

An Investigation into the Problematic Use of Facebook

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Abstract

Social networking sites (Facebook, MySpace, Twitter and the like) have become new phenomena in social communication and interaction patterns which have profound impact in the way people communicate and connect with one another. Among all these social networking sites, Facebook is the fastest growing social platform with over 500 million users, generating more than 1.6 billion page views each day.

In recent years, we have witnessed a significant amount of studies on social networking sites, with focus on user adoption and continuance, but few have investigated the cognitive and behavioral attributes and the negative outcomes relating to the problematic use of Facebook.

To fill the gap, the current study tested the advanced cognitive-behavioral model of generalized problematic Internet use (GPIU) in context of Facebook uses. Overall, the findings showed that a preference for online social interaction and use of Facebook for mood regulation, predict deficient self-regulation of Facebook usage (i.e., compulsive Facebook use and a cognitive preoccupation with Facebook). Deficient self-regulation in turn showed great influence on and led to negative outcome associating with the problematic Facebook uses. Results indicated the data fit the model well and variables in the current model accounted for 36 percent of the variation in mood regulation scores, 35 percent in respondents' deficient self-regulation scores, and 56 percent of variation explained in the negative outcome. The findings provide important implications for both researchers and practitioners.

1. Introduction

1.1. Definition of Facebook

Facebook, according to Dictionary.com (2011), is a publication for an organization, usually a college or business, which may includes profiles like names, birthdates, pictures and interests, serving the purpose of knowing each other better. There is a tradition in US, the name Facebook stemmed from the colloquial name for the book given to students at the start of the academic year by universities' administrations which was with intention of getting each student familiar with others (Wiki, 2011). Facebook here, however, is a social network site created in February 2004 and is operated and privately owned by Facebook, Inc. By 2010, Facebook is reported to have more than 500 million active users, generating more than 1.6 billion page views each day (Facebook, 2011). Users can make their own personal profile under restricted framework, find friends through the searching engine and add them as friends, make instant chatting, utilize the email-like messages exchanging services, and receive updates from the automatic notification functions. Moreover, users can join the groups sharing the similar interests by "liking" the pages organized by individuals, workplaces, schools, or colleges (Facebook, 2011). Capitalizing on its successes among university students, Facebook launched a high school version in early September 2005 and it then further extend the services and communities into the world of commerce in 2006 (Facebook, 2011). In November 2006, Facebook's directories have been place on more than 22,000 organizations' webpages.

1.2. Key Issues and Problems being Addressed

Social networking site (SNS), being one of the user-created contents (UCC) site, is now the most popular and fastest-growing sector in online business market (Lee, 2008). Although the ancestors of current SNS have existed for over 25 years (Ridings & Gefen, 2004), certain SNSs, including Facebook, Twitter, MySpace and Hi5, are now the focus of the world's Internet users' and business organizations, thanks to their potential to grow. The market for SNS in year 2010 reached \$2180 million and is expected to grow up to \$3669 million by year 2014 (Social Networking Market, 2010). According to the statistics from Facebook.com, there are more than 500 million active users (Facebook, 2011). Facebook also states that, more than half of their active users log onto Facebook every day. Each user of Facebook has 130 or above friends in average and users spends over 700 billion minutes per month in total on Facebook (Facebook, 2011).

A survey conducted recently about Internet usage statistics in Hong Kong revealed that Hong Kong Internet users aged 15 or above spent more than 25 hours online per month, showing the high and extensive involvement on Internet activities from the Hong Kong users, making the spotlight on the eyes of various business and advertisers. Social networking and entertainment activities account for 19 percent of online time. Facebook itself contributed solely 8 out of 19 percent online times as users flock to popular Facebook site. In fact, the total unique visitors to Facebook were up to 2,094,000, which account for 53.4 percent of total Internet unique visitors. The statistics indicate that Facebook users demonstrate high degree of “problematic use”, or “stickiness”, to social networking site, Facebook. (HK Internet Stat, 2009).

Though “Problematic Facebook Use” has not yet been officially recognized as a kind of mental disorder, enormous psychologists and studies have shown their concerns over the issue, especially for the undesirable suffering brought by “Problematic Facebook Use”. The Telegraph (2009), a newspaper in United Kingdom, warned the general public that excessive involvement in Facebook may harm their moral values. Sickfacebook.com (2010), an Anti Facebook Blog, estimated that over 350 million people were brought with all kinds sufferings from Facebook Addiction Disorder (FAD), which is a new term introduced by the American psychologists for describing individuals addicted to Facebook and unable to control their activities on Facebook.

As claimed by Young (1998), SNSs itself is not problematic. What makes users inclined so much to SNSs are applications with high degree of interactivity and collaboration, including friend finding, information and photos sharing, interactive little games and instant chatting, which in turn has high potential in causing problematic Facebook uses.

Past studies relating to Internet or social networking sites focused mainly on the field of usages or privacy issues, fewer empirical studies look at the relationships of problematic Facebook uses to cognitions, behaviors and socialization aspects. The first goal of the current study is to empirically test the advanced Generalized Problematic Internet Use model (Caplan, 2010) and its instrument s in measuring the theory’s key constructs. The second goal of the study lies in divulging the relationships between problematic Facebook uses, its antecedents and the relating negative outcomes.

The results of the study are believed to increasing our understanding on problematic

Facebook uses and thereby providing important instruments for educators in evaluating the degree to which students are inclined to Facebook. In addition, it enriches the pool of literature of the field and provides additional information for future researches.

2. Literature Review

2.1. Prior Studies on Facebook

Social networking site, Facebook, has become hugely popular in the last few years. In recent years, we have witnessed a significant amount of studies related to Facebook usage. For example, Nyland et al. (2007) identified five motives of using social networking sites, including meeting new people, entertainment, maintaining relationships, social events, and media creation. Ellison (2007) examined how Facebook usage affects the formation and maintenance of social capital. Shi et al. (2010) integrated expectation disconfirmation theory and identified factors that drive continuance of Facebook usage. Cheung and Lee (2010) argued that Facebook usage is a collective behavior and used the three major social influence processes (subjective norm, group norm, and social identity) to explain we-intention to use Facebook. Our review of existing publications on Facebook revealed that researchers only focus on the positive usage of Facebook, and there is a lack of theoretical understanding of the problematic use of Facebook. Particularly, we do not know what drives people to so incline to Facebook, and the resulted consequences from problematic Facebook uses.

2.2. Problematic Internet Use

Over the years, researchers have started to explore problematic Internet use, information technologies addiction, substance addiction and the likes of different contexts in all academic and medical fields, and developed theories and model explaining the problematic behaviors (See Table 1).

