Online Digital Game Addiction: How Does Social Relationship Impact Game Addiction

Full paper

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Abstract

Relationship is one of the most basic needs of human being. When our relationship suffers, we tend to turn to online game as an alternative to fulfill our unmet need. Massive Multi-user Online Role-playing Games (MMORPGs) environment is an ideal platform for multiple players to interact, to make friends, and to complete a task together. Social Learning Theory deposits that behaviors are learned by observing others in a social context. Gamers learn to be addicts when they constantly associate with online friends who are game addicts. This paper focus on how the offline and online social relationship contribute to online game addiction. Examining social relationship factors that lead to online game addiction allows practitioners the opportunity to identify ways to help pathological individuals breaking away from the game addiction. Researchers could expand our proposed model to further study what specific relationship factors contribute the most to game addiction.

Keywords

Online game addiction, offline relationship, online relationship, social learning theory, favorable attitude of game.

Introduction

There have been many researches to study how video gaming could be source of addiction. According to a survey (Lu and Wang, 2008), 60 percent of the respondents said that they play online games every day and 33 percent said that they spend more than 3 hours per game session. The Internet by itself is not addictive but specific interactive features offered by applications such as gaming, dating, and chatting contribute to the addictive use of Internet. Massive Multi-user Online Role-playing Games (MMORPGs) are one form of internet gaming addiction that collaboration and social interaction are required. Players must join the “clan” of other gamers in order to excel in the game. Many game addiction researches have been done on teenagers or young students. Few studies have been done on adult populations. As online game become more popular, more adults of both genders have started playing online games. Teenagers are no longer the dominant online game players (Wan and Chiou, 2006). The target of our study is the general population in Korea.

Many qualitative studies have focused on psychological factors that contribute to game addiction. Not many studies tie online and offline social relationships with online digital game addiction. The purpose of this study is to examine the impact of relationship and social learning on online digital game addiction. We will also examine how individual’s favorable attitude toward gaming impacts game addiction. The
online virtual relationship we discussed in this paper focuses on the relationship building around the MMORPGs environment where it provides the opportunity for multiple players to interact and complete a task together. The main research questions of the study are 1) how does offline social relationship influence online digital game addiction? and 2) how does online virtual relationship influence online digital game addiction?

Examining the social relationship factors that lead to online game addiction allows practitioners such as counselors the opportunity to identify ways to modify factors that influence offline and online social networks in helping pathological individuals break away from game addiction. Researchers could expand our proposed model to further study modality switch which is the transfer of offline social contact to online gaming spaces or vice versa. The findings of this article are somewhat surprising between social relationship of online and offline setting. The two relationships have the opposite effect on online game addiction. When offline social relationship suffers, gamers are more likely to develop a game addiction; however, when online relationship thrives, gamers are more likely to develop a game addiction. We human being has the desire to feel we belong and we are pressured to conform in a social context. It is the people in our social circle influencing what we learn from the environment. If we associate with game addicts, we are more inclined to develop a game addiction. For example, lonely and depressed people who do not feel they belong are more likely to get addicted to alcohol, drugs, or an online game. On the other hand, people who want to feel they belong and hang out with a gang whose norm is to use drugs and alcohol are more likely to get into substance abuse and alcohol addiction in order to fit in. Once gang membership is terminated, the addiction habit may change (Moene, 1999).

**Literature Review**

Internet addiction refers to the excessive use of the Internet to the degree that social life and day to day functioning are impacted. Internet addicts show symptoms of withdrawal, tolerance, and dependence and the addiction itself is portrayed as pathological and problematic. Internet addiction includes cybersex, gambling, online chat, and game addiction. Based on the concept of addiction, online game addiction has more potential to create physical, social, and psychological problems such as losing the ability to control oneself in playing games, suffering from depression when in the absence of playing games, and/or developing dependency on games.

