

INTERNET ADDICTION AND PSYCHOPATOLOGY

Mustafa KOÇ

ABSTRACT

This study examined the relationships between university students' internet addiction and psychopathology in Turkey. The study was based on data drawn from a national survey of university students in Turkey. 174 university students completed the SCL-90-R scale and Addicted Internet Users Inventory. Results show that students who use internet six hours and more a day have psychiatric symptoms. Students whose addicted internet usage have psychiatric symptoms such as Somatization, Obsessive Compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism more than students whose nonaddicted internet usage.

Keywords: Internet addiction; symptoms; psychopathology, university students

INTRODUCTION

Technology is changing the nature of problems (Young, 1996). Symptoms often identified were a preoccupation with the internet, an inability to control use, hiding or lying about the behaviour, psychological withdrawal, and continued use despite consequences of the behaviour (Young, 2007). The internet has positive aspects including informative, convenient, resourceful and fun, but for the excessive internet users, these benefits turn out to be useless. Most individuals use the internet without negative consequences and even benefit from it, but some individuals do suffer from negative impacts. Psychologists and educators are aware of the potential negative impact from excessive use and related physical and psychological problems (Griffiths & Greenfield, 2000). Users who spend a significant amount of time online often experience academic, relationship, financial, and occupational difficulties, as well as physical impairments (Chou, 2001). Some researchers (Brenner, 1997; Nie & Erbring, 2000) have even linked internet use with an increase in psychological difficulties such as depression and loneliness.

Excessive internet use is a more common problem in Turkey. Internet use in Turkey has increased rapidly and has become a major part of daily life. However, the advancement of internet technology not only brings benefits, but also negative results. Of these negative aspects, excessive internet use is increasing dramatically. Internet addiction is called addiction disorder, pathological internet use, excessive internet use, and compulsive internet use (Kim, 2008). Internet addiction is described as an impulse control disorder that does not involve the use of an intoxicating drug and is very similar to pathological gambling (Young, 1996).

“Healthy internet use” is the use of the internet for an expressed purpose in a reasonable amount of time without cognitive or behavioural discomfort. Problematic internet use is “a psychiatric condition which involves maladaptive thoughts and pathological behaviour” (Davis, 2002). Problematic internet use is excessive time spent on various activities on the internet to an extent that might have negative effects on the user's physical and psychological health; social, academic, professional, and marital relationships, and other areas of life (Young, 1997). Morahan-Martin and Schumacher (2000) define problematic internet use as intensive use of the internet, failure to control internet use, serious harm to the user's life resulting from this use. Problematic internet use has been associated with increases in impulsivity and increases in social comfort while online (Davis, 2002). Problematic internet use can cause internet addiction. Young (1996) characterized internet addiction as staying online for pleasure averaging 38 hours or more per week, largely in chat rooms, and concluded that internet addiction can shatter families, relationships, and careers.

Internet addiction, also described as pathological internet use, is defined as an individual's inability to control his or her use of the internet, which eventually causes psychological, social, school and/or work difficulties in a person's life (Davis 2001; Young & Rogers, 1998). Addictive internet use is defined as “an impulse control disorder that does not involve an intoxicant” and is akin to pathological gambling (Young, 1998). Young further categorized five specific types of internet addiction: (1) cyber sexual addiction to adult chat rooms or cyber porn; (2) cyber relationship addiction to online friendships or affairs that replace real-life situations; (3) net compulsions to online gambling, auctions, or obsessive trading; (4) information overload to compulsive web surfing or databases searches; and (5) computer addiction to game playing or programming (Young, 1998). Like other addictions, furthermore, internet addiction has been linked to a variety of problems. Besides little sleep, failure to eat for long periods and limited physical activity, it also disrupts the studies and other aspects of the daily life of an individual (Cao & Su, 2006).

These people demonstrated two or more internet addiction symptoms, namely, spending more time on the internet than intended, feeling an urge to instantly connect to the internet once arriving home, receiving

complaints from family members and friends about too much time on the internet, and unsuccessful attempts to cut back on internet use (Chak & Leung, 2004).