With the advancement of information technology and existence of interactive new

forms of social media, researchers have begun exploring the problematic uses of new forms communication media like Internet, online gaming and social networking sites. Chen et al (2004) investigated the possibility of the non-detrimental effects of Internet dependency and proposes an instrument to measure both positive and negative Internet dependency. Griffiths (2000) devoted efforts in studying five cases of excessive Internet uses and hoped to find out the cues for the existence of Internet addiction. Song & LaRose et al. (2004) drew fresh conceptualizations of gratifications specific to problematic Internet uses to uncover seven gratification factors. Young & Rodgers (1998) have investigated personality traits of those considered dependent users of the Internet utilizing the 16PF, and found out that self-reliant individual has the highest potential in developing problematic Internet uses.

Internet addiction, first coined by Goldberg (1996), was designed primarily to demonstrate the undesirable consequences arising from excessive Internet usage on individual lives. Sharing certain degree similarity to substance addiction, like nicotine addiction, addicts would suffer both mentally and physically. Goldberg was the first one who gave recognition to non-substance addiction, like Internet Addiction. Internet addiction, however, in contrast with substance addiction, is viewed as severe psychological dependency or a behavioral addiction to the Internet (Kandell, 1998; Griffiths, 2000).

There was, however, not yet an agreement on terminology describing the phenomenon. Several terms associating with the concept “Internet Addiction”, including “Problematic Internet Use”, “Pathological Internet Use”, “Internet

Dependency”, “Excessive Internet Use”, “Compulsive Internet Use”, “Cyberspace Addiction” and “Online Addiction”, were used in the previous literatures (Caplan, 2002, Chen et al., 2004, Douglas et al., 2008, Thadani & Cheung, 2011).

2.3. Information Technologies Addiction

Besides problematic Internet uses, another stream researchers studied the problematic or addictive uses of information technologies of other forms, including online gaming and social networking sites. Wan & Chiou (2006) indicated in their study that flow state was negatively correlated with addictive inclination and psychological needs of online game players comprised of satisfaction and dissatisfaction dimensions. They also developed themes explaining the source motivations of players’ addiction to online games based on the psychodynamic perspectives. Lu & Wang (2008) indicated that perceived playfulness and descriptive norms affect online game addiction formation. Kim et al. (2007) & Koo (2008), and Lee & Han (2007) supported coincidentally that personality, including locus of control, aggression & narcissism, are significantly associated with online gaming addiction. Thadani & Cheung (2010) investigated the structure and dimensionality of the Online Social Network Dependency.

More recently, researchers (Chou et al., 2005; Song & LaRose et al., 2004; Yellowlees & Marks, 2005) focused on refreshing the conceptualization and refining the measurements for social media addiction. The new form of social media, including social networking sites incorporate a greater extent of social interactions and engagements (Thadani & Cheung, 2010).

Table 1. Summary of Prior Research Studies on Problematic Uses / Addiction/ Dependency

Author	Area	Purpose	Finding
Becker & Murphy (1988)	Theory / Drug	To develop a new model of rational addiction explaining the addictive behaviors fall into and outside the theory	The theory of rational addiction did explain well-known features of addictions and appears to have a richer set of additional implications about addictive behavior than other approaches
Black & Moyer (1998)	Gambling	To examine sociodemographic features, phenomenology, and psychiatric comorbidity of 30 subjects reporting pathological gambling behavior	The results confirmed that individuals with pathological gambling suffer substantial psychiatric comorbidity
Blanco et al. (2001)	Gambling	To examine the existing research on different areas of pathological gambling to find evidence for a particular model suiting it	Data from different areas appeared to converge in suggesting that pathological gambling has characteristics similar to substance abuse, and less close to those of obsessive-compulsive disorder
Blaszczynski & Nower (2001)	Gambling	To advance a pathways model that integrates the complex array of biological, personality, developmental, cognitive, learning theory and ecological determinants of problem and pathological gambling	Pathways model which was a preliminary, empirically testable schema hypothesizing the existence of three subgroups of pathological gamblers was established
Chen et al. (2004)	Internet	To investigate the possibility of the non-detrimental effects of Internet dependency and proposes an instrument to measure both positive and negative Internet dependency	Internet users are not homogeneous and they improve on their Internet literacy through interactions with the vast amount of Internet services, findings proposed to model user behavioral patterns through the concept of Internet dependency
Chou et al. (2005)	Internet	To explores the research on the social effects of Internet addiction	Results revealed the use and time, problems, gender difference, social-psychological factors, and attitudes towards Internet addiction
Demetrovics et al. (2008)	Internet	To create a questionnaire assessing the Internet addiction	The PIUQ was proved to be a reliable measurement for assessing the extent of problems caused by the “misuse” of the Internet
Goldstein & Volkow (2002)	Drug	To evaluate the role of frontal cortical structures in drug addiction	The orbitofrontal cortex and the anterior cingulate gyrus, which are regions neuroanatomically connected with limbic structures, are the frontal cortical areas most frequently implicated in drug addiction

Table 1. Summary of Prior Research Studies on Problematic Uses / Addiction/ Dependency

Author	Area	Purpose	Finding
Griffiths (2000)	Internet	To concentrates on five case studies of excessive computer usage investigating the existence of Internet and computer addiction	Only two cases described “addicted” subjects. Excessive usage in the majority of cases was purely symptomatic and was highlighted how the subjects used the Internet / computer to counteract other deficiencies
Griffiths (2004)	Sex	To examine the concept of “Internet addiction” in relation to excessive sexual behavior	It is concluded that Internet sex is a new medium of expression that may increase participation because of the perceived anonymity and disinhibition factor
Huh & Bowman (2008)	Online game	To examines two individual variables, personality and perceptions of media, and explores how they relate to online game addiction	Both personality and perception are found to be significantly associated with online game addiction
Kandell (1998)	Internet	To improve the understanding of Internet addiction and the associating treatments	Study defined Internet addiction and identified the characteristics and factors associating with Internet addiction
Kim et al. (2007)	Online game	To explore the relationship between online game addiction and aggression, self-control, and narcissistic personality traits	Results indicated that aggression and narcissistic personality traits are positively correlated with online game addiction, whereas self-control is negatively correlated with online game addiction
Koo (2008)	Online game	To proposes five experiential motives such as concentration, enjoyment, escape, epistemic curiosity, and social affiliation as predictors of intention to play online games	It is revealed that experiential motives are higher for people with external locus of control than for people with internal locus of control
Koob & Moal (2001)	Drug	To reviews recent developments in the neurocircuitry and neurobiology of addiction from a perspective of allostasis	Addiction was presented as a cycle of spiralling dysregulation of brain reward systems that progressively increases, resulting in the compulsive use and loss of control over drug-taking
Lee & Han (2007)	Online game	To develop the scale for diagnosing elementary school children’s online game addiction through a scientific development process	Researchers developed a standardized Korean scale that can diagnose the online game addiction tendency of elementary school students
Lee & Yu (2007)	Online game	To discuss reasons why strongly addicted gamers stop being attached to MMORPGs and factors behind their decisions to leave these seemingly never-ending games	Multiple factors influenced gamers to quit playing MMORPGs, and those factors tend to reflect the reasons why gamers became addicted to those MMORPGs

Table 1. Summary of Prior Research Studies on Problematic Uses / Addiction/ Dependency