Many factors related to Internet addiction can be used to study Internet game addiction. Online games are found to be one of the most addictive activities on the Internet especially the massively multiuser online games or social-network games which not only provide game playing opportunity but also social interaction platform for users to chat, trade, and exchange information. Teenagers are especially vulnerable group of players to get an addiction. Studies indicated that psychological, self-regulation, and social control skills are factors associated with online game addiction (Liu and Peng, 2009). For example, people who are low in self-confidence or lack of social engagement are more prone to online game addiction. Those who are more isolated, depressed, or self-defensive are more engaged in the excessive use of online game. They are trying to meet an unfulfilled need in reality with an alternative which is playing games online. Extroverts take advantage of social networking sites for social enhancement and introverts compensate for lack of social interaction (Kuss and Griffiths, 2011). Male users are usually more game-oriented and female users are more chat-oriented. Accessibility, computer proficiency, frequency of playing, and the amount of time playing are all predictors of the tendency to get an online game addiction. There are many studies about how online relationship impact game addiction and how online game addiction impair individual’s ability to function normally but there are lack of study about how online and offline social relationship together impact game addiction which is the focus of this study.

**Self-determination Theory**

Self-determination theory states that the well-being of individuals and their abilities to regulate themselves are determined by certain basic psychological needs being met. These psychological needs include the need to relate, the need for competency, and the need for autonomy. When individuals are able to meet these basic psychological needs in their daily lives, they will experience high degree of well-being. On the other hand, if these basic psychological needs are not fulfilled, they have to seek elsewhere to rectify the situation (Ryan and Deci, 2000). Consequently, individuals are more inclined to do activities that could fulfill these unmet needs (Ryan, Williams, Patrick, and Deci, 2009).
Social Learning Theory

Social learning theory was introduced by Albert Bandura in 1977. It posits that learning is not only a behavioral but also a cognitive process that happens in a social setting. Learning occurs by observing a behavior and by observing the reward and punishment of the behavior which is called the vicarious reinforcement. Reinforcement has a role in learning but is not completely responsible for learning. The learner does not passively receive information from the environment instead the environment, the cognition, and the behavior interact with each other (Bandura, 1977).

Conceptual Model and Hypotheses

This study proposes the research model presented in Figure 1. We have identified four major constructs in this research model: Offline Social Relationship, Online Virtual Relationship, Favorable Attitude of Game, and Online Digital Game Addiction.

Social orientation is the tendency of a person to be sociable, forming or maintaining social relationships with peer offline (Lemmens, Valkenburg, and Peter, 2009). Thus individuals who have more social skills in forming and maintaining relationships are less likely to feel lonely. Loneliness is a good indicator of online game addiction among online gamers (Jeong and Kim, 2011). Many game addicts are self-reliant and do not involve much in social activities offline therefore their social relationships at work, school, and home suffer. Parents’ involvement in children’s life plays an important role in socialization, delinquency, and game addiction. The stronger the relationship with family, the less likely youngsters will be addicted to online game (Jeong and Kim, 2011). School is also a primary place for children to learn socialization. The stronger the relationship between teacher and student, the less likely students will have behavioral issues and the less degree of children will develop game addiction (Jeong and Kim, 2011).

Self-determination theory proposes that people who have trouble meeting their need in real life will turn to somewhere else to fulfill their need. Online games provide the opportunity for players to fulfill the need to relate. Once gamers meet their psychological need with online game, it reinforces their motivation to play more and it diminishes their need to seek fulfillment outside the game. Therefore, we propose the following hypothesis:

**H1**: A game player’s offline social relationship is negatively associated with his or her online digital game addiction.

Adolescents who experience intense loneliness spends less in social activities to build relationship offline therefore their social self-efficacy is low. However, they exhibit high social self-efficacy in cyberspace, more comfortable developing friendship in the cyberspace. High social self-efficacy individuals tend to spend more time online to cultivate relationships through gaming therefore they are more vulnerable to develop an online game addiction (Jeong and Kim, 2011).
Mediated social platform such as online gaming provides a space for social vulnerable population such as the socially inapt, anxious, lonely, depressed, and shy individuals to meet people, make friends, increase social support, and enlarge social circle online. This social platform helps individuals overcome social obstacles, reduce social inhibitions, and promote effective communication in cyberspace. Shyness finds tangible benefit in meeting new friends online and maintaining offline friends who engage online as well within the online gaming platform. Online gaming platform integrates social space within an interactive playful environment where friendship can be developed as any other mediated social environments such as chat room (Kowert, Domahidi, and Quandt, 2014).

