The relationship between parents addicted to mobile phone and adolescent addicted to the Internet

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Abstract: Previous studies had revealed that the mobile phone addiction existed among adolescents. However, in China, along with the popular of smart phone, the situation of addicted to mobile phone changed and emerged some new features. Meanwhile, the influence between parents addicted to mobile phone and children addicted to the Internet has been realized gradually. The study evaluated the relation of both of them based on the factor analysis. The participants comprised one of parents of 311 middle school students in Beijing. The results revealed that they had significant positive correlation (r=0.32, p<0.001), and also Internet addiction of children was related to the parents' activities that parents participated by mobile phone, like Game & Video and Job & study.

Keywords: mobile phone addiction, Internet addiction, exploratory factor analysis, parents

1. Introduction

The popularity of mobile phone remains higher and higher, especially after emergence of smart phone. However, research has showed adolescents and adults are possibly addicted to the mobile phone(Lin 2010). In recent years, many scholars began to focus on mobile phone addiction.

A scale has developed to evaluate the mobile phone addiction for Korean adolescents. 20 items were divided into three factors: Factor 1 (withdrawal/ tolerance), Factor 2 (life dysfunction) and Factor 3 (compulsion/ persistence) explaining 55.45% of total variance. An item, for example, 'When I can't use a mobile phone, I am exasperated', belongs to Factor 1 (Koo 2009). A study on mobile phone addiction has done aiming at 269 Taiwanese female university students. The study presented two scales: one is the Mobile Phone Usage Behavior Scale (MPUB) surveyed the frequency of mobile phone use ('How many messages do you send pre day?'); the other is Mobile Phone Addiction Scale (MPA) by revising Young (1998) Internet Addiction Scale ('I neglect school assignment to spend more time using mobile phone'). And then there are 11 items classified three factors, named as (1) Time Management and its Problems (an example is While using mobile phone, you would think 'just give me some more minutes'). (2) Academic Problems in School and its Influence (an example is 'Because I spend too much time on mobile phone, my school work or my marks are influenced). (3) Reality Substitute (an example is 'Before having to do something I always check the mobile phone to see whether there are missed calls or text messages) explaining 65.95% of total variance. Results are that MPA can positively predict MPUB, and female university students with MPA will make more phone calls and send more text messages (Hong, Chiu et al. 2012). Also, With mobile phone addiction becoming serious, the sleep quality will be worse (Sahin, Ozdemir et al. 2013). Mobile phone addiction and academic-success has significant negative correlation，and addiction to mobile phone and the level of depression has a positive correlation (Cagan, Unsal et al. 2014).

As the use of smart phone more and more widely, application software developed for smart phone is more and more rich. It is fashionable for Users to surf the Internet by mobile phone and to use software downloaded from the Internet. Thereupon, the activities that users participate by phone are

changing. People began to complain some new activities lend their friends and family to be more addicted to phone than phone calls and text messages. Moreover, accompanied by the activities, some new features of mobile phone addiction appeared. Particularly, it is probably harmful for students if parents addicted to mobile phone. Nevertheless the research is still a blank.

In this background, by absorbing and summarized the previous research results, the study aims at developing a scale to survey the addiction to mobile phone for adult. It is just for parents in this study. And further to explore the relationship between parents addicted to the mobile phone and students addicted to the Internet.

2. Method

2.1 Participants

The participants in this study comprised one of parents of 311 middle school students in Beijing. There were 104 fathers and 199 mothers. Based on what the parents filled in the questionnaire, there are 185 first grade students of junior middle school and 126 second grade students of senior high school. The child of 157 parents was schoolboy, and of 149 was schoolgirl. These parents were from a middle-level school. Among them, education background of 26.8% was high school or below, 30.7% was junior college, 30.1% was undergraduate, 7.8% was master and 4.6% was doctor.

2.2 Instrument

The instrument used in this study mainly included two scales, one was for mobile phone activities and addiction of parents, and other was for Internet addiction of their children.

Referring to previous research, the study developed a scale to measure parents' mobile phone activities and addiction (MPAA). The study considered some popular activities among smart phone adult users of china in the last two years. In addition, besides the items about withdrawal reaction which were contained by majority of Internet addiction scales' the study designed some items about smart phone addiction aiming at the addictive features of the new activities.

