UNDERSTANDING THE ANTECEDENTS OF MOBILE GAME ADDICTION: THE ROLES OF PERCEIVED VISIBILITY, PERCEIVED ENJOYMENT AND FLOW[1]

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Abstract

With the rapid development of mobile games and the roaring growth of market size, mobile game addiction is becoming a public concern. Hence, understanding the reasons behind mobile game addiction is worthwhile. Based on previous studies and two salient features of mobile games (e.g., hedonic and sociality), a research model is developed to examine the antecedents of mobile game addiction. Our proposed model is tested using a survey from 234 mobile game users and the results confirm most of our hypotheses. Specifically, perceived visibility and perceived enjoyment are found to be positively associated with flow which in turn affects addiction. Besides the indirect effect of perceived visibility on addiction via flow, perceived visibility is found to have a direct effect on addiction too. The implications for theory and practice are also discussed.

Keywords: Mobile games, Perceived visibility, Flow, Addiction.

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1 INTRODUCTION

Nowadays, the amount of mobile service users have reached 875 million in China, with 80% connecting via mobile, suggesting that mobile devices have become the main access to Internet (Baidu 2015). With the development of mobile internet technology and the growth of social networking apps, the rapid advancement of mobile games has attracted considerable attentions. According to the investigation data from Iimedia Research, till the first half of 2014, there were 448 million mobile game users and the market size of mobile games reached 1.178 billion in China.

Besides the bright side of mobile games (e.g., economic value), more and more researchers begin to pay attention to the dark side of mobile games such as mobile game addiction. The report shows that the average time that users play mobile games keep rising every year. Till the end of 2013, the average time that mobile game players in China spend each day on mobile games reach 32 minutes, and 28% of them spend more than 1 hour daily. Thus, it is interesting to understand the underlying mechanisms about what factors influence users' mobile game addiction.

However, as to the best of our knowledge, the issue of mobile game addiction has been rarely examined in previous studies. Prior literatures on mobile games have focused on the initial adoption or pre-adoption of mobile games and engaged in explaining the factors influence users' acceptance or use of mobile games. For example, based on technology acceptance model (TAM) (Davis 1989), Fotouhi-Ghazvini et al. (2009) investigated how to use mobile game as an approach for educational objective; Ekman et al. (2005) examined the relationship between the design of sound for mobile game and user preference; and Ha (2007) posited an extended model of TAM to study mobile users' mobile game adoption intention. These studies have provided significant insights to interpret users' intention of adopting various technologies. However, they have not further explored the user behavior at the post-adoption stage, and mobile game addiction in particular. Although there are several studies discussing the game addiction issues, they focused on other kinds of games like online games (Kim 2008) and video games (King 2013) rather than mobile games. Previous theories used in other research contexts may be not applicable to the mobile game context. A better understanding of mobile game addiction can be achieved only when the unique features of mobile games are considered.

There are two salient features that affect individuals' mobile game playing behaviors. First, the key function of mobile games is to bring pleasure and enjoyment to users. According to Van der Heijden (2004), mobile games can be regarded as a hedonic technology because individuals use mobile games for experiential and hedonic values rather than for instrumental and utilitarian values. Second, unlike traditional PC-based games, mobile game players can share their scores as well as ranks of mobile games to social networking platforms. Specifically, data from GMGC (Global Mobile Game Confederation) shows that 38% of the items published in WeChat (a social media in China) are related to mobile games[2]. Through this mechanism, players have more opportunities to obtain a sense of social presence which is closely associated with social values.

Therefore, the purpose of this article is to explore the antecedents of mobile game addiction by considering the hedonic and social nature of mobile games. Kazakeviciute (2012) revealed that users' perceptions of hedonic and social values could influence consumer behavior and behavioral intentions. In the case of mobile games, hedonic value is presented by users' perceived enjoyment and the social value is captured by the perceived visibility of users' achievement in certain games. On one hand, people feel pleasure while playing hedonic game. They are prone to continuation of playing games in order to get flow experiences, which may lead to addiction to mobile games ultimately (Chou 2003). On the other hand, some players might not enjoy mobile games but still keep playing to sustain social relationship or gaining social presence. Thus, our model is based on the hedonic and social traits of mobile games.

