Factors affect on cyber cafe addiction of undergraduate students in Taiwan

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Abstract: Cyber-café activity became one of the most important entertainment activities in the Taiwanese society in the last couple of years. Along with the advent of cyber cafés came serious social problems. However, there is little understanding of the factors affecting the causes of cyber-café addiction. This article focuses on the impact of family factors in cyber-café activity. Collected data was used to study the effects of family environment such as parental support and socioeconomic status (SES), Internet self-efficacy, and failure tolerance on cyber cafe addiction in undergraduate students. A questionnaire method by self-administered technique was used in this research. Multiple regression analysis was used to analyze the hypotheses. Hypotheses results showed that Internet self-efficacy, failure tolerance, and parental support have predictive power over cyber cafe addiction. Some implications of the results on cyber-café addiction are also discussed in this study.

Key Words: Socioeconomic Status (SES); Internet self-efficacy; Addiction Theory; Social Status; Cyber cafe Addiction

Introduction

With the prevalence, popularity and wide-spread promotion exponentially of the Internet in recent years, many previous reports indicate that adolescence were becoming addicted to internet overuse (Chake & Leung, 2004; Campbell, 2006; Griffiths, 1996; 2000; Hall & Parsons, 2001; Liu & Kuo, 2007; Pratarelli & Browne, 2002; 1999), computer addiction such as involving obsessive computer game playing on games (Young, 1999), network gambling (Mobilia, 1993) and obsessive video game playing (Keepers, 1991; Chiu et al., 2004). What makes the cyber-café activity in Internet so alluring? Some arguments proposed to answer this question. First is the feature of anonymity, namely nobody knows who you are while you are on the line. You can use nickname surfing everywhere on the line. Second is the function of convenience because if you have money and find a cyber-café store's computer and hook on the network, you have the access to the world at your fingertips. Third is the property is that of escaping if an individual had a bad day or is in low spirit, he or she may find relief by getting on the cyber-café Internet. Fourth is the private space in cyber-café store nobody knows you. While playing computer games or chatting on line, your parents or friends wouldn’t interfere with you.

Recently, cyber cafe video or computer games are a novel and became a popular leisure and business industry in Taiwan. Cyber cafe is a similar to the traditional coffee shop and is equipped with network facilities and provides different kinds of video or computer games playing in stand-alone computers or 24 hour Internet access. These kinds of stores attract adolescence and even young married men or women that spend their leisure time in the cyber cafe.
video or computer games. Based on the annual reports of MIC in 2006, over 85% of high school and university’s students participate in these cyber café activities and spend on average 2-8 hours per week in cyber-café’s playing mostly games (around 80%), chatting and surfing the Internet comes next (MIC, 2006). The cyber-café addiction activity has jeopardized or interfered with the adolescence life and social development and contributed toward many social and family problems that occur. In addition, some adolescents became so addicted to the video and computer games that they fail academically (Brady, 1996) or demonstrate substandard performance (Young, 1996). This can be symbolized in the Chinese idiom “a rising tide lifts all boats; a sinking ship will get everybody wet”. So, cyber-café addiction and the associated behavior are emerging as a new problem for society, school and families in Taiwan. Parents and teachers alike are deeply troubled by this new alarming phenomenon. However, until very recently, empirical data addressing video or computer game addiction behavior in cyber cafes was still lacking and not been thoroughly empirically researched.

There exists ample research that suggests that socioeconomic status and the family environment (ie. parental support) have a significant influence on the support available to children (Pickvance & Pickvance, 1995; Rogers & Pryor, 1998; Dey & Morris, 1999). When children or adolescences have a bad day or are in low-spirit and that they can’t handle they usually choose to escape and find a way to release their emotion. Thus, the cyber café store probably is the place the children or adolescences choose to go.

The concept of self-efficacy is an important factor to measure how an individual quickly adopts new tools and one’s belief in capability to perform a task (Bandura, 1986). Many MIS researchers have used self-efficacy in studies of understanding computer use or acceptance (Hong et al., 2002; Venkatesh & Davis, 1996). Bandura (1986) suggests that choice behavior is stimulated by one of the personal efficacy beliefs that people engage in tasks in which they feel competent and confident and avoid those in which they do not. However, no previous research discussed the impact of internet self-efficacy on cyber café addiction behavior. There is a need for studies to understanding the relationship between internet self-efficacy and addiction behavior. Therefore, the purpose of this exploratory study was to investigate the affecting factors in cyber cafe video or computer game addiction behavior pattern. Another purpose was to explore the mediator effects of internet self-efficacy on cyber cafe video or computer game addiction behavior. Additionally, this study also hopes to alert the attention of parents, school, and government to seriously look at the problems caused by cyber-café addiction behavior.