Author	Area	Purpose	Finding
Levine (1978)	Alcohol	To review the original conception and development history of alcoholism	The modern conception of alcoholism as a progressive, addictive disease dated only from the late 18th century
Lu & Wang (2008)	Online game	To explore the factors that affect the online game addiction and the role that online game addiction plays in the relationship between online satisfaction and loyalty	The results indicate that perceived playfulness and descriptive norms influence online game addiction
Petry & Armentano (1999)	Gambling	To improve recognition and treatment of pathological gambling by reviewing the literature on its prevalence, assessment, and treatment	The prevalence of pathological gambling increased with the spread of legalized gambling and several treatments were identified
Robinson & Berridge (1993)	Theory / Drug	To review and present a bio-psychological theory of drug addiction and discuss its implications for understanding the psychology and neurobiology of addiction	Sensitization of incentive salience can produce addictive behavior (compulsive drug seeking and drug taking) even if the expectation of drug pleasure or the aversive properties of withdrawal are diminished and even in the face of strong disincentives, including the loss of reputation, job and family
Sarnyai et al. (2001)	Drug	To summarize available data examining the physiological significance of brain corticotropin-releasing factor (CRF) systems in mediating the behavioral and physiological effects of several classes of abused drugs	Major conclusion derived from the data reviewed is that extrahypothalamic brain CRF systems are critically involved in behavioral and physiological manifestations of drug withdrawal and in relapse to drug-taking behavior induced by environmental stressors
Slutske (2000)	Gambling	To compare with studies of alcohol dependence to improve the understanding of pathological gambling	Subclinical PG, or problem gambling, might be a milder form of PG, rather than an etiologically distinct syndrome
Song & LaRose et al. (2004)	Internet	To draw fresh conceptualizations of gratifications specific to the Internet to uncover seven gratification factors	Virtual Community, Monetary Compensation, Diversion, and Personal Status gratifications among the factors, accounted for 28% of the variance in Internet Addiction Tendency
Thadani & Cheung (2010)	Social Networking Site	To investigate the structure and dimensionality of the Online Social Network Dependency (OSN Dependency)	Findings suggested that OSN Dependency can be explained by a higher-order factor model with seven first-order factors

Table 1. Summary of Prior Research Studies on Problematic Uses / Addiction/ Dependency

Author	Area	Purpose	Finding
Wan & Chiou (2006)	Online game	To investigate the conscious and unconscious psychological motivations of online game addicts, and to further discuss the relationship between surface and source motivations	Themes were developed according to the study objectives, and explanations generated to identify the source motivations of players addicted to online games based on the perspective of psychodynamics
Wan & Chiou (2006)	Online game	To investigate the relationship between players' flow state and psychological needs towards online games addiction	Results indicated that flow state was negatively correlated with addictive inclination and psychological needs of players of online games were close to the two-factor theory which depicts satisfaction and dissatisfaction dimensions
Wang & Chu (2007)	Online game	To investigate the influences of harmonious and obsessive passion on players' addiction to online computer games	Findings supported the argument that only obsessive passion leads to negative outcomes
Wise & Bozarch (1987)	Theory / Drug	To advance a brand new theory explaining addiction on the basis of rigorous reviews of past theories relating to addiction	The theory was advanced that the common denominator of a wide range of addictive substances is their ability to cause psychomotor activation.
Yellowlees & Marks (2005)	Internet	To review the gradually evolving body of the literature on Internet addiction	Two schools of thought have emerged and results revealed that individuals premorbidly vulnerable were especially at risk of using the Internet in a problematic way
Young & Rodgers (1998)	Internet	To assess depression and compare results to other established dual diagnostic populations in relations to Internet addiction	Depression is a significant factor in the development of PIU
Young & Rodgers (1998)	Internet	To investigate personality traits of those considered dependent users of the Internet utilizing the 16PF	Results showed that dependents ranked high in terms of being self-reliant, possessed a strong preference for solitary activities, and tended to restrict their social outlets
Young (1996)	Internet	To investigate the existence of Internet addiction and the extent of problems caused by the potential misuse	Qualitative analyses suggested significant behavioral and functional usage differences between the dependent and non-dependent groups

Table 1. Summary of Prior Research Studies on Problematic Uses / Addiction/ Dependency			
Author	Area	Purpose	Finding
Young (2004)	Internet	To outlines a workable definition of Internet addiction and as a clinical new phenomenon, explores the major consequences created by Internet addiction	There were several explores consequences created by Internet addiction, including online affairs, student Internet abuse, and employee Internet abuse
Young (2008)	Sex	To explores how sexually explicit material enters our homes, schools, and business, and examines the risk factors that lead to addiction	Result presented presents a model that shows the progressive stages of development underlying Internet sex addiction and how the Internet enables sexually explicit behavior to develop

2.4. Substance Addiction

Considerable amount of researchers (Goldstein & Volkow 2002; Koob & Moal 2001; Sarnyai et al. 2001), however, continued with the investigation on substances addiction, emphasizing on drug and neurosciences. Their findings revealed that addiction is a cycle of spiralling dysregulation of brain reward systems that progressively increases, resulting in the compulsive use and loss of control over drug-taking. They also found that corticotropin-releasing factor (CRF) systems of brain are critically involved in behavioral and physiological manifestations of drug withdrawal and in relapse to drug-taking behavior induced by environmental stressors.

3. Research model and Hypotheses

In the current study, we aim at developing a research model to explain Facebook addiction. In this section, we will define the key constructs of the research model and discuss their interrelationships.

3.1. Key constructs in conceptual model

Davis (2001) introduced a cognitive-behavioral theory of generalized Problematic Internet Use (GPIU). Davis contended that psychosocial disorders like stress, anxiety, loneliness or depression made people inclined to the development of maladaptive Internet-related cognitions and behaviors that eventually leading to negative outcomes. Building on Davis's studies, recent research identified certain specific cognitive and behavioral constructs concerning with the negative outcomes of Internet usage, including Preference for Online Social Interaction, Mood Regulation, and Deficient Self-regulation (with two dimensions: cognitive preoccupation and compulsive behavior). In this study, problematic Facebook use is defined as impulses control disorder in which individuals develop cognitive preoccupation and compulsive behaviors and experience increasing pressure and arousal before engaging in Facebook activities and get a sense of relief or pleasure after completion of the behaviors. We will also build on Davis's study and propose a research model of problematic Facebook use (See Figure 1).