With the emphasis of sociality and hedonism of mobile games, we propose a model by integrating the impacts of perceived visibility, perceived enjoyment, and flow, and try to empirically test the validity

[2] http://www.gameres.com/msg_250452.html

of this model. The rest of the paper is structured as follows. The second section presents the theoretical background of the paper and the research hypotheses. The third section details the method and the fourth describes the results of the study. The final section concludes with a discussion of the results, contributions, and limitations, as well as avenues for future research.

2 LITERATURE REVIEW

2.1 Addiction

Previous studies on addiction were primarily aimed at pathological addiction like drug addiction (Estrada 1973; Chapple 1966; Phillipson 1977). Up to the middle and late period of twentieth century, the concept of addiction began to be widely used in other fields, and the study of behavioral addiction appeared (Dell 1981). Marlatt (1988) defined addiction as "a repetitive habit pattern that increases the risk of disease and/or associated personal and social problems…often experienced subjectively as 'loss of control'that continues despite volitional attempts to abstain or moderate use." At that time, the foci of studies were no longer confined to pathological addiction which brings physical effects, but tend to be more serious about the social effects followed by behavioral addiction as well as the mechanism of addiction.

With the development of technology, the study of media addiction based on the computer and the internet became popular. In 1990, Marks put forward the concept of media addiction. He suggested that "media addictions were likened to psychiatric conditions with dependency or compulsive qualities, and the diagnostic criteria for those conditions were adapted to media consumption behavior." Goldberg (1990), the American psychologist, went a step further and brought out internet addiction. He held the view that internet addiction is a way to relieve stress, while excessive addiction might weaken the physical and mental function of a user's career, sociality, and family. Both the terms of media addiction or internet addiction share the same understanding that addiction is a mental disease. For example, the diagnostic criteria for pathological gambling established by APA (1987) was adopted by researchers to define addiction to video games (Griffiths 1991) and internet addiction disorder (Young 1998).

In this study, addiction to mobile games was defined as a kind of phenomenon that users strongly rely on mobile games and cannot help playing mobile games repeatedly in a comparative long period of time. As such behavior may cause notable physical, mental and social damage to individuals, we select the eight criteria for game addiction made by Griffiths (1998) based on diagnosis of pathological gambling (DSM-III-R) as our measurement items.

It is worth noting that researchers didn't reach an agreement on the terminology to describe the media or internet addiction behavior. Specifically, a variety of terms including problematic Internet use (Shapira et al. 2000), pathological Internet use (Davis 2001), unregulated media usage (Robert et al. 2003), or Internet addiction (Brenner 1997; Greenberg et al. 1999; Griffiths 2000; Hall et al. 2001) have been used in prior literature. Even though such media consumption behaviors are termed differently, they are essentially the same given the key concepts in descriptions. In this paper, we use the term addiction to mobile games to keep consistent with former studies.

2.2 Flow

Flow or flow experience is defined as "the holistic experience that people feel when they act with total involvement" by Csikszentmihalyi (1989) who is the founder of flow theory. Csikszentmihalyi (1989) suggested that when people get into the flow state, they would become entirely involved in their activities and cannot realize the surroundings changes. To be specific, typical flow experience occurs when people concentrate only on their ongoing activities and lose their self-consciousness. Flow theory has been applied in numerous studies in the field of internet and e-commerce. Ghani et al. (1994) found that exploratory use behavior and extent of computer use are both linked to flow; Sweetser et al. (2005) used "game flow" to propose a model to evaluate player enjoyment in games; Ding et al.(2010) tested the positive relationships between flow experience and continuance intentions

in the context of information technology and information systems. Shin (2011) detected that flow influences the relationships between perceived factors and SNG users' behaviors.

