Are You Addicted to the Internet or on the Internet?

A Cognition-Attitude-Behavior-Consequence Hierarchy Model to Study Internet Addiction

Emergent Research Forum papers

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Abstract

Although Internet addiction has been widely reported as a problematic phenomenon, Internet addiction disorder has still not been officially recognized as a form of behavioral disorder in the most recent edition of the Diagnostic and Statistical of Manual of Mental Disorders. Nonetheless, studies of Internet addiction have received increased attention from professionals and scientists who find that excessive use of the Internet can lead to detrimental effects on an individual's life. This study aims to take another new look at Internet Addiction. We view internet addiction as a process which involves different stages. We also take a position that current measurement of internet addiction can involve measurement of antecedents or outcomes of Internet addiction. Additionally, we believe that internet addiction, which we define as excessive use of the Internet, can have both negative and positive impacts depending on the activities and the amount of time individuals are spending on the Internet.

Keywords

Internet addiction, hierarchy model

Introduction

Although Internet addiction or Internet addiction disorder (Goldberg, 1996) has been widely reported in the popular press (Konnikova, 2014; Mosher, 2011) and debated in the academic publications (Young, 1996; Griffiths, 1998; Zhang and Xin, 2013) as a problematic phenomenon, Internet addiction disorder has still not been officially recognized as a form of behavioral disorder in the most recent edition of the Diagnostic and Statistical of Mental Manual (DSM-V) (American Psychiatric Association, 2013). Among all possible behavioral disorders or addictions such as video game addiction, gambling addiction is the only non-chemical related disorder that is being included.

Nonetheless, studies of Internet addiction have received increased attention from mental health professionals (Young 1996 and 2007; Shaw & Black, 2008) as well as from behavioral scientists (Caplan, 2002; Griffiths, 1998) who find that excessive use of the Internet can lead to detrimental effects to an individual's academic, occupational, social, psychological, familial, financial and personal overall balance, normalcy and quality (Young 1998; Greenfield, 2010).
A typical addiction may include loss of control or strong dependence on substances or behavior, and a
desire to continue the activity with a tendency to increase the frequency or the amount of the activity over
time despite negative consequences (Morse and Flavin, 1992). Potential behavioral addictions can
include, but are not limited to gambling addiction (Peele, 2001), food addiction (March, 2006), smart
phone addiction (Choliz, 2010), sex addiction (Fearing, 2013), workaholic (Vaugeois, 2006), shopaholic
(Christensen et al., 1994), physical exercise (Morgan, 1979), video game addiction (Griffiths and Meredith,
2009) and Internet addiction (Goldberg, 1996).

While Internet addiction does not involve the physical substance or chemical abuse such as heroin or
alcohol abuse, researchers have argued that all addictions share similar core components such as salience,
mood modification, tolerance, withdrawal, conflict and relapse (Griffiths, 1996) and some have also
compared gambling addiction with alcoholism and drug addicts (Lesieur, Blume and Zoppa, 2007). To
empirically investigate this phenomenon, Young modified her original and first developed 8-item Internet
Addiction Diagnostic Questionnaire –IADA (1996) and developed a 20-item Internet Addiction Test (IAT)
as an Internet addiction assessment tool (Young, 1998). While this is one of the most adopted instruments
to investigate Internet addiction, studies have shown a large degree of inconsistency of IAT using the
confirmatory factor analysis (Laconi et al., 2014). For example, Hawi (2013) found one factor model;
Barke et al. (2012) found 2 factors; Chang and Man Law (2008) found 3 factors; Karim and Nigar (2013)
found 4 factors; Alavi et al. (2010) retrieved 5 factors and Widyanto and McMurran (2004) found 6
factors. Although the labeling of these factors varies across studies, these factors include: excessive use,
salience, neglect of work, lack of control, withdrawal and social problems, time management issues,
compromised academic/workings careers and performance.

Several other scales have also been developed throughout the world since then such as Compulsive
Internet Use Scale (Meerkerk et al., 2009), Generalized Problematic Internet Use Scale (Caplan, 2002;
2010), Chen Internet Addiction Scale (2003). However, several concerns are expressed by researchers
with respect to these scales. They include

1. Whether these scales are developed to measure the behavior of Internet Addiction itself (excessive
use) or the antecedents of Internet addiction (dependence or salience) or consequence of Internet
Addiction behavior (neglect work or poor academic or professional performance)

2. Whether these scales can distinguish if people are addicted to an activity (sex or gambling
addiction) or addicted to the Internet.

3. The emphasis of only the detrimental/negative effects of Internet Addiction. The Internet can be
simultaneously socially connected and socially isolated (Kraut and Kiesler, 2003). Users can
determine the degree of their social interaction needs on the Internet while minimizing their
social anxiety or social capital (Steinfield et al., 2008). Social media and social networking open
up channels for avid users to develop and express their creativities without the limitation of time,
space and geographic locations. These behaviors may fit in the core components of addiction, but
their effects can be positive and constructive.