Related Literature and Research Model

**Cyber cafe addiction**

Mentioned the concepts of addiction, people will usually think of drugs or alcohol addictions. Thus, previous research about addiction research focused on the problems of material addiction. However, psychologist observed the addiction phenomenon on behavioral side which involves human-machine interaction, such as gambling (Mobilia, 1993), computer overuse (Griffiths, 1996), overeating (Lesieur & Blume, 1993), network or internet addiction (Young, 1996; Pratirelli & Browne, 2002;1999; Liu & Kuo, 2007; Chake & Leung, 2004; Campbell, 2006), or obsessive video game playing (Keepers, 1991; Chiu et al., 2004). The core components of behavioural addictions include salience, mood modification, tolerance, withdrawal, conflict and relapse (Griffiths, 1996).
Thus, based on the addiction definition of Griffiths (1996), in this study any behavior meets the following criteria called cyber-café addiction: 1. salience: when cyber-café activity becomes the most important activity in his/her life and dominates his/her thinking, feeling or behavior; 2. mood modification: subjective experiences people report as a consequence of engaging in cyber-café activity; 3. tolerance: the process whereby increasing amounts of the cyber-café activity are required to achieve the desired effects; 4. withdrawal symptoms: unpleasant feelings, state, or physical effects when the cyber-café activity is stopped or curtailed; 5. conflict: conflicts between cyber-café addicts and those around them, conflicts with other activities, or conflicts within the individuals themselves; 6. relapse: the tendency for repeated reversion to earlier patterns of the cyber-café addictive activity to recur.

Young (1996) developed a brief eight-item questionnaire to examine Internet addiction such as do you feel preoccupied with the internet; do you feel restless, moody, depressed, or irritable when attempting to cut down or stop Internet use?, and so on. Hence, in this study we define cyber cafe addiction behavior as “people feel restless, depressed, or irritable when attempting to cut down or stop going to cyber cafe store to play video or computer game, surf, or chat in network.”

Family Environment

Parental support
Family is the first and foremost context for children’s physical and psychological development and parents have always seemed playing a paramount importance relating to children’s personality development and material support (Lu & Lin, 1998; Dey & Morris, 1999). In general, parental supports encompass a variety of forms, such as financial assistance, provision of accommodation, personal care, including emotional and moral support, and practice assistance (Dey & Morris, 1999). Help to increase self-confidence, emotional and informative support and guidance in stress-filled situations are aspects of parental support to children receiving most attention in the literature (Stroniger et al., 1997).

Parental support is one of the dimension of social support, and social support is usually defined as the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us (Sarason et al., 1983). Thus, social support has been identified as a resource that enables individuals to cope with stress (Russell et al., 1987; House, 1981). The research of Liu & Kuo (2007) supported that the more the discontent with peer interactions the participants experienced, the more addicted they are to the internet. Their research also displayed that parent-child relationship influenced internet addiction. Previous research demonstrated that perceived adequacy of social support has repeatedly been found to relate positively to mental and physical health (Barrera, 1981; Fiore, et al., 1986). Campbell et al. (2006) research presented that social support is negatively related to internet addiction. Thus, we generate the hypothesis 1:

\[ H1: \text{The greater the student’s perception of parental support, the lower his/her cyber cafe addiction behavior.} \]

Social-economic status (SES)
Education and income are two aspects of socio-economic status that are most important to psychological well-being (Mirowsky & Ross, 1990). Thus, in this study, social-economic status was defined as the level of education and income of parents. Mirowsky and Ross (1990) assert that high levels of income, education, occupational status and job autonomy are associated with an increased sense of control. This finding raises the possibility of association between addiction behavior on cyber cafe video or computer game
and socioeconomic status. That means, if students come from higher socioeconomic status family, they have higher sense of control to avoid indulging in the cyber-café activities. Parents in high socio-economic status will put more effort into or cares more about their children’s mental well being. Generally speaking, children within loving environment will have high self-confidence and not easily indulge in cyber-café addiction. Higher socioeconomic status could be associated with lower cyber cafe video or computer game addiction behavior, whereas lower socioeconomic status could be associated with higher cyber cafe video or computer game addiction behavior. Thus,

H4: The higher the student’s family socioeconomic status, the lower his/her cyber cafe addiction behavior.

Internet self-efficacy

Bandura (1986) defined self-efficacy as “people’s judgment of their capabilities to execute courses of action required to attain designated types of performances.” Bandura (1986) found that self-efficacy positively correlates with behavioral changes both vicariously and emotively. Bandura also suggested that personal efficacy expectations resulted in choosing activities that avoid a task or indulge in the task. Previous research indicated that the predictive capability of a self-efficacy estimate is more accurate in specific domain-related measures than with general measures (Bandura, 1989). In this research, internet self-efficacy scale, modified from Yang et al.’s Internet self-efficacy (2007), examines perceptions of internet skills or abilities. Therefore, internet self-efficacy was defined as “people’s judgment of their capability or confidence to master the Internet or World Wide Web”. Computer skill level is an important determinant in computer use, employee replacement and selection, education, training, hardware support and software support (Harrison et al., 1992). Based on the theory of self-efficacy and previous researches cited above, we presume that students have a greater internet self-efficacy, have a lower level of addiction. Thus,

H2: The greater the student’s internet self-efficacy, the lower his/her cyber cafe addiction.