On one hand, previous studies have demonstrated that flow has a positive impact upon game addictions. Chou et al. (2003) suggested that flow experience shows a strong positive impact upon addiction, which means that online game players who have experienced flow are much more likely to get into addiction. Wan and Chiou (2006) investigated the relationship between players' flow state and their online games addiction. Seah and Cairns (2007) found that the experience of flow and in-game immersion was associated with addiction. Flow experience has been acknowledged as an important predictor of game addictions which include mobile game addiction.

On the other hand, mobile games addictions, as a specific type of game addictions, are more likely to get people into flow experience. According to psychological view, people are prone to access media through physiological arousal, which means excitement, pleasure, and stimulation, resulting in psychological reliance on media. In our effort to contextualize this view to mobile game addiction, we suggest that the motivation driving users play games repeatedly is the pleasure, fun, and excitement derived from flow experience. Based on previous studies and the features of mobile game context, it's reasonable to highlight the role of flow as the indispensable contributor to mobile game addiction. Hence, the following hypothesis is proposed:

Hypothesis 1. Flow has a positive impact upon mobile game addiction.

2.3 Consumer Value

Consumer value, defined as the consumer's evaluation after his or her interaction experience with things or events, plays an important role in understanding consumers' decision making, motivation, even brand loyalty in marketing and business field. Consumer value is also an important concept to understand mobile game users because it addresses what users want and they believe they get from mobile games just like the process of product buying. Previous studies have proved that consumer value has positive impacts on flow experience. Chang (2013) revealed that consumer values are positive linked with flow experience in social network games. Wu et al. (2014) also studied the relationship between consumer value and flow experience in online shopping.

According to previous studies, consumer value is measure in three dimensions: hedonic value, utilitarian value and social value (Rintamäki et al. 2006). Hedonic value is defined as the whole of experienced arousal and perceived freedom, highlighting three F's – fantasies, feelings and fun. Social value stresses interaction and the social roles users play (Arnold & Reynolds 2003). Utilitarian value captures rational behaviors (Bettman 1979), concernment with efficiency and achieving a specific end (Babin et al. 1994). In the context of mobile games, utilitarian dimension is excluded for the reason that game itself is of no functional and specific goal. Hence, we study flow experience from two perspectives: hedonic value and social value.

2.3.1 Perceived Enjoyment

Perceived enjoyment refers to the extent to which pleasure can be perceived by users. From the perspective of hedonic value, perceived enjoyment has been confirmed as an antecedent of flow experience in many previous studies. Ha (2007) revealed that in the process of mobile games adoption, perceived enjoyment has a significant positive influence on flow. Sweetser (2005) found that perceived enjoyment has a great influence on game flow. Hsu (2003) suggested that flow is a highly enjoyable experience, where people can engage himself in the on-line game activity with enjoyment, intrinsic interest, no distractions, control and involvement. Ha (2007) found that perceived enjoyment has a positive effect on flow in the mobile game adoption model. According to the utilitarian-hedonic framework of online services, Shin (2009) found that as an hedonic purpose perceived enjoyment influenced online use for entertainment purposes strongly. Heijden (2004) also identified that perceived enjoyment is a key factor in hedonic information system.

Notwithstanding perceived enjoyment has been always taken as a predictor of flow in the previous researches (Hsu 2004; Ha 2007; Ghani 1994), its impact on flow has not been empirically confirmed in the research context of mobile games. We therefore stated the following hypothesis:

Hypothesis 2. Perceived enjoyment has a positive impact upon flow.

2.3.2 Perceived Visibility

From the perspective of social value, mobile games with social values tend to lead users to have flow experience. In the traditional games, social value can only be achieved by interacting with others through the approaches of face-to-face communication or online chatting. However, mobile games with social networking functions today intensify social value greatly than before. To be more specific, Game Developers Conference summarized several social features of mobile games including social login (social network account login), social media status updates (share some game-related info to their Facebook Wall, Twitter stream or some other social network), achievements sharing on a leaderboard which allow players compare their game accomplishments against all players, not just their friends, Email sharing, invites/ referrals, and friend challenges. As we can see, the combination of social network and mobile games makes the visibility of achievements become more popular. Hence, game topic is no longer limited within several people and your game score or level is visible to every friend on your Facebook. Further, the scope of interaction has been extended to the whole social network.