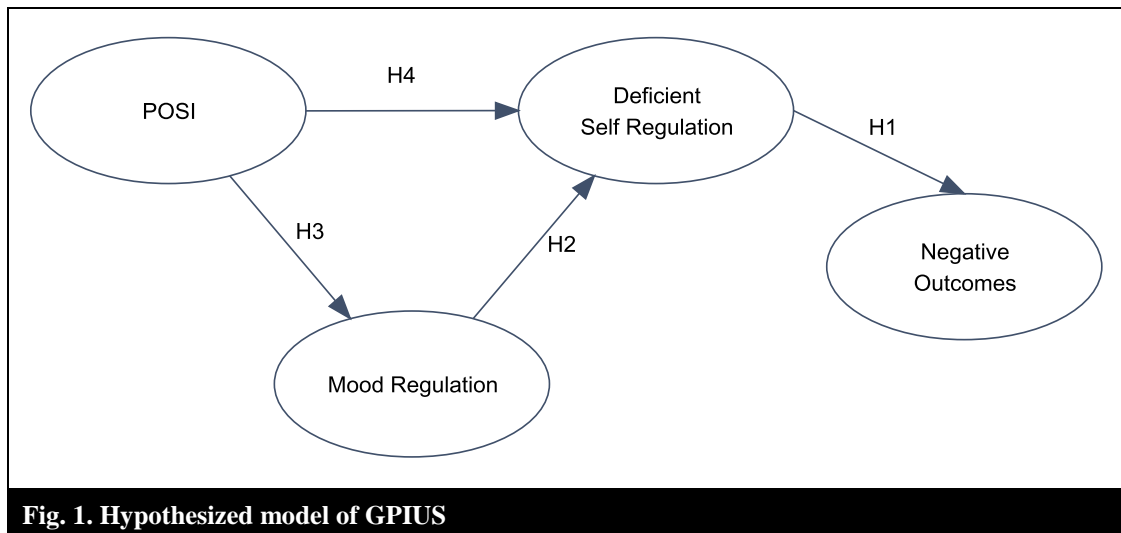


Fig. 1. Hypothesized model of GPIUS

3.2. *Negative Outcomes*

Here in the current paper, negative outcomes refers to interpersonal, social, and professional problems resulting from one’s problematic Facebook use, which will consequently exacerbate existing psychopathologies, resulting in a vicious dysfunctional cycle. As suggested by Davis (2001), problematic cognitions and behaviors intensify and accumulate over time, and continue to produce negative outcomes, resulting in a diminished sense of self-worth and increased social withdrawal. Individual suffering from the negative consequences at work /school or in interpersonal relationships would like to deny or lie about their Internet use, and use the Internet to escape from problems in real life.

3.3. *Deficient self-regulation*

Deficient self-regulation refers to a failure and state of inadequacy in monitoring one’s use, judging one’s use behaviors and adjusting one’s use pattern (Bandura 1986, 1991). Kubey et al. (2001) contended that deficient self-regulation might finally result in negative consequences like difficulties in face-to-face interpersonal relationship.

Deficient self-regulation was suitable in clarifying GPIU owing to its higher-order constructs that show interactions between obsessive cognitive and compulsive behavioral symptoms of GPIU. Cognitive preoccupation is the status of obsessive thinking patterns engaging Internet activities, like “When I haven’t been online for some time, I become preoccupied with the thought of going Facebook” or “I would feel lost if I was unable to go Facebook”. Shapira et al. (2003) and Caplan & High (2007) proposed a similar view on cognitive preoccupation and stated that there was a direct relationship between the cognitive preoccupation, problematic Internet usage and its associated negative outcomes. Griffiths (2000) and Young (1998) contended that compulsive Internet use was one of the central components of problematic Internet use. And deficient self-regulation took the form of compulsive Internet use for the behavioral aspect (Kim & Davis, 2009; Kim et al., 2009). Shapira et al. (2003) stated in the reviews that problematic Internet use would be better categorized under impulse control disorder.

Davis (2001) argued, with his cognitive-behavioral theory, that the cognitive and behavioral processes work together to develop negative consequences associating with problematic Internet usages. Similarly, Facebook uses which became compulsive and obsessive were most likely to result in negative outcomes in other aspects, like missing classes, making troubles in work and deteriorating the relationships with family and friends in real world. In the current study, we have the following hypothesis:

H1: Deficient self-regulation is a direct positive predictor of negative outcomes arising from one’s Facebook use.

3.4. Mood regulation

Mood Regulation in the current study refers to way of mitigating one's anxiety about self-presentation and the relating issues in interpersonal communications. Regulating mood by Internet use was one of the cognitive symptoms of GPIU as suggested by prior studies (Caplan, 2002, 2007; LaRose et al., 2003). Early in 2002, Caplan realized that mood regulation served as an important cognitive predictor for negative consequences relating Internet usage. Caplan (2007) supplemented his earlier finding by pointing out in the later study that people who were socially anxious showed preference on using online interactions as a means to palliate anxiety of self-presentation in face-to-face interactions. LaRose (2003) and colleagues' studies on cognitive model of problematic Internet usage put emphasis on the role of mood regulation in developing deficient self-regulation.

LaRose et al. (2003) and Lee & Perry (2004), claimed that using Internet for mood regulation was one of the leading factors to deficient self-regulation. As stated in their studies, the formations of problematic Internet usage arose if the behaviors act as an important and exclusive mechanism for relieving anxiety, depression, loneliness or stress. Therefore, we have the following hypothesis:

H2: Using the Internet for mood regulation is a direct positive predictor of deficient self-regulation of Facebook use.

3.5. Preference for online social interaction (POSI)

Caplan (2003, 2005, 2007) has carried out in-depth studies on POSI and drew an assertive conclusion stating that POSI was a cognitive individual-difference construct.

The constructs was characterized by the beliefs that one would feel safer, more efficient, more confident, and more relaxing that when an individual is pursuing online social interaction, like visiting Facebook, than in traditional face-to-face interaction, especially for those who were lonely, socially anxious and lacked social skills. Building on the cognitive behavioral theory (Davis 2001), a considerable amount of researchers (Caplan, 2003, 2005, 2007; Kim & Davis, 2009; Kim et al., 2009) have identified preference for online social interaction as one of the important cognitive symptom of GPIU .

Caplan (2003, 2005, 2007) and Kim et al. (2009) have also found that loneliness, social anxiety, self-presentational skills were important predictors of POSI, their studies have provided empirical support that individuals exhibiting interpersonal problem would most likely to experience higher level of POSI. Caplan also believed that interactive and collaborative features of online interpersonal communication gave individuals greater self-presentational control and confidence than in face-to-face situation. The summary of the results from the previous studies suggested that POSI was an important element of GPIU which might support the explanation why people prefer using online social interaction for mood regulating purpose. Therefore, we have the following hypothesis:

H3: Preference for online social interaction is a direct positive predictor of using the Facebook for mood regulation.

Beyond mood regulation prediction, the hypothesized model of GPIUS in Fig. 1 proposed that POSI also predicts deficient self-regulation. Considerable amount of researches have partly tested the hypothesis that POSI predicts people's degree of compulsive Internet use, which is one of the indicator of deficient self-regulation. In Caplan (2005) and Kim et al. (2009) discussions concerning about deficient self-regulation, compulsive use and cognitive preoccupation are described as indicators of deficient self-regulation. Thus, we have the following hypothesis:

H4: Preference for online social interaction is a direct positive predictor of deficient self-regulation of Facebook use.