Previous studies indicate that people may develop a new lifestyle through internet activities, which may cause a worsening in their actual social relationships (Whang, Lee, & Chang, 2003). In other words, depressive feelings of people relying on the internet for social support might remain or even worsen toward their real-life interpersonal relationships, increasing their risk of becoming internet addicted (Yu-Chun, Huei-Chen, Jo Yung-Wei, & Chung-Ping, 2008).

Internet use may be beneficial or benign when kept to 'normal' levels, however high levels of internet use which interfere with daily life have been linked to a range of problems, including decreased psychosocial well-being, relationship breakdown and neglect of domestic, academic and work responsibilities (Beard 2002; Weiser 2001; Widyanto & McMurrin 2004; Yao-Guo, Lin-Yan, & Feng-Lin 2006; Young 1998). Studies indicated that the potential for negative psychological and social consequences reduced as society became more accustomed to using the internet (Kraut, Kiesler, Boneva, Cummings, Helgeson, & Crawford 2002).

The explosive growth of the internet in the last decade has had a huge impact on psychological research in understanding its role in communication and interpersonal behaviour. There has been increased interest in the addictive potential of the internet and the effect this can have on psychological well being (Niemz, Griffiths, & Banyard, 2005).

Although these findings, relatively little attention is given to the relationships between internet addiction and psychological variables. Thus, the aims of this study were to identify the relationship between internet addiction and Psychopathology in Turkish university students.

MATERIALS AND METHODS

Sample

The sample consisted of 174 students from Sakarya University, Turkey. Of the participants 77 (44,3%) were male and 97 were female (55,7%). Addicted internet users grup 56 (% 32) and nonaddicted Internet users grup 118 (% 68) were found. According to daily internet use; Hours per a day, 0-1: n_63 (%36,2), 2-3: n_35(20,1), 4-5: n_20 (%11,5) an 6+: n_56 (%32,2).

Data collection tools

Demographics.

This section included questions about the participants sex and daily Internet use.

Addicted Internet Users

With the following two cases as university students were dependent on internet addicted in this study. In other words, internet use six hours a day and from five to eight questions, yes, was adopted as the internet addicted.

1. Young characterized Internet addiction as staying online for pleasure averaging 38 hours or more per week, largely in chat rooms, and concluded that Internet addiction can shatter families, relationships and careers (Young, 1996).

2. She developed an 8-item questionnaire for diagnosing addicted Internet users, which was adopted from the criteria for pathological gambling as referenced in the Diagnostic and Statistical Manual of Mental Disorders–IV (Young, ,1996). In her studies, respondents who answered “yes” to 5 or more criteria were classified as addicted Internet users and those who responded “yes” to less than 5 were classified as normal Internet users. Criteria for Problematic Internet Use Include (Young, 1999):

1. Preoccupation with Internet
2. Need for longer amounts of time online
3. Repeated attempts to reduce Internet use
4. Withdrawal when reducing Internet use
5. Time management issues
6. Environmental distress (family, school, work, friends)
7. Deception around time spent online
8. Mood modification through Internet use

Symptom Checklist-90-Revision.

The subjects' psychological changes were measured using the Symptom Checklist-90-Revision (SCL-90-R), which is a multidimensional, self-report symptom inventory developed by Derogatis et al²¹ and translated into Korean.²² The SCL-90-R consists of 90 items in total, which are divided into 9 symptom dimensions: Somatization (12 items), Obsessive-compulsive (10 items), Interpersonal sensitivity (9 items), Depression (13 items), Anxiety (10 items), Hostility (6 items), Phobic anxiety (7 items), Paranoid ideation (6 items), and Psychoticism (10 items). The study subjects were asked to select from "0 = no problem" to "4 = very serious" to describe the extent of their symptoms. Cronbach's alpha was .95 in this study.

