Role of Internet Addiction in Mental Health Problems of College Students

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Abstract

The study examined the role of internet addiction and gender on the mental health status of youths. The sample comprised of male (n=50) and female (n=50) students. The Internet Related Problem Scale and General Health Questionnaire were administered to assess the level of internet addiction and mental health status respectively. The results indicated that students who were internet addicts (both males and females) exhibited more mental health problems than the students who were not internet addicts. Female students who were internet addicts scored higher than the male students who were internet addicts on all the four dimensions of GHQ. Overall significant difference was exhibited between the students with internet addiction and with no internet addiction on all the four domains of the GHQ. The implications for the findings of the present study are discussed further.

Keywords: Internet addiction; health; anxiety; insomnia; depression; social dysfunction

Abbreviations: GHQ: General Health Questionnaire; PIU: Problematic Internet Use; DSM: Diagnostic and Statistical Manual for Mental Disorders

Introduction

The internet has become the most demanded hot cake over the past two decennium. The usage of internet has gathered a great pace over the last years. It has become an essential channel in various domains such as academic research, communication and entertainment. As the usage of internet increased, various researchers also geared up to study the impact of its usage on the individuals and society. It has been realised that apart from many benefits that internet has bestowed on us, it could also be associated with unhealthy behaviours and negative health outcomes. Moreover, it could even be a source of a completely new pathology [1].

Despite its recognized positive consequences for everyone's life, a growing number of studies have revealed that the use of the Internet can, in certain cases, become problematic. Problematic Internet Use (PIU) is considered as an inability to control use of the Internet, which eventually involves psychological, social, academic, and/or professional problems in a person's life [2].

PIU has been implicated in a variety of different activities such as cybersex (i.e. compulsive consumption of adult pornographic website [3] online gambling [4] and online video game playing (NG & Weimer, 2005) thereby emphasizing that

this problematic behaviour can take very different forms across individuals and should not be viewed as homogeneous. Research into the risk factors for PIU has emphasized that its occurrence may be influenced by demographics (e.g., gender, socio-economic status), psychological factors (e.g., personality traits, self-esteem, cognitive processes, motives for using the Internet), and co morbidity of concurrent symptoms (e.g., anxiety, depression, social phobia, drug use). [5,6].

Among the various psychological factors potentially implicated in PIU, numerous studies have examined the role of individual differences in self-regulation (e.g., traits of impulsivity and sensation seeking, inhibitory control and other executive processes, reinforcement sensitivity, emotion-regulation abilities) [7]. Since its appearance in the medical and psychological literature, PIU has been viewed as a mental disorder and termed "Internet addiction" or "pathological Internet use" [8-10].

Consequently, PIU has been conceptualized from a categorical perspective inspired by the diagnostic criteria for certain addictive behaviours in the Diagnostic and Statistical Manual for Mental Disorders (DSM), such as substance abuse or pathological gambling. Thus, PIU is frequently considered as

a "behavioural addiction" or an "impulse control disorder," as it shares most features (e.g., craving, tolerance, loss of control, relapse, and withdrawal) with other addictive disorders. In this vein, several authors have proposed specific diagnostic criteria to identify "pathological Internet users" [11].

Internet addiction is just like an impulse control disorder. The only difference lies with the fact that it does not involve the use of an intoxicating drug. It is very similar to pathological gambling. Some Internet users may develop an emotional attachment to on-line friends and activities they do on their computer screens. Other Internet users spend endless hours researching topics of interest online or "blogging". Internet addicts become a member of the virtual and fantasy world and cut their presence from the real world. They use internet as a substitution to real life human connection, which they are unable to achieve normally [12].

The warning sign of Internet addiction include certain symptoms such as, preoccupation with the Internet, (thoughts about previous on-line activity or anticipation of the next on-line session.) ,use of the Internet in increasing amounts of time in order to achieve satisfaction, repeated, unsuccessful efforts to control, cut back or stop Internet use, feelings of restlessness, moodiness, depression, or irritability when attempting to cut down use of the Internet, on-line longer than originally intended, jeopardized or risked loss of significant relationships, job, educational or career opportunities because of Internet use, lies to family members, therapists, or others to conceal the extent of involvement with the Internet, use of the Internet is a way to escape from problems or to relieve a dysphoric mood (e.g. Feelings of hopelessness,

Internet addiction results in personal, family, academic, financial, and occupational problems that are characteristic of other addictions. Individuals suffering from Internet addiction spend more time in solitary seclusion, spend less time with real people in their lives, and are often viewed as socially awkward. Arguments may result due to the volume of time spent on-line. Those suffering from Internet addiction may attempt to conceal the amount of time spent on-line, which results in distrust and the disturbance of quality in once stable relationships. Some suffering from Internet addiction may create on-line personas or profiles where they are able to alter their identities and pretend to be someone other than himself or herself. Those at highest risk for creation of a secret life are those who suffer from low-self-esteem feelings of inadequacy, and fear of disapproval. Such negative self-concepts lead to clinical problems of depression and anxiety.

Many persons who attempt to quit their Internet use experience withdrawal including: anger, depression, relief, mood swings, anxiety, fear, irritability, sadness, loneliness, boredom, restlessness and procrastination.

Shu Ching Yang and Chieh-Ju Tung [13] found out that the internet addict students manifested higher tolerance and withdrawal symptoms and were engaged in compulsive usage of internet. They also suffered from problems related to family, school, and health; interpersonal and financial problems. Also the Internet addicts perceived the Internet to have significantly more negative influences on daily routines, school performance, teacher and parental relation than non-addicts. Moreover, students with personalities characterized by dependence, shyness, depression and low self-esteem had a high tendency to become addicted.