Fisher and Price (1992) have defined perceived visibility as the perception that one's consumption behavior will be noticed by referents in the consumers' adoption decision. In the research context of mobile games, users will share game scores or levels, invite friends to games by virtue of social mobile game features mentioned above, and their behaviors would be noticed by other users. As a result, one's game behavior is largely visible to others and users themselves also notice the visibility of their behaviors.

In this study, perceived visibility is taken as the manifestation of social value. Kazakeviciute and Banyte (2012) pointed that social value could be revealed by factors like seeking for social experience, which could be defined as the level of contact and role playing. These factors are the consequences of perceived visibility. Given the social mobile game features, visibility in social networks make users get the sense of social presence and social approval by having high scores and getting comments from friends. Additionally, Chang (2013) has demonstrated that positive relationship between social value and flow experience. On the other hand, Animesh (2011) also identified the positive link between social presence and flow. Thus, taking perceived visibility as a manifestation of social value, we propose that

Hypothesis 3. Perceived visibility has a positive impact upon flow.

Previous studies have identified that flow has positive influence of addiction. Accordingly, perceived visibility could affect addiction by influencing flow experience firstly. Besides, visibility will influence addiction by virtue of sociality. As the sociality nature of mobile games enables users to obtain identification from others, even getting a sense of cutting edge when being on the top of scores, these feelings are consistent with Khang's (2013) conception of self-presence. Khang (2013) also corroborated positive link between self-presence and addction. Thus, we reasonably believe that for users who have the expectation of other's notice, they are involved in compulsive game playing just to break the record, keep interactions with friends and get social presence. Thus, we propose that

Hypothesis 4. Perceived visibility shows a positive impact upon addiction.

Based on the above hypotheses, we proposed our model in Figure 1. Further, previous studies on hedonic technology also state that perceived ease of use as an important predictor of flow, so we also include it into the model as a control variable.

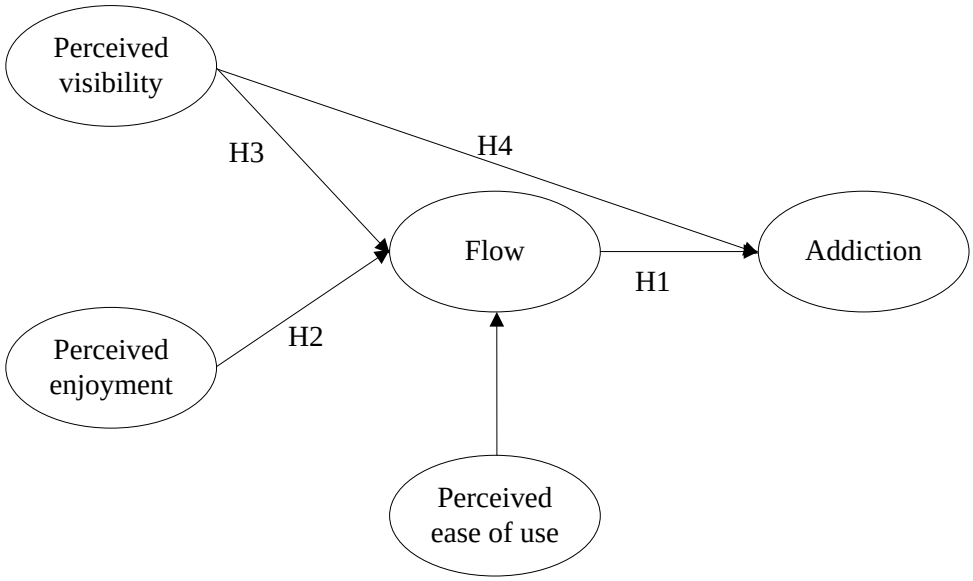

Figure 1. Research model

3 METHODOLOGY

3.1 Research Setting

A survey was conducted to test the research model and hypotheses. We did not specify a specific mobile game, but let the respondents choose a mobile game that s/he is familiar with before completing the questionnaire and answer the questions based on this game. As our study focused on those mobile games with social networking functions, those mobile games without the social networking functions were excluded from the study. Specifically, these mobile games should enable players to show friends their mobile game scores or levels through the social network and/or to interact with their friends. The reason why we didn't choose a particular mobile game is that the users of only one mobile game may share so many common features that the variance is not obvious. Investigation towards users of different mobile games would test the model in a more convincing way.