To measure Internet addiction of children, the Internet Addiction Test (IAT) (Tsimtsiou, Haidich et al. 2014) by Young was chosen in the study. IAT consisted of 20 items and a 6-ponits Likert scale, scoring as 0-5, measured each item. The total score ranged from 0 to 100, and represented the degree of an Internet user addicted to Internet. However, this study invited parents to evaluate the situation and degree of Internet addiction for their children, so I in the each item was revised as my child.

2.3 Data analysis and procedures

In analyzing the scale about the usage of mobile phone, exploratory factor analysis was used to reduce the items. The total score of IAT was calculated based on the sum of 20 Internet addiction items, and represented the Internet addiction degree of student. The Pearson correlation analysis of MPAA and IAT were used for explore the relation between parents addicted to mobile phone and students addicted to the Internet.

3. Results

3.1 Exploratory factor analysis for MPAA

To clarify the structure of the parents' MPAA, an exploratory factor analysis with a varimax rotation was performed. Table 1 presented the results, revealing seven factors: Social & information, Job & study, Game & video, Instant usage, Psychic gratification, Boring usage, Withdrawal reaction. The eigenvalues of the seven factors from the principle component analysis were all larger than 0.85. Items

with a factor loading of less than 0.50 and with many cross-loadings were omitted. A total of 21items were retained in the final version of the MPAA, and the total variance explained was 71.96%. The Cronbach's alpha coefficients for the seven factors were 0.76, 0.81, 0.66, 0.72, 0.94, 0.82, and 0.61, and the overall alpha was 0.91, which revealed high reliability of these factors. Table 1 also presented the factor means and the standard deviations of MPAA. As shown in Table 1, the " Social & information" factor (mean=2.58) were scored highly by parents among the first three factors about activities that parents participated in by mobile phone, and "Instant usage" factor (mean=2.65) were scored highly by parents among the last four factors about parents addicted to mobile phone. Parent's score on "Withdrawal reaction" factor (mean=0.81) were lowly.

Table1: Rotated factor loading, Cronbach's alpha values, factor means, and standard deviations for the three factors of activities that parents participated in by mobile phone and the four factors of parents addicted to mobile phone in MPAA

		Factor 1	Factor 2	Factor 3
Factor 1: Social & information, alpha=0.76, mean=2.58, S.D.=1.26				
Social & information1	I access Social Networking Services by mobile phone.	0.73		
Social & information2	I search information on the Internet by mobile phone.	0.72		
Social & information3	I watch the Internet news by mobile phone.	0.70		
Factor 2:Job & study, alpha=0.81, mean=1.73, S.D.=1.23				
Job & study1	I assist my work by mobile phone.		0.81	
Job & study2	I study by mobile phone.		0.63	
Job & study3	I download application software by mobile phone.		0.63	
Job & study4	I use all sorts of small software on mobile phone.		0.59	
Factor 3: Game & video, alpha=0.66, mean=1.21, S.D.=1.08				
Game & video1	I play game by mobile phone.			0.83
Game & video2	I watch video by mobile phone.			0.61
Game & video3	I read novel by mobile phone.			0.57

		Fact-or4	Fact-or5	Fact-or6	Fact-or7
Factor4: Instant usage, alpha=0.72, mean=2.65, S.D.=1.34					
Instant usage1	When the phone rang, I will take it up immediately.	0.84			
Instant usage2	I take a look at the phone first after getting up.	0.70			
Instant usage3	I take a look at the phone before bed.	0.60			
Factor5: Psychic gratification, alpha=0.94, mean=1.50, S.D.=1.43					
Psychic gratification1	When using those applications on phone that I like, I feel relaxed.		0.91		
Psychic gratification2	When using those applications on the phone that I like, I am happy.		0.90		
Factor6: Boring usage, alpha=0.82, mean=1.84, S.D.=1.35					
Boring usage1	Encountering something I do not know how to do, I will pick up the phone to do something.			0.74	
Boring usage2	At bored time, I will find something to look at or get something to do from the phone.			0.73	
Boring usage3	when I have nothing to do, I will pick up the phone to do something.			0.56	

Factor7: Withdrawal reaction, alpha=0.61, mean=0.81, S.D.=0.98		
Withdrawal reaction1	In some cases not suitable for using a phone, I will look for opportunities to use the phone as much as possible.	0.72
Withdrawal reaction2	In front of my family, I will hide my thirst for the use of phone.	0.70
Withdrawal reaction3	When I cannot use the phone for a period of time, I feel restless.	0.53

Loadings less than 0.50 were omitted. Overall α=0.91, total variance explained=71.96%.