4. Methodology

The current paper studied problematic use of social networking sites in context of Facebook. For the sake of collecting usable data, reaching the groups of target respondents (i.e., the Facebook users), manipulating data with ease, as well as getting advice and support from the online survey websites, primarily a web-based survey will be used to test and validate the research model. A convenience sample of Facebook users will be created by inviting the volunteers through Facebook. Questionnaires were administered in online surveying system; Qualtrics and the URL of the online surveys were delivered through organizing event in Facebook.

4.1. Measures

The measures of the constructs in the current study are listed in Table 2. We borrowed the measures from Caplan's (2010) Generalized Problematic Internet Use Scale 2, as the scale has been continuously updated and advanced by passing various empirical tests and proved to be reliable and have good construct validity in measuring problematic Internet uses. Measures have been modified the wordings to fit them into the context of Facebook instead of Internet in general. The measurements employed a seven-point Likert scale, from "1 = strongly disagree" to "7 = strongly agree".

4.2. Data Collection

A pilot test has conducted before the formally distributing the questionnaires, intending to clarify both the wordings and suitability. The total number of target of the pilot test was 20. The questionnaires were amended with accordance of data and comments collected from the pilot test, as to make a revised version and give formal distribution to the public. Screening questions were used in begging part of the questionnaire to filter the current Facebook users from the pool of respondents.

Table 2. The Sample Measures The Generalized Problematic Internet Use Scales 2 (Caplan, 2010)		
Subscales (Cronbach's α)	Items	Wording
Mood Alteration ($\alpha = 0.85$)	MR1	I have used Facebook to talk with others when I was feeling isolated
	MR2	I use Facebook to make myself feel better when I'm down
	MR3	I have gone Facebook to make myself feel better when I was down or anxious
Preference for online social interaction ($\alpha = 0.87$)	POSI1	I am treated better on Facebook relationships than in my face-to-face relationships
	POSI2	I am more confident socializing on Facebook than I am offline
	POSI3	I am more comfortable with Facebook than people
Negative Outcomes ($\alpha = 0.86$)	NO1	I have gotten into trouble with my employer or school because of visiting Facebook
	NO2	I have missed classes or work because of visiting Facebook
	NO3	I have missed social engagements because of visiting Facebook
Deficient Self-Regulation ($\alpha = 0.89$)	DS1	I want to, or have made unsuccessful efforts to, cut down or control my use of Facebook
	DS2	I have attempted to spend less time on Facebook but have not been able to
	DS3	I have tried to stop using Facebook for long periods of time.
	DS4	I am preoccupied with Facebook if I cannot log on for some time
	DS5	When not on Facebook, I wonder what is happening there
	DS6	I feel lost of can't go Facebook

Facebook users were chosen to be the context of the study because they were believed to have developed different level of using pattern and knowledge relating to Facebook. Most Facebook users frequently use Facebook to keep in contact with their friends by updating the personal page and viewing the friends' updates.

For the purpose of encouraging Facebook users to participate in the current study, participants who completely answered the questionnaires were automatically invited to a lucky draw for winning a shopping voucher.

A total of 236 respondents have attempted the questionnaires and out of it, 200 have completely answered the questionnaires to yield final sample size of 200 in the data collection period. The sample size of 200 cases meets the recommended sample size as indicated by considerable amount of researchers (Dillon, Kumar, & Mulani, 1987; Marsh et al., 1998) to avoid results that cannot be interpreted, such as negative variance estimates or correlations greater than one

4.3. Survey Response

Among the 200 respondents, 48% were male and 52% were female. About 87.5% were aged 16-25 and only 1.5% were aged 36 or above. Of the 200 participants, 60.5% were degree holder or with higher education background. In terms of the usage behavior in Facebook, about 89% users view the updated information from their friends' personal page, and 33.5% users reported that they visited Facebook for 15-30 minutes a day, and 18.5% reported 2-3 hours or above usages, and out of 18.5%, 4.5% users claimed that they visited Facebook for 5 hours or even above.

5. Data Analysis and Results

The data analysis was performed in a holistic manner using Smart Partial Least Squares (SmartPLS), version 2.0(M3)¹. PLS possesses the ability in modeling latent constructs under condition of non-normality and manipulate small to medium size samples well (Chin 1998, Chin and Gopal 1995, Compeau and Higgins 1995), making it one of the most popular data analyzing tool in recent years. SmartPLS 2.0.M3 was used for data analysis in the current study as Partial Least Squares (PLS) was a Structural Equation Modeling (SEM) technique which was highly compatible in analyzing highly complex predictive models and provided data for validating and interpreting the measurement model and structural model.

5.1. Measurement Model

To validate the measurement model, convergent validity and discriminant validity need to be assessed.

5.1.1. Convergent Validity

Convergent validity indicates the degree to which the items of a scale that are theoretically related are also related in reality and which is achieved when all the measurement of a common underlying factor have relatively high standardized loadings onto the hypothesized factor (Kline, 2005). Anderson and Gerbing (1988) set four criteria assessing the validity, where individual loading should be greater than 0.7; t-statistic value should be greater than 2 to show significance for paths; Composite Reliability (CR) for each construct should be greater than 0.7 and Average Variance Extracted (AVE) for each construct should exceed 0.5.

¹ Ringle C., Wende, C.M. & Will, S.S. (2005). SmartPLS 2.0(Ms) Beta [Software]. Hamburg. Available from <http://www.smartpls.de/>

Table 3. Psychometric Table of Measurements					
Construct	Item	Loading	T-value	Mean	S.D.
Deficient Self-Regulation					
CR= 0.92	DS1	0.81	25.23	3.71	1.73
AVE = 0.69	DS2	0.84	29.17	3.64	1.77
	DS4	0.85	32.39	3.14	1.77
	DS5	0.80	23.63	3.68	1.83
	DS6	0.88	50.02	2.85	1.66
Mood Alteration					
CR= 0.91	MR1	0.79	25.31	3.85	1.52
AVE = 0.78	MR2	0.93	89.14	3.84	1.63
	MR3	0.92	64.51	3.73	1.55
Negative Outcome					
CR= 0.91	NO1	0.87	36.02	3.13	1.77
AVE = 0.78	NO2	0.90	49.67	2.91	1.76
	NO3	0.89	51.89	2.61	1.73
Preference for online social interaction					
CR= 0.92	POSI1	0.89	49.78	3.47	1.62
AVE = 0.79	POSI2	0.91	35.27	3.41	1.71
	POSI3	0.88	43.31	3.74	1.65

As shown in Table 3 above, all path loadings of indicators were greater than 0.7. The t-statistic values were all greater than 2, showing all items have significant path loadings at $p < 0.01$ level.

All of indicators fulfilled the recommended levels concerning CR and AVE. All the values of composite reliability and average variance extracted were considered satisfactory, with composite reliability at 0.91 or above and average variance extracted at 0.69 or above. Therefore, the convergent validity is adequately established.