3.2 Questionnaire Development

Most of these items we used to operationalize research constructs were adapted from the existing literature. To suit the context of mobile games, we modified the scales slightly. Perceived ease of use was measured by four items, which were adapted from Hsu & Lu (2003). Perceived enjoyment was measured by three items, which were adapted from Ghani et al. (1991). Flow was measured by three items adapted from Ghani et al (1994), Holbrook (1994) and Novak et al. (2000). Perceived visibility was measured by three items developed from Fisher & Price (1992). Game addiction was measured by eight items developed by Griffiths (1998). Each item of the constructs was measured on a 7-point Likert scale with the end points of strongly agree (7) and strongly disagree (1). The complete questionnaire is given in Appendix.

3.3 Data Collection Procedure

The data was collected through an online survey agency (www.sojump.com) in two weeks. We totally gathered 247 responses, after eliminating insincere responses through data filtering, 234 valid and usable responses were used in the data analysis. Of the respondents, 60.26% were females and 39.74% were males. 87.82% of the participants were undergraduates and 89.07% of respondents were between the ages of 19 and 24. These samples substantially matched current mobile game players. The demographic information of the respondents in the final sample was shown in Table 1.

Age	Number	Percentage (%)

Under 18	12	5.13
19-21	186	79.49
22-24	22	9.40
25-27	5	2.14
Over 28	9	3.84
Education		
High school or below	3	1.28
College	205	86.61
Graduate school or above	7	2.99
Office worker	19	8.12
Gender		
Female	141	60.26
Male	93	39.74

Table 1. Demographics of respondents

4 DATA ANALYSIS

4.1 Measurement Model

The reliability and validity of the research constructs are summarized in Table 2. Hair et al. (1998) suggested that composite reliability larger than 0.7 would confirm the reliability of a model. As listed in Table 2, the composite reliabilities for all the constructs were greater than 0.81, indicating a high reliability. As suggested by Fornell and Larcker (1981), convergent validity can be evaluated by checking whether or not the item loadings on the respective construct are high enough. The results showed that most item loadings are greater than 0.7 on their respective constructs with the exception of the sixth item of addiction. After dropping this item, the results suggested that all the constructs were with good convergent validities.

Discriminant validity evaluates the extent to which each concept and its indicator variables differ from other concepts. According to the criteria suggested by Fornell and Larcker (1981), the correlation of one construct shared with other constructs should be less than the square root of the AVE. As demonstrated in Table 2, all square roots of the AVE on the diagonal were larger than correlation coefficients of the constructs, providing evidence of discriminant validity.

Construct	Composite Reliability	Average variance extracted (AVE)	AVE and squared correlations				
			PVIS	PENJ	PEOU	GADD	FLOW
PVIS	0.81	0.59	0.77				
PENJ	0.95	0.75	0.22	0.87			
PEOU	0.92	0.85	0.17	0.40	0.92		
GADD	0.88	0.51	0.46	0.44	0.17	0.71	
FLOW	0.89	0.73	0.39	0.67	0.39	0.58	0.85

Table 2. Reliability statistics (square roots of AVEs shown as diagonal elements).

4.2 Structural Model

The research model was tested using SmartPLS. Figure 2 illustrates the explanatory powers of constructs. Four hypotheses were all supported. As hypotheses testing results shown in Figure 2, the influence of the hypothesized paths from perceived enjoyment and perceived visibility to flow were significant, supporting H2 and H3. The impact of perceived visibility to addiction was significant too, supporting H4. Flow ($\beta = 0.476$, $p < 0.001$) positively influence addiction (supporting H1). These results show that perceived visibility and flow are important factors in forming the players' addiction toward mobile games.