3.2 Relation between MPAA and IAT

To find out the relation between MPAA and IAT, a person correlation analysis was performed in this study, as shown in Table 2.

At first, the results showed that the activities that parents participated in by mobile phone were all significantly correlated with the features addicted to mobile phone (p<0.001). The correlation between boring usage and the three factors about the activities were all the highest than three other factors about the features.

And then, the results indicated that IAT of students had the highest correlation with Boring usage of parents (r=0.36,p<0.001), implying that higher degree of Internet addiction for students tended to higher boring usage for their parents. Next, parents' instant usage (r=0.21, p<0.001) and withdrawal reaction (r=0.22, p<0.001) also had higher correlation with IAT of students. Moreover the last four factors were all significantly correlated with IAT of students. Using the sum total of 11 items belongs to the last four factors represented the degree of parents addicted to mobile phone. The sum total was positively related to IAT of students (r=0.32, p<0.001), namely, the relation was established between parents addicted to mobile phone and students addicted to the Internet.

On the other hand, students' IAT and parents' Job & study (r=0.13, p<0.05) existed significant positive correlation, as well as to students' IAT and parents' Game & video (r=0.16, p<0.01). It means that what parents participated by mobile phone had the relation with students addicted to the Internet. In three factors about the activities, the factor Game & video, in other words, the activities like playing game, watching video or reading novel on mobile phone for parents existed an influence with Internet addiction of students. And the same influence existed between the factor Job & study of parents and Internet addiction of students.

Table 2: The correlations between MPAA and IAT

	Social & information	Job & study	Game & video	Instant usage	Psychic gratification	Boring usage	Withdrawal reaction
Social & information				0.43***	0.40***	0.54***	0.35***
Job & study				0.42***	0.47***	0.52***	0.35***
Game&video				0.28***	0.39***	0.50***	0.35***
IAT	0.09	0.13*	0.16**	0.21***	0.16**	0.36***	0.22***

*p<0.05, **p<0.01, ***p<0.001

4. Discussions and conclusions

The study developed the survey measuring the situation of parents using mobile phone, containing activities that the parents participated in by mobile phone, above all smart phone, and some new features of parents addicted to mobile phone, such as instant usage and boring usage of phone. It is different with previous scale for mobile phone addiction because pervious scales were generally developed based on referring to Internet addiction scales being composed of expending time, affecting social function and withdrawal reaction. However, there were some problems. Expending time during

using mobile phone was often fragmentary. It led to be unconscious the passing of time for people. Secondly, the items about affecting social function in previous scales were mainly about adolescents, for instance, "I can't do my homework or study because of cell phone use"(Koo 2009). Nevertheless, since adult's identities were complex, their social functions were diverse. It is difficult to descript clearly by using several items. So the study redeveloped some items to measure the features about parents, namely adults. Relying on the exploratory factor analysis, it is proved that these items had good reliability and structural validity. In the present seven factors, the first three factors can describe what parents do on mobile phone; furthermore the last four factors can evaluate the mobile phone addiction of parents.

The correlation relation was shown between the seven factors and Internet addiction of students in this study. The results were consistent with our assumptions. It could be because, on the one hand, addicted to mobile phone of parents set children a bad example; on the other hand, due to addicting to mobile phone, parents ignored their children and got little time with them. These caused that some psychological needs of children cannot be satisfied, such as sense of safety, belonging, intimacy, etc. The missing of the psychological needs had the relation with the Internet addiction of adolescent (Yen, Yen et al. 2007, Yao, He et al. 2014).

The study suggested parents themselves to make some rules for using mobile phone. For example, to avoid the feature of instant usage of addiction to mobile phone, parents should strongly demand themselves not to touch the phone during 1-2 hours after getting up and before sleeping. At bored time, according to thinking deeply in advance, designedly to do some positive suitable activities so as not to take the phone to kill time. In addition, it is important to note, even though you are working or studying by phone, what your children notice is just that you immerse yourself in the phone. Further, the phone should be a tool. If you feel happy when using it and feel bothered when no using it, you have to be careful, because the phone may be grabbing your attention against your children. In a word, parents themselves need to notice the mobile phone usage, since it had the relation with addicting to the Internet of children.

Acknowledgements

This study is supported in part by the 2012 project of Education Science "the 12th five years" planning, Beijing under grant number AGA100209

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