4. The process of Internet addiction. While many studies focus on the study of the symptoms of
Internet addiction, a process-oriented view should help explain the trigger as well as the extent of
the excessive use on the Internet and its consequence.

A longitudinal study (Wang and Wang 2013; Yu et al, 2013) shows that Internet addiction is a
phenomenon that develops over time which is influenced by social support and social interactions.
Lavidge and Steiner (1961) proposed a hierarchy of effects model to predict the advertisement
effectiveness. Its purpose is to encourage not simply the immediate reaction of the stimulus
(advertisement) but the long-lasting effects of such stimulus through a hierarchy of process from
cognition (Stage 1), attitude (Stage 2) to motivation or behavior (Stage 3). The development of addiction
to Internet can also be examined using this theoretical lens as it involves the knowledge of the activities
online, the development of favorite attitude and conviction toward these online activities and the resulting
behavior and action. Since the process to reach the hierarchy varies by individuals, the use of this model
can help explain factors that affect the movement from one stage to another. Our study extends this model
by adding a 4th stage of consequence to present a more complete picture of the Internet addiction. A
tentative research model for our study is presented below.
Cognition Stage - Obsessive Thought, Salient Presence and Substitution Awareness

Individuals are more likely to develop Internet addiction when they are constantly obsessed with the thoughts of using Internet to conduct activities (Davis, 2001). Adiele and Olatokun (2014) found that extrinsic reasons such as obsessive thoughts on sex, social interactions, is the main factor influencing Internet addiction. The functions that are developed on the Internet allow individuals to use the Internet as a new platform to socialize, connect, express and create. The awareness of these functions allows individuals to substitute their offline behavior and transport them to online (Steinfield et al., 2008). As the Internet becomes easily accessible and available 24/7, it becomes a salient stimulus to those individuals who can conveniently access it.

Attitude and Behavior Stages - Preference toward Activities or Activities on the Internet

Prior studies have explored relationships between personality and technology use including but not limited to varying relationships between personality traits and internet use (Landers et al, 2006; Tuten and Bosnjak, 2001; Amiel and Sargent, 2004; McElroy et al, 2007) and mobile phone use (Butt and Phillips, 2008). Personality can moderate cognition and attitude. Certain personality traits can facilitate or moderate the development of attitude toward certain behaviors.

Attitude is defined in this study as attitude toward activities as well as attitude toward the use of the Internet to conduct activities as researchers have argued that these can be two distinctive dimensions of addiction (Jones and Hertlein, 2012).

Excessive use of Internet is an indicator to measure the extent of Internet addiction. The more time individuals spent online, the more significant positive or negative outcomes individual will experience.

Outcome Stage – Positive and Negative Impacts

Existing scales of internet addiction include a number of measures as indicators of addiction that involve negative impacts on social life, work, and academic performance. Existing scales will assign higher scores of internet addiction to those who indicate negative impacts in these areas. In this study, excessive use of the internet is regarded as a potential factor in affecting these areas, rather than regarding negative impacts in these areas as indicators of excessive use. Further, this study aims to measure both positive as well as negative impacts of excessive internet use.
Research Questions

This study aims to take another new look at Internet Addiction. We view the internet addiction as a process which involves different stages. We also take a position that current measurement of internet addiction can involve measurement of antecedents or outcomes of Internet addiction. Additionally, we believe that internet addiction which we define as excessive use of the Internet can have both negative and positive impacts depending on the activities and the amount of time individuals are spending on the Internet. The research questions posed in this study are as follows:

1. What are the significant factors that impact the development of the next stage construct in the hierarchy of effects model for internet addiction?
2. To what extent is excessive use of the internet associated with positive or negative outcomes on work performance, social interaction, or academic performance?
3. Is Internet addiction different from conducting addicted behavior on the Internet?
4. How does the adapted hierarchy of effects model compare with other models in predicting internet addiction?

Method

The research questions above may be tested using a survey which incorporates instruments used to measure all of the factors identified in the model. Excessive use will be measured using a modified version of the Internet Addiction Scale (Nichols and Nicki, 2004). Personality will be measured using the Big Five Personality Index (Goldberg, 1993). Preferences and attitudes toward internet use as well as work, social, and academic outcomes will be measured using new instruments devised for this study.

The survey will be distributed to freshman level university students in an attempt to understand how each student deals with the pressures and adjustments to university life. Survey results will be analyzed using regression analysis.

Conclusion

Prior research has overlooked one important aspect of internet addiction, which is that the internet is still evolving at a speed never seen before. Internet has become so intrusive, offline and online life are increasingly overlapping with each other. We now live in a world that Internet is no longer an option but a must. As Internet addiction becomes a widely discussed phenomenon, this paper takes a process view to examine the development of Internet addiction. Caution and care have been taken to address the direct indicators of Internet addiction and the direct effects and antecedents of Internet addiction. Instruments will be developed and tested before the implementation of the study.

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