Heavy consumption is appropriate in one culture but not in the other. Some groups use legal and illegal drug for ceremonies. Narcotics use is often initiated by a friend or gang member. Once giving up the membership, one’s habit may be different. People may be rational by themselves but may not be rational in the social situation they have chosen to be in (Moene, 1999). According to Social Learning Theory, learning takes place by observing a behavior in a social context. The learner does not passively receive information from the environment instead the environment, the cognition, and the behavior interact with each other. Gamers learn to be a game addict by constantly associating with online friends who are game addicts in an online game environment. Therefore, we propose the following hypothesis:

**H2**: A game player’s online virtual relationship is positively associated with his or her online digital game addiction.

 Favorable attitude of game is defined as the perception to view playing game as a positive activity. People who see game as a positive activity will engage themselves more in playing online digital game therefore they will spend more time on it. The more time they spend on it, the more likely they will develop affection to it and the more chance they will get addicted to it.

When individuals perceive online gaming delivering values such as entertainment and social connection, they develop favorable attitude toward online digital gaming. Such positive expectancy impairs individual’s ability to resist overuse of gaming which contributes to addictive behavior. In addition, the more benefit online digital game delivers, the more time gamers spend on it; therefore, it increases the chance of developing game addiction (Lee, Ko, and Chou, 2015).

Furthermore, online digital games are structured to encourage players to complete a task to receive rewards which fulfill the need for achievement. In addition, rewards are posted on the billboard to boost gamers’ ego. The brain releases dopamine from these pleasant experiences. These positive reinforcements lead to positive expectancy for online gaming (Lee, et al. 2015). Therefore, we propose the following hypothesis:

**H3**: A game player’s favorable attitude of online digital game is positively associated with his or her online digital game addiction.

Social influence has been a popular subject to study in social psychology and sociology researches. Social influence is pressures imposed by group members to create conformity in attitude and behavior. Conformity is a change of behavior or attitude toward a group as a result of group pressure which is defined as a psychological force applying to a person to meet expectations of others (Yang and Chen, 2006). Multiple studies have examined the effect of social influence on attitudes and behavior. Media has strong power to influence people’s attitudes toward eating habit, body shape and weight. Social influence affects teenagers’ lifestyle attitudes such as smoking and dating.

A study of the effect of social influence on college students’ attitude and behavior toward internet use has found that offline social influence has significant impact on college students’ favorable attitude toward use of internet (Yang and Chen, 2006). Therefore, we propose the following hypothesis:

**H4**: A game player’s offline social relationship is positively associated with his or her favorable attitude of online digital game.

Online social network has tremendous power to influence a purchase. Facebook is living proof. Friends on Facebook tend to make a purchase from recommendations from another friend in the social network. Online gaming spaces are very similar to the social networking sites in nature where it provides a platform for gamers to share time together, to build friendship, and complete a task together via game playing.
They all share something in common which is the liking of online games and influence each other’s attitude and preference. Therefore, we propose the following hypothesis:

H5: A game player’s online virtual relationship is positively associated with his or her favorable attitude of online digital game.

**Methodology**

**Data Collection**

With the help of a professional survey research company in South Korea, the survey data is collected using a quota-sample method considering the ratios of age and gender of the game population group in South Korea. The obtained survey data is examined and cleaned up to make sure that it is valid with no missing data. A series of statistical procedures are performed to ensure data is in compliance with normality, constant variance, and randomness assumptions. Outlier will be removed if there is any before proceeding with further data analysis. After eliminating incomplete data, a total of 789 samples are used to test the proposed hypotheses. Descriptive statistics report is generated via SPSS software for each item being measured.