5.1.2. Discriminant Validity

Discriminant validity test investigates whether the items measure the construct of interest or other related constructs. It is indicated by low correlations between the measure of interest and the measure of other constructs. Discriminant validity was verified with AVE exceeding 0.5 and the squared root of AVE for each construct higher than the correlations between it and all other constructs (Fornell and Larcker 1981). Table 4 shows that each construct shares greater variance with its own block of measures than with the other constructs representing a different block of measures. Discriminant validity is further tested by employing the cross-loading method (See Table 5) as suggested by Chin (1998, p. 321):

If an indicator loads higher with other LVs than the one it is intended to measure, the researcher may wish to reconsider its appropriateness because it is unclear which construct or constructs it is actually reflecting. Furthermore, we should expect each block of indicators to load higher for its respective Latent Variable (LV) than indicators for other LVs.

Table 4. Correlations of constructs				
	DS	MR	NO	POSI
Deficient Self-Regulation (DS)	0.83***			
Mood Regulation (MR)	0.51***	0.88***		
Negative Outcomes (NO)	0.75***	0.48***	0.88***	
Preference for Online Social Interaction (POSI)	0.54***	0.60***	0.56***	0.89***

***p<0.001

Note: Diagonal Elements Are Square Root of the Average Variance Extracted

Overall, the measures in this study provide strong evidence of convergent validity, reliability and discriminant validity. Consequently, it is allowed to proceed to the structural model evaluation

Table 5. Loadings and Cross-Loadings for Measurement Items				
	Deficient Self Regulation	Mood Regulation	Negative Outcomes	POSI
DS1	0.81	0.38	0.54	0.38
DS2	0.84	0.42	0.59	0.43
DS4	0.85	0.48	0.65	0.44
DS5	0.80	0.36	0.55	0.48
DS6	0.88	0.47	0.78	0.53
MR1	0.45	0.79	0.39	0.51
MR2	0.47	0.93	0.46	0.54
MR3	0.44	0.92	0.42	0.55
NO1	0.60	0.40	0.87	0.44
NO2	0.67	0.39	0.90	0.45
NO3	0.72	0.49	0.89	0.61
POSI1	0.51	0.54	0.52	0.89
POSI2	0.51	0.54	0.53	0.91
POSI3	0.44	0.53	0.46	0.88

5.2. Structural model

Tests of significance of all paths were performed using the bootstrap re-sampling procedure of PLS. Table 6 shows the summarized testing results. The exogenous constructs were found very well in explaining the variance of endogenous constructs. For examples, the model accounts for 56% of the variance in “Negative Outcome” from problematic Facebook uses. And the exogenous constructs also explain 35% of variance in “Deficient Self-Regulation” and 36% variance in “Mood Regulation”.

Deficient Self-Regulation is found to be statistically significant to the Negative Outcome concerning problematic Facebook uses, with path coefficient at 0.75. And POSI and Mood Regulation are found to have significant effects on Deficient Self-Regulation, with path coefficients at 0.37 and 0.28 respectively. The POSI is found to have strong impact on Mood Regulation, with path coefficient at 0.60.

Table 6. Summary of the result

Hypothesis	Path	Path Coefficient	Conclusion
H1	Deficient Self-Regulation → Negative Outcome	0.75 (t=23.56)	H1 supported
H2	Mood Regulation → Deficient Self-Regulation	0.28 (t=3.67)	H2 supported
H3	POSI → Mood Regulation	0.60 (t=14.46)	H3 supported
H4	POSI → Deficient Self-Regulation	0.37 (t=5.15)	H4 supported
		Variance explained (R^2)	
Negative Outcome		0.56	
Deficient Self-Regulation		0.35	
Mood Regulation		0.36	

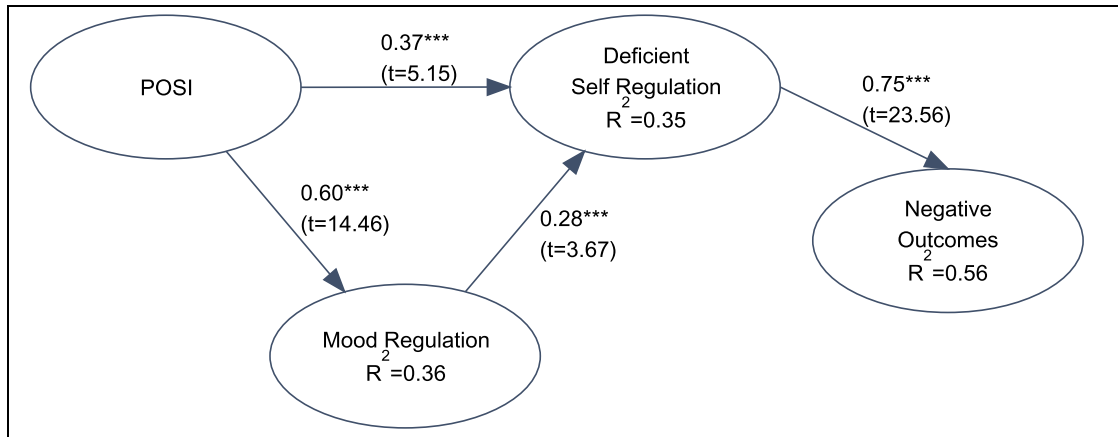


Fig. 2. Standardized estimates for structural model

6. Discussion and Conclusions

As the rapid growth of social networking sites, especially Facebook, and other interactive online communicating media, more and more researchers were interested in studying the problematic behavior concerning different types online media uses. Considerable amount of researchers have addressed the issues of users' problematic use in the contexts of drug, gambling, Internet and online game, the current study extended beyond their scopes and specify in the context of Facebook, aiming at empirically test the hypothesized conceptual model.

This study is the one of the first that thoroughly examines the role of POSI, Mood Regulation and Deficient Self-Regulation in the context of problematic Facebook use. Specifically, the paper introduced a definition of problematic Facebook use tailored to the Facebook context and explored the model of it, partially relying on past researches in the field of problematic Internet use, partially moving beyond extant researches to adapt to the specific characteristics of social networking site, Facebook.

6.1. Discussion of Results

This research model incorporates the key constructs from Generalized Problematic Internet Use Scale 2, the social behavior literature, and the problematic media uses literature. The measurement model is confirmed with adequate convergent validity and discriminant validity of all measures. The structural model explains 56% of the variance in Negative Outcome associating with problematic Facebook uses. Those finding are notably encouraging given that previous studies have yielded much smaller effects; Caplan (2003) accounted for 30% of negative outcome scores and Caplan (2005) accounted for 10%. As a result, the study identified the following variables as problematic Facebook use antecedents: POSI and Mood Regulation,

which depict Deficient Self-Regulation (i.e., Problematic Facebook Uses) and results in Negative Outcome. The results also support the relationships proposed in the research model. In particular, the roles among POSI, Mood Regulation, Deficient Self-Regulation and Negative Outcome are generally supported by the data.