RESULTS

1. Results about daily Internet use and psychiatric symptoms

Table 1. Psychiatric Symptoms According to Daily Internet Use

Psychiatric Symptoms	Hour	N	Mean	Std. Deviation	F	Sig	The Source of The Difference
Somatization	0-1	63	,76	,60	7,16	,000	6+ > 0-1
	2-3	35	,89	,50			
	4-5	20	1,06	,62			
	6+	56	1,25	,62			
Obsessive Compulsive	0-1	63	1,13	,51	3,19	,010	
	2-3	35	1,16	,51			
	4-5	20	1,20	,62			
	6+	56	1,43	,47			
Interpersonal Sensitivity	0-1	63	,89	,49	8,82	,000	6+ > 0-1 & 6+ > 2-3
	2-3	35	,91	,49			
	4-5	20	1,05	,62			
	6+	56	1,36	,57			
Depression	0-1	63	,97	,62	4,12	,007	6+ > 0-1
	2-3	35	1,05	,51			
	4-5	20	1,02	,57			
	6+	56	1,33	,58			
Anxiety	0-1	63	,77	,62	5,51	,001	6+ > 0-1
	2-3	35	,88	,59			
	4-5	20	,75	,67			
	6+	56	1,19	,56			
Hostility	0-1	63	,81	,60	13,09	,000	6+ > 0-1, 2-3 & 4-5
	2-3	35	,99	,73			
	4-5	20	,68	,51			
	6+	56	1,49	,73			
Phobic Anxiety	0-1	63	,54	,49	11,52	,000	6+ > 0-1, 2-3 & 4-5
	2-3	35	,58	,51			
	4-5	20	,57	,56			
	6+	56	1,12	,72			
Paranoid Ideation	0-1	63	1,02	,61	5,10		6+ > 0-1 & 2-3
	2-3	35	,99	,65			
	4-5	20	1,03	,58			
	6+	56	1,40	,59			
Psychoticism	0-1	63	,67	,50	6,47		6+ > 0-1 & 2-3
	2-3	35	,74	,53			
	4-5	20	,83	,48			
	6+	56	1,11	,65			

Six hours a day and later in university students who use internet somatization symptoms dimensions are seen more often according to the 0-1 hours of internet use. Daily internet use to have Obsessive Compulsive symptoms dimensions is not a factor. Daily internet use six hours and later university students interpersonal sensitivity symptoms dimensions are seen more often than 0-1 and 2-3 hours of daily internet users. Six or more per day using the internet for university students with depression symptoms dimensions had more than 0-1 hours of daily internet users. Six or more per day using the internet for university students with anxiety symptoms dimensions had more than 0-1 hours of daily internet users. Six or more per day using the internet for university students with hostility anxiety symptoms dimensions had more than 0-1, 2-3 and 4-5 hours of daily internet users. Six or more per day using the internet for university students with phobic anxiety symptoms dimensions had more than 0-1, 2-3 and 4-5 hours of daily internet users. Six or more per day using the internet for university students with paranoid ideation symptoms dimensions had more than 0-1 and 2-3 hours of daily internet users. Six or more per day using the internet for university students with psychoticism symptoms dimensions had more than 0-1, 2-3 and 4-5 hours of daily internet users. The psychiatric symptoms according to daily internet use the hostility score was also highest in the addiction group among the 9 symptom dimensions.