Bandura (1986) suggests that verbal persuasion is one source of information about personal self-efficacy. Bandura (1986) defined verbal persuasion as “the belief, attitude, and behavior of people’s judgment of their capabilities to complete the tasks.” According to Bandura, self-efficacy expectation is induced through verbal persuasion. If the verbal persuasion is positive, encouraging, and not commanding, the verbal persuasion will enhance personal self-efficacy (Marakas et al. 1998). Thus, we assume if parent’s support and encouragement is positive, then students would gain more confidence in their network capability; if negative, then students would lose confidence in their network capability or ability. We therefore, assume that parent’s support have a positive relation on student’s internet self-efficacy. This leads to:

H3: The greater the student’s parental support, the higher his/her internet self-efficacy.

Failure tolerance

Traditionally, failure was treated as negative indication such as learned helplessness, high absolute error-making, and low normative performance. Weibe (1991) defined failure tolerance as a tendency to persist while facing failure or difficulty. Helplessness will slacken one’s learning or working motivation or efforts. However, if a person has a higher failure tolerance, he or she has a high motivation to overcome the problems they face. Laux (2000) asserted that a person who has a lower failure tolerance would have a lower tobacco control and would smoke more. Pratarelli & Browne (2002) proposed that addiction affected personal goals. Thus, in this
study we assume that if a student has a lower persistence of failure tolerance, he/she would be more likely indulged in cyber café activities to escape from school or works. However, if a student has a higher persistence to tolerate failure, he/she would not likely indulge in cyber café addiction behavior. This leads to:

**H5:** The higher the student’s failure tolerance is, the lower his/her cyber café addiction behavior.

**Methodology**

**Data Collection and Samples**

The samples were voluntary college students in technical-vocational college or university at central of Taiwan. A questionnaire using the self-administered technique to collect data for the variables described was developed and pilot tested with 15 sophomore students. The pilot test results in some revisions in wording of questionnaire questions for clarity, then the questionnaires were sent to 5 schools, 13 classes and 686 questionnaires were collected and left 508 valid questionnaires. The usable rate is approximately 72%, including 263 male students and 245 female students.

**Reliability and Validity of the Measurement Instrument**

A 7-point Likert scale was to estimate each construct. Cyber cafe addiction was measured by 8 items with two subscales, addiction experience and addiction frequency respectively. These items were revised from Chen et al. (1999) and Novak et al. (1997) scales. The Cronbach’s t alpha for the overall cyber cafe addiction is .90, cyber cafe addiction experience is .87, and cyber cafe addiction frequency is 92. Parental support was modified from Interpersonal Support Evaluation List (Cohen et al. 1985) and measured by 20 items with two subscales: appraisal and belonging, to estimate student’s own perceived degree of parental support. The Cronbach’s alpha for the parental support is .86. Internet self-efficacy scale measured student’s network capability and was revised from Yang et al.’s Internet self-efficacy scale (2007). The Cronbach’s alpha for the internet self-efficacy is .94. Failure tolerance contained 11 items with two subscales to estimate daily life failure tolerance and academic failure tolerance. These items were all revised from Weibe’s failure tolerance scale (1991). Cronbach’s alpha for the failure tolerance was.81. SES was developed by National Center for Education Statistics (1996) and consisted of family income, parents’ educational level, and parents’ occupational prestige.

An exploratory factor analysis (EFA) was assessed to check discriminant validity (Kerlinger, 1986). The principal component analysis was used to process factor initially. The second step is using varimax as orthogonal rotation and Eigen value equaling to 1 to get factor loading which should be greater than 0.5 (Kaiser, 1958). If an item with factor loading values is less than 0.5, then the item should be abandoned from further analysis. In the cyber cafe addiction construct, one item related to addiction frequency had loading of less than 0.5 and was deleted. The results of each independent construct, seven items related to parental support, five items related to failure tolerance, and two items related to Internet self-efficacy, have loading of less than 0.5 and were deleted to fit the literature supported (Kaiser, 1958).