6.1.1. The roles of Deficient Self-Regulation Mood Regulation and POSI,

Deficient self-regulation refers to a failure and state of inadequacy in monitoring one's use, judging one's use behaviors and adjusting one's use pattern. Among the three key measures, Deficient Self-Regulation shows the direct impact on "Negative Outcome" and links other antecedent to it. The result is consistent with cognitive-behavioral theory (Davis, 2001) that individual with deficient self-regulation might finally result in negative consequences like difficulties in face-to-face interpersonal relationship.

POSI and Mood Regulation are significant factor affecting the Deficient Self-Regulation. The results are consistent with the GPIU model. Considerable amount of researches have partly tested the hypothesis that POSI predicts people's degree of compulsive Internet use, which is one of the indicator of deficient self-regulation. Beyond this, considerable amount of researchers have put emphasis on the role of mood regulation in developing deficient self-regulation. As stated in their studies, the formations of problematic Internet usage arose if the behaviors act as an important and exclusive mechanism for relieving anxiety, depression, loneliness or stress.

POSI also has strong and significant impact on Mood Regulation. The result is consistent with the characteristic of POSI that one would feel safer, more efficient,

more confident, and more relaxing than when an individual is pursuing online social interaction, like visiting Facebook, than in traditional face-to-face interaction. They prefer engaging in online social activities for regulating their mood and alleviating stress.

Together, POSI, Mood Regulation, and Deficient Self-Regulation play important roles in the GIPU model. These variables accounted for a substantial proportion of variance in negative outcome scores.

6.2. Implication for Research and Practice

The current study addresses an important and complicated area in user behaviors in social networking sites, Facebook. Facebook has widely appreciated as one of the most popular platforms for online social interaction. A number of baffling and outstanding issues, for instance the addictive and problematic uses of Facebook, however, still need to be determined. This research makes contributions to both the conceptual and empirical researches of problematic use in Facebook. Implications of the current study should receive attention from researchers and practitioners.

6.2.1. Implication for Researchers

This research contributes greatly to the existing problematic Facebook use research in several ways. Generally speaking, the empirical study depicts the relative importance of antecedent factors for the development of problematic Facebook use and its resulting consequences. The research also adds to the limited research done with problematic Facebook use, and allows future studies to be based on it. Finally, the empirical research helps operationalizing and validating the instruments for the investigation of problematic Facebook use.

Other than these contributions, the review of the previous problematic Internet user research suggests that there are little studies developed on problematic use of new form communication media (e.g., social network sites, micro-blogs and instant messenger). Though there is an increasing attention given to the line so researches on social networking sites, most of the existing studies only address the privacy, information exposure and adoptions issues. However, the rising controversies originated from problematic use of new form media like Facebook, deserve researchers attentions. The current paper is one of the very first and few that give a holistic overview of problematic Facebook uses.

6.2.2. Implication for Practice

The research model built upon GPIU model and explains relationships among POSI, Mood Regulation and Deficient Self-Regulation and the leading Negative Outcomes. Including these behavioral and cognitive variables in the model, it is likely to give practitioners and educators knowledge in evaluating the degree to which users or students are developing problematic Facebook use. It is believed that the results of the study are helpful in providing substantial insights and guidelines for the educators and practitioners, as well as any social networking platform administrators, so as to create a sustainable and healthy social networking using environment. Table 6 highlights some important factors and suggestions for educators and SNSs practitioners.

Table 6 Guideline from developing a healthy Facebook using behavior

Key factors	Goals	Guidelines
POSI & Mood Regulation	To make users confident in real world socialization	<ul style="list-style-type: none"> A. Organize real-world socializing activities B. Give workshop for image and confidence building C. Provide counseling service to individuals with emotional need D. Set time-limit for each Facebook visiting E. Provide pop-up reminders to users about the time spent on the sites over a certain length of time F. Offer advice on maintain a balanced living style

6.3 Limitations of the current study

The reported results support the hypothesized model, but several limitations in the current methodologies deserve our attention. First, the current study rely heavily on the self-report data in operationalizing the GPIUS2 measures, and did not obtain and include any objective measures like direct observation and non-self report owing to the difficulties. Typically, objective measures on Facebook using behaviors and outcome would greatly enhance of the measures’ validity and reliability.

The second limitation of the current study relates to the sample used. Though there are participant over 35 years old, the predominant groups of participants are of age 16-25. A sample with majority of student was used for the reasons that students are heavy Facebook users. Any study aiming at investigating the compulsive and addictive uses, however, should include those who use Facebook frequently than college students do. Nevertheless, a predominant student sample was sufficient enough for testing the initial model and theory. As Shapiro (2002) notes:

If a study detected an important effect, no matter what kind of sample is used, it is clearly true for some group of people, in some setting, at some time, for some message. The next step should be to conduct a theoretically driven boundary search to determine to whom the effect applies and to whom it does not” (p. 499).

6.4 Directions for future research

GPIU have been extensively studied and advanced, much work, however, have to be done. Regarding the advanced GPIU2 model, continuous studies are required to further assess its validity and reliability. For instance, researchers can conduct test-retest for assessing the reliability of the measurements. Data can be collected from diverse or specific groups of respondents to evaluate the model fit of measurements targeted group.

Moreover, though the hypothesized model of the current accounted for 35% of the variation in Deficient Self-Regulation and 56% variation for Negative Outcomes, there is still more variation to be accounted for. Future studies should consider including additional measures and find ways strengthening the model, as to increase the proportion of explainable variation.

Furthermore, the current paper studies the problematic Facebook uses in general rather than looking at interactive and specific interpersonal functions of Facebook. Future studies might improve the model and measures by specifying the study area to interactive functions of Facebook (i.e., instant chatting, photo posting, interactive Apps, email).

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Appendix A

Survey on Facebook Usage

I am a year-three student majoring in Information Systems Management (BBA) in HKBU. I am now conducting a survey on user behavior of Facebook. Please kindly spend a few minutes to fill in the questionnaire. All data collected will be used for academic purpose only. Your participation will automatically bring you to the lucky draw for winning a \$100 shopping voucher. Thank you!

我是香港浸會大學工商管理系資訊系統管理的三年級學生。我現正進行一項有關 Facebook 使用習慣的意見調查。希望閣下能抽出數分鐘填寫問卷。是次調查所得的資料只會作學術用途，並會絕對保密。完成問卷的參加者將會自動進入幸運大抽獎，有機會獲得\$100 購物禮券乙張。多謝！

Disclaimer

This questionnaire constitutes part of a student's individual academic research work for an Honours Project in partial fulfillment of the BBA graduation requirement. While the Hong Kong Baptist University respects and abides by the Privacy Data Ordinance, it is the student's responsibility to comply with the Ordinance during every aspect of the project. Please contact the sender of this questionnaire for specific details. Please ignore this questionnaire if you have responded or are not interested in responding to it. Thank you.

Part A

甲部

1. Do you have a Facebook account?

您擁有 Facebook 帳戶嗎？

Yes 是

No 否 (End of the questionnaire, Thank you! 問卷完結，多謝!)