2. Results about addicted internet and psychiatric symptoms

Table 2. Psychiatric Symptoms According to addicted Internet

Psychiatric Symptoms	Addicted/ Nonaddicted	N	Mean	Std. Deviation	t	Sig																																																																																					
Somatization	Addiction Group	65	1,25	,63	4,82	,000																																																																																					
	Nonaddiction Group	109	,810	,56			Obsessive Compulsive	Addiction Group	65	1,48	,48	4,97	,000	Nonaddiction Group	109	1,10	,50	Interpersonal Sensitivity	Addiction Group	65	1,39	,57	6,53	,000	Nonaddiction Group	109	,872	,47	Depression	Addiction Group	65	1,36	,55	6,61	,000	Nonaddiction Group	109	,959	,57	Anxiety	Addiction Group	65	1,20	,59	4,65	,000	Nonaddiction Group	109	,767	,59	Hostility	Addiction Group	65	1,43	,74	5,67	,000	Nonaddiction Group	109	,828	,63	Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group
Obsessive Compulsive	Addiction Group	65	1,48	,48	4,97	,000																																																																																					
	Nonaddiction Group	109	1,10	,50			Interpersonal Sensitivity	Addiction Group	65	1,39	,57	6,53	,000	Nonaddiction Group	109	,872	,47	Depression	Addiction Group	65	1,36	,55	6,61	,000	Nonaddiction Group	109	,959	,57	Anxiety	Addiction Group	65	1,20	,59	4,65	,000	Nonaddiction Group	109	,767	,59	Hostility	Addiction Group	65	1,43	,74	5,67	,000	Nonaddiction Group	109	,828	,63	Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48								
Interpersonal Sensitivity	Addiction Group	65	1,39	,57	6,53	,000																																																																																					
	Nonaddiction Group	109	,872	,47			Depression	Addiction Group	65	1,36	,55	6,61	,000	Nonaddiction Group	109	,959	,57	Anxiety	Addiction Group	65	1,20	,59	4,65	,000	Nonaddiction Group	109	,767	,59	Hostility	Addiction Group	65	1,43	,74	5,67	,000	Nonaddiction Group	109	,828	,63	Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																			
Depression	Addiction Group	65	1,36	,55	6,61	,000																																																																																					
	Nonaddiction Group	109	,959	,57			Anxiety	Addiction Group	65	1,20	,59	4,65	,000	Nonaddiction Group	109	,767	,59	Hostility	Addiction Group	65	1,43	,74	5,67	,000	Nonaddiction Group	109	,828	,63	Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																														
Anxiety	Addiction Group	65	1,20	,59	4,65	,000																																																																																					
	Nonaddiction Group	109	,767	,59			Hostility	Addiction Group	65	1,43	,74	5,67	,000	Nonaddiction Group	109	,828	,63	Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																																									
Hostility	Addiction Group	65	1,43	,74	5,67	,000																																																																																					
	Nonaddiction Group	109	,828	,63			Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000	Nonaddiction Group	109	,536	,47	Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																																																				
Phobic Anxiety	Addiction Group	65	1,08	,73	6,03	,000																																																																																					
	Nonaddiction Group	109	,536	,47			Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000	Nonaddiction Group	109	,989	,61	Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																																																															
Paranoid Ideation	Addiction Group	65	1,39	,59	4,26	,000																																																																																					
	Nonaddiction Group	109	,989	,61			Psychoticism	Addiction Group	65	1,56	,63	5,75	,000	Nonaddiction Group	109	,667	,48																																																																										
Psychoticism	Addiction Group	65	1,56	,63	5,75	,000																																																																																					
	Nonaddiction Group	109	,667	,48																																																																																							

Of the 2174 participants who fully completed the survey, using the Internet and 65 participants (37,4%) met the criteria for Internet addiction. The 65 participants with Internet addiction comprised 28 male students (43,1%) and 37 (56,9%) female students. Table 2 shows the relationship between the psychiatric symptoms and the Internet user groups. All 9 psychiatric symptom dimensions were significantly associated with the severity of Internet addiction in t tests ($p < .001$). The t tests showed that all the symptom scores of the 9 dimensions of the SCL-90-R were the highest in the Internet addiction group and lowest in the nonaddiction group. Psychiatric

symptoms according to addicted Internet Psychoticism had the highest average score among the 9 psychiatric symptom dimensions in Turkish university students.

DISCUSSION

Results show that student who use internet six hours a day generally report more psychiatric symptoms, compared to students who did not. The main goal of this study was to investigate the between relationships addicted internet and Psychiatric Symptoms. This study found significant relationships between the daily internet use and the degree of psychiatric symptoms such as depression, obsessive compulsion ,interpersonal sensitivity, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Daily internet usage time is more Psychiatric Symptoms occur in. Young and Rodgers (1998) reported that the average Internet use among problematic Internet users is 38.5 hours a week and among healthy users is 4.9 hours a week. Students who use the internet of hours per a day can not bring responsibilities such as academic problems and social isolation owing to excessive use of the Internet.