**Results**

**Demographics**

The participants included 263 males and 245 females. Mean ages were 22 for males, and 24 for females. Student’s academic average grade score within 74 to 79 occupied higher percent in this study. Most respondents go to cyber cafe store because they have nothing to do and no net at home have higher percentage in this research. Most of respondents spent less than 2
hours per week in the cyber café store. Time to play or know cyber cafe store is within 1 year around 55%. That means, most of respondent is novice in cyber café activity. Respondents go to cyber café store for chatting and playing games around 64.8%. Age 21-24 has a higher cyber-café addiction than other age groups. Academic performance of 60-64 has the highest cyber-café addiction. Stress is one of the important reasons why they go to a cyber-café and get addict. The second child in the family has higher cyber-café addiction than other children in the same family. The average hours’ students spend 13-18 hours per week at a cyber café. Students with over two years’ cyber-café experiences have a higher cyber-café addiction. Students who want to make friends have a higher cyber-café addiction than other groups. Data were further analyzed to examine the levels of cyber café addiction behavior for male and female respondents. Mean score for male and female were 9.83 and 7.95 suggesting a significant difference with a t value= 5.200 at 0.001 on cyber café addiction. Gender difference appears to influence the individual who tend to display cyber-café addiction.

Hypotheses testing

Multiple regression analyses were chosen as an appropriate procedure to test the possible relationships among the variables identified as having effect on cyber cafe addiction. The regression results of parental support on internet self-efficacy suggest that respondents with higher parent’s support have positively higher levels of internet self-efficacy. The regression results of cyber cafe addiction at F=9.522 (p<.001). Failure tolerance is the most significant predictive variable for cyber cafe addiction, followed by internet self-efficacy, and then parental support, so H1, H2, and H5 are supported. SES does not have a significant effect on cyber cafe addiction behavior, thus H4 is not supported in this research.

Discussion and Conclusion

The primary purpose of this research was to examine the parental support, internet self-efficacy, socioeconomic status, and failure tolerance to predict cyber cafe addiction. We trust that the results could awaken the awareness and attention of parents, schools, and government by seriously looking at the problems or issues caused by cyber-café addiction.

Taken together, these findings show that internet self-efficacy, parental support, and failure tolerance are significant indicators of cyber café addiction. Failure tolerance has the most significant predictive power. This result indicates that students indulge in cyber-café activities probably because of their failure to fulfill their major role obligation at school or home. As we have seen in this study, the results illustrated that students with a higher failure tolerance and a higher parental support have a lower addiction behavior respectively, and vice versa. These findings are consistent with earlier research that has demonstrated a link between failure tolerance and parental support on addiction behavior respectively (Stronigger et al., 1997; Pratagelli & Browne, 2002; 1999; Fiore, et al., 1986; Campbell et al., 2006; Chiu et al., 2004). The better the parent-child relationship is, the less the internet addiction is (Liu & Kuo, 2007). This indicated that parents should spend more time to pay more attention to their children’s behavior. Additionally, the family or school should also assist students to handle failure tolerance to avoid the addiction. Prevention programs should be incorporated in the regular school curriculum to enhance student’s self-esteem.

However, an unexpected result was also found. Internet self-efficacy has a positive relationship with cyber café addiction. This result is not consistent with the previous study (Bandura, 1986; Campbell et al., 2006; Chak & Leung, 2004). It is not clear why there seem to be a positive cor-
relation between internet self-efficacy and cyber café addiction. One possible explanation might be that student who has a higher self-efficacy has a higher motivation to challenge the video game to show-off his/her capability in computer. Therefore, they devote more time to games and thus have a higher addiction in cyber café activities. SES does not seem to have a significant effect on cyber cafe addiction. One possible argument is that the cost of going to a cyber-café is relatively speaking not so significant, only NT$20 (around 50 cents US dollars) per hour and could be afforded by most undergraduate students’ families. Evidently, cyber-café activities attract most students regardless of their socio-economic status. This research also offers the mediating effect of internet self-efficacy on cyber cafe addiction. The parental support has a positive relationship to internet self-efficacy. Such a link is hypothesized by self-efficacy theory (Bandura, 1986) and certainly has been consistent with previous research (Marakas et al., 1998).

Regardless of what we call it, cyber-café addiction currently is a new emerging issue in the Taiwanese society. Cyber-café addiction exists for a large proportion of adolescence and causes many negative consequences. As have been argued, the cyber-café is an excessive, addictive, obsessive and compulsive behavior. Students who lacks parental support or who have excessive internet self-confidence, even lower failure tolerance are easily addicted to cyber-café activity and cause many social problems. Enhancing family and school education can inhibit the adolescence’s cyber-café addiction and simultaneously reduce social problems. Some prevention programs should be implemented to reduce the addiction. From a government perspective, the government should establish some rules to administer cyber-cafés. The school contribution should include periodically counseling seminars or programs to teach students how to arrange and manage their leisure time, or raise and improve their self-control etcetera. Family counseling programs, support groups from parents or school and educational workshops for addicts to help them understand the impacts of cyber-café are needed in the long run to cope with cyber-café addiction.

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