2. How long have your account been created?

您的帳戶已建立多長時間？

less than 1 year 少於 1 年

1 year 1 年

2 years 2 年

3 years 3 年

- 4 years 4 年
- 5 years or above 5 年或以上

3. How often do you visit Facebook?

您瀏覽 Facebook 的頻率為多少？

- less than 1 time a week 少於 1 星期 1 次
- 1 time a week 1 星期 1-2 次
- 1 time a day 1 天 1 次
- 2-5 times a day 1 天 2-5 次
- 6-10 times a day 1 天 6-10 次
- more than 10 times a day 1 天多於 10 次

4. How much time do you spend on Facebook in average for each access?

以每一次瀏覽為單位，您用在 Facebook 上的平均時間為多少？

- less than 15 minutes 少於 15 分鐘
- 15-30 minutes 15-30 分鐘
- 0.5-1 hour 0.5-1 小時
- 2-3 hours 2-3 小時
- 4-5 hours 4-5 小時
- 5 hours or above 5 小時或以上

5. What do you usually do on Facebook?

您經常在 Facebook 進行甚麼活動？

- Making friends 交友
- Chatting 聊天
- Viewing friends' updated information 查看朋友的更新資訊
- Playing apps 玩線上小遊戲
- Organizing activities 組織活動
- Others 其他 (please specify 請註明): _____

6. How often do you use Facebook for work related activity (e.g. maintaining Fan Page

or

organizing formal events for company)?

你會經常使用 Facebook 做有關工作上的活動嗎 (例如：管理會員版面或組織公司的正式活動)？

- never 從不
- 1-2 hours per week 一星期 2-3 小時
- 3-4 hours per week 一星期 4-5 小時

- 5-6 hours per week 一星期 6-7 小時
- 7-8 hours per week 一星期 8-9 小時
- 9 hours or above per week 一星期 9 小時或以上

Part B

乙部

Please choose the appropriate number with the following statements to indicate your agreement or disagreement based on your Facebook visiting experience.

根據您瀏覽 Facebook 的經驗，請選擇出您對下列陳述的同意程度。

Strongly Disagree 非常不同意			Neutral 中立			Strongly Agree 非常同意
1	2	3	4	5	6	7

I have used Facebook to talk with others when I was feeling isolated 當我感到孤獨的時候，我會利用 Facebook 與別人交談	1	2	3	4	5	6	7
I use Facebook to make myself feel better when I'm down 當我感到失落的時候，我會利用 Facebook 令自己感覺好一點	1	2	3	4	5	6	7
I have gone Facebook to make myself feel better when I was down or anxious 當我感到失落的時候，我會上 Facebook 令自己感覺好一點	1	2	3	4	5	6	7
I am treated better in my Facebook relationships than in my face-to-face relationships 我與別人在 Facebook 中的關係受到的對待比面對面的要好	1	2	3	4	5	6	7
I am more confident socializing in Facebook than I am offline 相對於現實交際，我對在 Facebook 交際感到較自信	1	2	3	4	5	6	7

I am more comfortable with Facebook than people 相對於面對群眾，我對著 Facebook 比較自在	1	2	3	4	5	6	7
I have gotten into trouble with my employer or school because of visiting Facebook 因為上 Facebook 的關係，我令自己在工作上或 學業上陷入困境	1	2	3	4	5	6	7
I have missed classes or work because of visiting Facebook 因為上 Facebook 的關係，我忘記上課或工作	1	2	3	4	5	6	7
I have missed social engagements because of visiting Facebook 我因為上 Facebook 而忘記現實的社交活動	1	2	3	4	5	6	7
I want to, or have made unsuccessful efforts to, cut down or control my use of Facebook 我想或曾經嘗試減少使用 Facebook，但不成功	1	2	3	4	5	6	7
I have attempted to spend less time in Facebook have not been able to 我曾經嘗試減少用 Facebook 時間，但不成功	1	2	3	4	5	6	7
I have tried to stop using Facebook for long periods of time 我曾嘗試減少使用 Facebook 有一段長時間	1	2	3	4	5	6	7
I am preoccupied with Facebook if I cannot log on for some time 當我不能上 Facebook 時，我滿腦子都是 Facebook	1	2	3	4	5	6	7
When not on Facebook , I wonder what is happening there 當我不能上 Facebook 時，我會猜測 Facebook 上 正在發生甚麼事	1	2	3	4	5	6	7
I feel lost of can't go Facebook 當我不能上 Facebook，我感到迷失	1	2	3	4	5	6	7

Part C

丙部

Please choose the appropriate number with the following statements to indicate your agreement or disagreement on the items.

請選出您對下列有關陳述的同意程度。

Strongly Disagree 非常不同意			Neutral 中立			Strongly Agree 非常同意
1	2	3	4	5	6	7

On the whole, I am satisfied with myself 整體來說，我對自己感到滿意	1	2	3	4	5	6	7
At times, I think I am no good at all 很多時候，我都認為自己一點都不好	1	2	3	4	5	6	7
I feel that I have number of good qualities 我認為我有很多的優點	1	2	3	4	5	6	7
I am able to do things as well as most other people 與大部份人一樣，我能把事情做好	1	2	3	4	5	6	7
I feel I do not have much to be proud of 我認為自己沒有甚麼值得驕傲	1	2	3	4	5	6	7
I certainly feel useless at times 我多次肯定自己是一無是處的	1	2	3	4	5	6	7
I feel that I'm a person of worth, at least on an equal plane with others 我覺得自己是個有價值的人，至少我是與其他人一樣有價值	1	2	3	4	5	6	7
I wish I could have more respect for myself 我希望我能夠多尊重自己一些	1	2	3	4	5	6	7
All in all, I am inclined to feel that I am a failure 總括而言，我傾向認為我是個失敗者	1	2	3	4	5	6	7
I take a positive attitude toward myself 我用正面的態度看自己	1	2	3	4	5	6	7

Part E

戊部

1. What are your perceptions towards Facebook in general?

您對 Facebook 的整體觀感如何？

Part F

己部

1. What is your gender?

您的性別是？

Male 男

Female 女

2. What is your age?

您的年齡是？

< 16

16 - 25

26 - 35

36 - 45

46 - 55 55 >

3. What is your education background?

您的教育背景是？

Primary 小學

Secondary 中學

Diploma/ High Diploma/Association Degree 文憑／高級文憑／副學士

Degree or above 大學或以上

4. Which of the following best describes your employment status?

Fulltime employed 全職員工

Part-time employed 兼職員工

Self-employed 自願人士

Unemployed 待業

Retired 退休

Student 學生

Housewife 家庭主婦

Others 其他, please specify 請註明: _____

5. Please provide your contact information for the lucky draw: (Optional)

請提供您的聯絡資料，以作抽獎之用：(選擇性回答)

Name 姓名：_____

Phone 電話：_____

Email 電郵：_____

This is the end of the questionnaire.

問卷調查完成。

Thank you !

多謝！