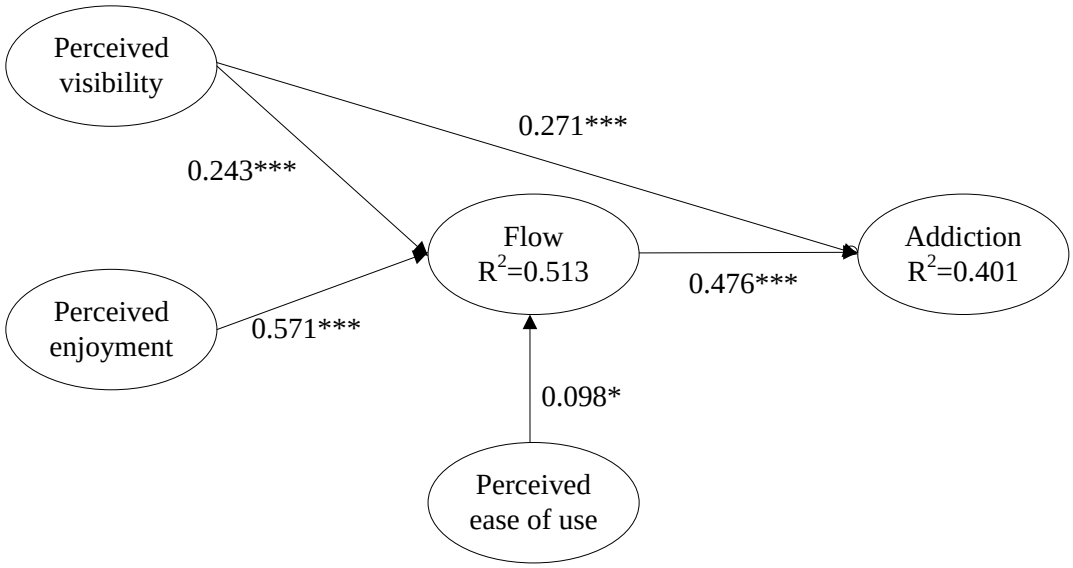

Figure 2. Results for structure model measurement

*Note: * p<0.05, ** p<0.01, ***p<0.001.*

5 DISCUSSION AND IMPLICATIONS

5.1 Theoretical Implications

From a theoretical perspective, the study contributes to the understanding of the users' addiction to mobile games. Firstly, most studies about mobile games have focused on the intention to play games rather than addiction, which is a more important reason of game popularity and users' loyalty. Also, most studies that aimed at addiction mechanism omitted the mobile games. Thus, this study filled the research gap in mobile game addiction.

Second, based on the consumer value theory, we studied the mobile games addiction factors from two perspectives: hedonic value and social value. Consumer value is a widely accepted theory to explain consumer motivation and behavior in marketing and business field. In this study, in terms of the unique features of mobile games (e.g., hedonic and social natures), we propose that hedonic and social values works while utilitarian value is not applicable. We further theorized how these two value perceptions can lead to users' flow experience which in turn affects addiction. Our study also empirically examined the impacts of perceived enjoyment and perceived visibility on flow. These findings can be used in the future research on mobile game addiction.

Finally, the study reveals that sociality in mobile games could be taken as a cause of mobile game addiction. To be more specific, we use perceived visibility to describe the perceptions that players acquired from the social functions of mobile games. Further, this study finds that perceived visibility significantly influence mobile game addiction in two ways. One is the indirect impact of perceived invisibility via flow and the other is the direct impact on addiction. These two mechanisms suggest that perceived visibility can be treated as both a source of social value (e.g., the indirect effect via flow) and a source of social influence (e.g., the direct effect).

5.2 Practical Implications

This study has key implications for practice. First of all, for game developers who would like to maximize the interests, game addiction is their ultimate goal rather than intention, which means attractive products will enable users to play games frequently and even become loyal users. Since this study confirmed the vital role of perceived visibility in forming addiction, game developers should realize the vital role of the social function of mobile games and put significant resources into developing and delivering social mobile games. These mobile games may have several features below: (1) having the function that let players to be able to brag or share some game-related bit of

information to their Facebook Wall, Twitter stream or some other social network; (2) having leaderboards allow players compare their game accomplishments not only against their friends but also against all players; (3) having the ability to let players challenge a friend who is also playing the same game. So our study may inspire game creators to make use of those features while developing applications. What's more, the results of this study offer a basis for mobile game industry to develop an application evaluation framework that determines the popularity of new games under the mobile Internet context.