This study found significant relationships between the severity of Internet addiction and the degree of psychiatric symptoms. Addicted Internet use was significantly correlated psychiatric symptoms. Psychologists and educators are aware of the potential negative impact from addicted use and related physical and psychological problems. Users who spend a significant amount of time online often experience academic, relational, economic, and occupational problems, as well as physical disorders. Internet use with an increase in psychological difficulties such as depression and loneliness. Addicted users were more likely than nonaddicted Internet users to be depressed. This study showed that addicts internet used the Internet more often when they were depressed than nonaddicts. It is clear that the relation between Internet use and depression is affected by many variables. Addicted Internet use has been associated with increases in impulsivity

Addicted and nonaddicted Internet users displayed significant difference on interpersonal relationships. Individuals with addiction internet experience a sense of criticized by others, shyness and a sense of discomfort with against gender and can easily hurt feelings.

Addicted Internet users who perceived lower social support found it easier to create new social relationships online, the consequence of exploring social support online could worsen interpersonal problems in reality, accompanied by psychological problems such as anxiety symptoms. In the female model, both actual social support and virtual social support to Internet addiction were partially mediated through anxiety symptoms

We found significant differences between the addicted internet group and non addicted internet grup for Obsessive- Compulsive symptoms. Addicted internet group have Obsessive- Compulsive symptoms more than nonaddicted internet group. Because addicted internet group; preoccupation with internet, need for longer amounts of time online, repeated attempts to reduce internet use, withdrawal when reducing internet use, time management issues, environmental distress (family, school, work, friends) and deception around time spent online mood modification through Internet use. These people answered “yes” to 5 or more criteria as Obsessive-Compulsive. We found significant differences between the addicted internet group and non addicted internet grup for hostility.

University students in Turkey, will lead internet use because of many factors such as difficulty adapting to life away from home and underlying psychological problems. These includes free Internet access, huge blocks of unstructured time, newly experienced freedom from parental intervention, no monitoring of what they express online, full encouragement from faculty members for Internet usage.

Future studies should continue to examine how personality traits influence problematic Internet use and should investigate whether a similar personality profile may be an etiologic factor in the development of any addictive syndrome, whether it be to alcohol, gambling, or the Internet. There is also a need for more studies of adolescents who visit psychiatric clinics and seek Professional help for addicted Internet use.

REFERENCES

- Beard, K.W. (2002). Internet addiction: current status and implications for employees' *Journal*
- Brenner V. (1997). Psychology of computer use: XLVLL parameters of internet use, abuse, and addiction: the first 90 days of the internet Usage Survey. *Psychology Reports*; 80:879–82.
- Cao, F. & Su, L. (2006). internet addiction among Chinese adolescents: prevalence and psychological features, *Journal compilation* © Blackwell Publishing Ltd,
- Chak, K. & Leung, L. (2004). Shyness and locus of control as predictors of internet addiction and internet use. *CyberPsychology & Behavior*; 7:559–70.

