ASD, but measured SDQ score and found TDS of the SDQ score in the group with addiction was significantly higher than the group without addiction. Baer et al. reported that the computer/gaming station addiction (CGAS) score was significantly correlated with the total SDQ score. [18] Akdeniz et al. reported that TSD of SDQ were higher in the group with IA compared to the group without IA. Our findings were consistent with the previous studies. [19]

Previous research on the parent-child relationship between Internet-dependent

adolescents and their parents has largely been conducted from the perspective of the adolescents. [20, 21, 22] In this study, the perspective of the parents was the focus, and we investigated the parenting styles of parents of Internet-dependent adolescents.

In a previous study from the parents' perspective, Dogan et al. [23] investigated the perceptions of Internet addiction and parenting styles among adolescents studying in secondary schools between the ages of 14 and 19. They used Kuzgun's Parental Attitude Scale [24] to measure parental attitude, and the results showed that there was a negative relationship between Internet addiction and democratic parenting style, and a negative relationship between protective demanding parenting style and authoritarian parenting style were found to have a significant positive relationship with Internet addiction. The present study used the PSDQ, a parenting style scale created by Robinson et al. [11], which was consistent with the findings that parents in the "with dependence" group were found to have significantly higher authoritarian parenting tendencies than parents in the "without dependence" group.

Dogan et al. [23] also found that protective-demanding parenting style was a strong predictor of Internet dependence, followed by authoritarian parenting style.

Although the three subscales of the PSDQ in the current study and three subscales of Kuzgun's Parental Attitude Scale in the study by Dogan et al. are not comparable, the

findings with regard to the relation of authoritarian parenting style with Internet addiction may be common.

The findings suggest that Internet addiction may be associated with emotional and behavioral problems and authoritarian parenting style from parents' perspective. To care for adolescents with internet addiction, clinicians may assess emotional and behavioral problems and parenting style and help parents to change their inappropriate parenting styles.

Limitation

Although we were able to obtain valuable information from the online survey we conducted, there are some limitations to the study, including the sampling method.

1. This was a web-based survey, and the children of the parents who participated had not been diagnosed with Internet dependence by their doctors.

2. No data were collected from the children in this study, so the parents' assessment of their children was based on their own assumptions.

Further research should focus on conducting a survey of Internet-dependent children who have been diagnosed by a doctor, and collect data from both children and parents.

Conclusion

Our findings suggest that parent who think their child is addicted to the internet may recognize emotional and behavioral problems of the child and have authoritarian parenting style.

Conflict of interest

The authors have no conflicts of interest to declare.

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Table 1 : Characteristics of participants					
		Parents who thought their child was addicted to the internet (n=300)	Parents who did not think their child was addicted to the internet (n=300)		
					P-value
Parent					
Age(years), - Mean (\pm SD)		49.24 (\pm 5.67)	49.07 (\pm 5.06)		0.693
range		35-65	33-64		
Male/Female		165/135	192/108		0.025
Marital status					
Married/single		284/16	287/13		1.000
Adolescent					
Age(years), - Mean (\pm SD)		15.01 (\pm 1.59)	14.95 (\pm 1.58)		0.607
Range		12-17	12-17		
Boy/Girl/No answer		165/134/ 1	165/134/ 1		1.000
Birth order					
1st child		180	172		1.000
2nd child		93	96		
3rd child		23	25		
Other		4	7		
PCIAT total,mean(\pmSD)		55.41 (\pm 15.78)	35.55 (\pm 11.64)		<0.0001
range		21-98	21-74		
Daily time spent using Internet (hours), mean (\pmSD)		4.0 (\pm 2.06)	1.7 (\pm 1.06)		<0.0001
Range		0-17	0-7		

Table 3 : Scores of parents who thought (PCIAT \geq 50)/did not think (PCIAT<50) their child was addicted to the internet							
		Parents who thought their child was addicted to the internet (n=190)		Parents who did not think their child was addicted to the internet (n=258)			P-value
	Numbers of Items	M	SD	M	SD		
PCIAT total		64.91	10.91	31.96	7.8		<0.0001 *
SDQ	25						
Total Difficulties Score	20	12.55	5.65	7.41	4.96		<0.0001 *
Emotional symptoms	5	2.44	2.25	1.17	1.6		<0.0001 *
Conduct problems	5	2.61	1.81	1.3	1.25		<0.0001 *
Hyperactivity/inattention	5	4.33	2.09	2.52	2.02		<0.0001 *
Peer problem	5	3.17	1.88	2.42	1.68		<0.0001 *
Prosocial Behaviour	5	4.36	2.33	5.15	2.35		0.000431 *
PSDQ	62						
Authoritative	27	3.09	0.58	3.16	0.68		0.241803
Authoritarian	20	2.39	0.58	2.04	0.56		<0.0001 *
Permissive	15	2.43	0.4	2.22	0.45		<0.0001 *
RQ							
<i>Parent</i>		<u>2.77</u>	<u>1.06</u>	<u>2.61</u>	<u>1.12</u>		0.121232
Secure		3.75	1.43	3.86	1.33		0.377261
Dismissing		3.59	1.35	3.88	1.4		0.030226
Preoccupied		3.95	1.28	3.73	1.38		0.090364
Fearful		3.79	1.48	3.74	1.47		0.707116
<i>Adolescent</i>		<u>2.5</u>	<u>1.09</u>	<u>2.21</u>	<u>1.12</u>		0.005432
Secure		4.08	1.32	4.26	1.23		0.14429
Dismissing		3.74	1.27	3.56	1.14		0.123238
Preoccupied		4.06	1.21	3.84	1.13		0.045526
Fearful		3.66	1.34	3.2	1.22		0.000219 *
* P<0.0026							