At the same time, our research also makes sense for researchers who focus on negative effects of mobile game addiction. Since the model we proposed shows the mechanism of mobile game addiction. This mechanism can be used to find new ways not only to help people to avoid being addicted but also to help people who have been addicted in mobile games to get rid of addiction.

5.3 Limitations

There are several limitations in our study. First, the small variances explained show that there might be some other factors affecting mobile games addiction in the research model. Conceivable factors include unique characteristics of mobile applications, socio-environmental factors and personal factors such as extraversion, emotional stability, agreeableness, and attractiveness. Second, we take convenience sampling when collecting data, which means that our sample may be biased. In our sample, Chinese undergraduates are the main respondents. However, whether or not the findings can be applicable to other populations still requires for further investigations. Third, with the consideration of convenience and efficiency, we collected all the qualified data from the Internet questionnaires. It's a kind of direct survey which is sometimes subjective as respondents may lessen their extent of addiction unconsciously. Although there are innate deviations which can't be eradicated in this method, we shared this questionnaire through social platform which corresponds to the sociality of mobile games. However, to make the study more convincing, some other methods should be combined with questionnaire survey, such as observational method and experiment.

6 CONCLUSION

Our study focuses on the determinants of addiction towards mobile games. Through the processes of model design, questionnaire survey as well as sample analysis, we discovered that all the variables including perceived visibility, perceived enjoyment, flow are positively related to addiction. Meanwhile, there still exist some limitations as we just mentioned. From the perspective of those limitations, subsequent studies can be conducted to further examine our research model in other research contexts and respondents populations and search for potential moderators.

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Appendix. Major Items of the Questionnaire.

1. Your gender is:		Male		Female	
2. Your age is:	<= 18	19-21	22-24	25-27	>=28
3. Your identity is:	High school student	Undergraduate	Post graduate or PhD		Work officer
4. Your Majors or job is :					

5. Please write down a mobile game that you are familiar with and answer the following questions based on it.							
6. Learning to play a mobile game is easy for me. (Perceived ease of use 1)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
7. It is easy for me to become skillful at playing a mobile game. (Perceived ease of use 2)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
8. The mobile game is easy to play. (Perceived ease of use 3)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
9. It takes me little time to learn to play a mobile game. (Perceived ease of use 4)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
10. I think the game is fun. (Perceived enjoyment 1)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
11. Playing mobile games is enjoyable. (Perceived enjoyment 2)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
12. Playing mobile games gives me a lot of pleasure. (Perceived enjoyment 3)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
13. I am always totally absorbed in mobile games when playing them.(Flow 1)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
14. I experience a sense of achievement when playing mobile games. (Flow 2)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
15. Time goes by quickly when playing mobile games. (Flow 3)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
16. I'd like to display my score of the	Strongly disagree						Strongly agree

game to my friends (Perceived visibility 1)	1	2	3	4	5	6	7
17. People who is familiar with me plays the game can makes me interesting in the game (Perceived visibility 2)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
18. I'd like to invite me friend to compete with me (Perceived visibility 3)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
19. I play the game almost every day. (Game addiction 1)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
20. The time that I cost in the game is always beyond expectation. (Game addiction 2)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
21. I will play the game for excitement. (Game addiction 3)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
22. I will play the game to break my record.(Game addiction 4)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
23. I have repeatedly tried to quit or play less. (Game addiction 5)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
24. Internet outrage during the game will irritate me.(Game addiction 6)*	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
25. Playing the game sometimes affects my normal business.(Game addiction 7)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7
26. I sacrifice some social activities to play the game. (Game addiction 8)	Strongly disagree						Strongly agree
	1	2	3	4	5	6	7

*Note: *Item dropped after pilot test.*