- Chou C. (2001). internet heavy use and addiction among Taiwanese college students: an online interview. *Cyber Psychology & Behavior*; 4:573–85.
- Davis, R. A. (2001) A cognitive-behavioral model of pathological internet use. *Computers in Human Behavior*, 17, 187–195.
- Davis, RA. , Flett, G L. & Beser, A. (2002). Validation of a new scale for measuring problematic internet use. *CyberPsychology & Behavior*; 5:331–45.
- Davis, RA.(2002) What is internet addiction? Available at: www.victoriapoint.com/internetaddiction/articles.htm.
- Greenfield, D.N. (2000). Psychological characteristics of compulsive internet use: a preliminary analysis. *CyberPsychology & Behavior*; 5:403–12.
- Griffith,s M.D. Does internet and computer addiction exist? Some case study evidence. *Cyber Psychology & Behavior* 2000; 3, 211–18.
- Kim, J.U. (2008). The Effect of a R/T Group Counseling Program on The internet Addiction Level and Self-Esteem of internet Addiction University Students, 4 • international Journal of Reality Therapy • Spring, Vol.XXVii, number 2.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J.N., Helgeson, V. & Crawford, A.M. (2002). ‘internet paradox revisited’ *Journal of Social issues*, 58, 49-74.
- Morahan-Martin, J. & Schumacher, P. (2000). incidence and correlates of pathological internet use among college students. *Computers in Human Behavior*; 16:13–295.
- Nie, N.H, Erbring L. (2000) internet and society. (Preliminary report). Stanford, CA: Stanford University, Stanford institute for the Quantitative Study of Society. www.stanford.edu/group/siqss/Press_Release/internetStudy.html (accessed May 18, 2008).
- Niemz, K., Griffiths, M. & Banyard, P. (2005). Prevalence of Pathological internet Use among University Students and Correlations with Self-Esteem, the General Health Questionnaire (GHQ), and Disinhibition, *Cyberpsychology and Behavior*, 8, 562–570. *of Employment Counseling*, 39, 2-11. Test’ *CyberPsychology & Behavior*, 7, 443-450.
- Weiser, E.B. (2001) ‘The functions of internet use and their social and psychological consequences’ *CyberPsychology & Behavior*, 4, 723-743.
- Whang LS, Lee S, Chang G. internet over-users’ psychological profiles: a behavior sampling analysis on internet addiction. *CyberPsychology & Behavior* 2003; 6:143–50.
- Widyanto, L. & McMurrin, M. (2004) ‘The psychometric Properties of the Internet Addiction Test, *CyberPsychology and Behavior*, 1, 443-450.
- Ying-Fang Chen, M.A. and Samuel S. Peng, P. (2008). University Students’ Internet Use and Its Relationships with Academic Performance, Interpersonal Relationships, Psychosocial Adjustment, and Self-Evaluation, *Cyberpsychology & Behavior* Volume 11, Number 4.
- Yao-Guo, G., Lin-Yan, S. & Feng-Lin, C. (2006) ‘A research on emotion and personality characteristics in junior high school students with internet addiction disorders’ *Chinese Journal of Clinical Psychology*, 14, 153-155.
- Young, K. S. (1996). *Caught in the net: how to recognize the signs of Internet addiction—and a winning strategy for recovery*. New York: Wiley.
- Young K. (1997) *What makes the internet addictive: potential explanations for pathological internet use*. Paper presented at the Annual Conference of The American Psychological Association, Chicago.
- Young, K. (1996). internet addiction: The emergence of a new clinical disorder. *Cyber Psychology and Behavior*, 3, Til-iAA.
- Young, K. S. & Rogers, R. C. (1998) The relationship between depression and internet addiction. *Cyberpsychology and Behavior*, 1, 25–28.
- Young, K.S. (1996). Psychology of computer use: XL. Addictive use of the internet. A case that breaks the stereotype. *Psychological Reports* 79:899–902.
- Young, K.S. (1998). internet addiction: The emergence of a new clinical disorder. *CyberPsychology & Behavior* 1:237–244.
- Young, K.Y.S. (2007). Cognitive Behavior Therapy with internet Addicts: Treatment Outcomes and implications, *Cyberpsychology & Behavior* Volume 10, Number 5, 671-679.
- Young K, Rodgers R. (1998). The relationship between depression and Internet addiction. *CyberPsychology & Behavior*; 1:25–8.
- Yu-Chun Y. , Huei-Chen K., Jo Yung-Wei W., M.A., and Chung-Ping C. (2008). Gender Differences in Relationships of Actual and Virtual Social Support to internet Addiction Mediated through Depressive Symptoms among College Students in Taiwan. *CYBERPSYCHOLOGY & BEHAViOR* Volume 11, Number 4, 485-487.