**Construct Measurement and Reliability**

The quantitative methodology to measure the different psychological factors is captured through the instruments used to measure the constructs. The scales used to measure the constructs are adopted from previous literature. The survey items used to measure constructs adopt a seven-point Likert scale with “strongly agree” and “strongly disagree” at both ends. The value of Cronbach’s alpha is measured to see if there is any internal consistency and reliability issue among items of the same construct. Cronbach’s alpha value for each construct obtained from SPSS shows a high value between 0.702 and 0.974 (Table 2).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Number of Survey Items</th>
<th>Number of Survey Items after Deletion</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offline Social Relationship</td>
<td>16</td>
<td>8</td>
<td>0.702</td>
</tr>
<tr>
<td>Favorable Attitude of Game</td>
<td>25</td>
<td>24</td>
<td>0.974</td>
</tr>
<tr>
<td>Online Virtual Relationship</td>
<td>21</td>
<td>21</td>
<td>0.972</td>
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<tr>
<td>Online Digital Game Addiction</td>
<td>20</td>
<td>20</td>
<td>0.962</td>
</tr>
</tbody>
</table>

**Table 2 – Cronbach’s Alpha**

**Construct Validity**

An exploratory factor analysis with rotation is obtained through SPSS. Exploratory factor analysis is run multiple times to identify convergent and discriminatory validity within each construct. Multiple items are not in compliance with internal validity. Eight items from Offline Social Relationship and one item from Favorable Attitude of Game are removed because of low factor loading value.

**Analysis and Results**

We use SmartPLS to test the structure model. The result of analysis is summarized in Figure 2. The results show that the model explains about 58% and 3% of the variance of online digital game addiction game and favorable attitude of game, respectively. All t-statistics except the path between offline social relationship and favorable attitude of game are greater than 1.96 so they are found statistically significant at the 0.05 significance level.
Online Digital Game Addiction

![Research Model with Finding](image)

Note: * significance levels: * p < 0.05 and ** p < 0.01; + correlation

**Figure 2 – Research Model with Finding**

Offline social relationship and online virtual relationship have respective t value of 2.771 and 3.169 and are greater than 1.96. They are significant in explaining game addiction so H1 and H2 hypotheses are supported. Favorable attitude of game is significant in explaining game addiction therefore H3 hypothesis is supported. Offline social relationship has a t value of 0.073 which is not greater than 1.96 so it is not significant in explaining the dependent variable favorable attitude of game therefore H4 hypothesis is not supported. Online virtual relationship has a t value of 4.695 which is greater than 1.96 so it is found significant in explaining the dependent variable favorable attitude of game therefore H5 hypothesis is supported.

**Discussion and Conclusion**

The original purpose of the study is to find out whether the most basic human need, the need to relate and the social learning impact of online digital game addiction. All proposed hypotheses are supported except H4. A possible interpretation of the insignificant relationship between offline social relationship and favorable game attitude is that when people have more offline friends and strong relationship with them, they do not have to or need to spend their time on online games; in turn, they are less likely to have favorable attitude of online games. The finding reassures the fact that when our relationship suffers in real life, we tend to fulfill it somewhere else. In this case when people cannot get their social need met in real life, online gaming is one of the alternatives for them to fulfill their unmet social need. The finding also confirms that you become who you associate with. Gamers are more likely addicted to online game when they associate with a bunch of online friends who are crazy about online gaming. This has great implication for both researchers and practitioners.

In this paper, we only focus on the need to relate and group conformity, with game addiction. There are other need dimensions that researchers could explore further in order to find out their relationships with game addiction. The implication of this study for researchers is that the proposed model could serve as a basis for further research on relationship and game addiction. Researchers could extend the proposed model to further investigate specifically which type of relationship has the strongest influence on game addiction which is not within the scope of this study. The implication of this study for practitioners is that in order to prevent people from getting game addiction or helping game addicts, more social interaction programs and activities in the online or offline community need to be in placed to reach out to those marginalized or social inhibited population so that they have a place to go to for social and emotional support and to have a place to socialize with people of the same mind or similar interest.
In conclusion, online gaming platform provides an ideal place for people to expand their social circle. At the same time, it is a place where gamers get addicted if they get too carried away with this online frenzy. This study facilitates the understanding of how social relationship in real life and online influence people's attitude of online game and how social relationship in real life and online contribute to the addiction of online game. With this understanding, it opens up opportunities for researchers and practitioners to do further study that help moderate the effect of social relationship on game addiction and attitude toward games. The article contributes by filling the research gap of online and offline social related online game addiction. It also identifies some intangible benefits from playing online games.

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