The Internet addicts have been identified as scoring high on neuroticism and psychoticism. They also lack the sense of control over time, sense of value of time, and sense of time efficacy. Not only this the Internet addiction group had also significantly higher scores on the SDQ subscales of emotional symptoms, conduct problems, hyperactivity, total difficulties and lower scores on the subscale of pro-social behaviours . In a nutshell it can be stated that adolescents with Internet addiction possess different psychological features when compared with those who use the Internet less frequently [14].

It has also been suggested that clinical depression is significantly associated with increased levels of personal Internet use. It is likely that low self-esteem, poor motivation, fear of rejection, and the need for approval associated with depressives contribute to increased Internet use, as many researches indicated that the interactive capabilities available on the Internet were found to be most addictive [8].

Mostafaei and Khalili [15] found that females more than males have signs of internet addiction. Students with personalities characterized by dependence, shyness, depression and low self-esteem had a high tendency to become addicted.

Mental health is important at every stage of life, from childhood and adolescence through adulthood. As mental health includes our emotional, psychological, and social well-being and also affects how we think, feel, and act, the heavy internet users are seen to be suffering from emotional, psychological and social dysfunction. It also helps determine how we handle stress, relate to others, and make choices. The heavy internet users are seen to be experiencing several mental health problems, their thinking, mood, and behaviour could be affected by the heavy internet usage , like pulling away from people and usual activities or withdrawal symptom, feeling numb or like nothing matters, feeling helpless or hopeless, feeling unusually confused, forgetful, on edge, angry, upset, worried, or scared , experiencing severe mood swings that cause problems in relationships ,having persistent thoughts and memories you can't get out of your head. Jahanian and Seifury [16] found out that there is a significant and inverse relationship between Internet addiction and students' mental health. Thus heavy internet users are not able to realise their potential to the fullest, cope with the stresses of life, work productively and make meaningful contributions to the community.

Method

Design and Sample

The study was conducted with post graduate students from the various educational institutions of Varanasi. Initially a sample of two hundred twenty seven students (111 males and 116 females) with age range of 20-24 years was contacted. They were assured about the confidentiality of their responses. Out of 227 students, only 100 students completed the questionnaires (50 male students and 50 female students). Only those students were included in the sample, who had internet access. A 2 x 2 factorial design was used to assess the main effect and interaction effect of internet addiction and no internet addiction among male and female students on their mental health status. Purposive sampling was used for the purpose of data collection as only those students were approached who had internet access.

Measures

Demographic profile

The demographic profile was used to assess the demographic characteristics (Table 1) of the participants that comprised of age, gender, socio-economic status and educational qualification of the participants (Table 1).

Table 1: Demographic characteristics of the Participants.

Gender	Male	Female
Participants	29	45
Age	20-24 Years	20-24 Years
Educational Qualification	Post-Graduate Students	Post-Graduate Students

Internet Related Problem Scale

The scale was devised by Armstrong, Phillips and Saling [17]. The scale comprises of twenty items and is a ten point Likert scale. The cronbach alpha was found to be 0.88, which implies that the scale is a reliable one. The construct validity was significantly correlated with the time spent on internet (r=0.76) and with MMPI-2 Addiction Potential Scale (r=0.30). The nine factors that the scale measures are Tolerance, Escape from other problems, reduced activities, loss of control, related activities, negative effects, withdrawal, craving and Introversion.

General Health Questionnaire

It is a 28 item questionnaire which is a modified version of GHQ of Goldberg and Hillier 1972. The Test-retest reliability for this tool was found to be high (0.78 to 0.90). Inter-rater and intra-rater reliability was found to be excellent (Cronbach's Alpha 0.90 to 0.95). High internal consistency has also been reported. GHQ28 also correlated well with Hospital Depression and Anxiety Scale and other measures of depression. The GHQ-28's subscales represent dimensions of symptomatology and not distinct diagnoses. The Scale consists of 4 subscales:

a.   Somatic symptoms (Item 1-7): Somatic symptoms are symptoms or behavioural patterns pertaining to the body and including special vulnerability of given organ systems to stress.

b.   Anxiety and insomnia (item 8-14): Symptoms pertaining to general feeling of apprehension about possible dangers and interference with sleep.

c.   Social Dysfunction (item 15-21): Symptoms pertaining to ineffective functioning in social situations in which individual might be exposed to scrutiny of others and fear of acting in a humiliating or embarrassing way.

d.   Severe depression (item 22-28): Symptoms pertaining to emotional state characterized by extraordinary sadness, hopelessness and dejection [18-21].

Results

Table 2: Mean scores of Gender and Internet addiction/ No internet addiction on the dimensions of General Health Questionnaire.

Somatic Symptoms			
Gender	**Addict**	**Mean**	**SD**
Female	Internet Addict Non Internet Addict	13.04 9.20	3.94 4.35
Male	Internet Addict Non Internet Addict	10.86 7.04	5.71 6.62
Anxiety and Insomnia			
Gender	**Addict**	**Mean**	**SD**
Female	Internet Addict Non Internet Addict	12.92 9.20	4.65 4.78
Male	Internet Addict Non Internet Addict	10.72 8.47	6.25 7.68
Social Dysfunction			
Gender	**Addict**	**Mean**	**SD**
Female	Internet Addict Non Internet Addict	14.62 11.50	3.86 5.83
Male	Internet Addict Non Internet Addict	12.69 9.14	4.81 6.15
Depression			
Gender	**Addict**	**Mean**	**SD**
Female	Internet Addict Non Internet Addict	12.00 8.46	5.05 4.60
Male	Internet Addict Non Internet Addict	9.55 6.85	5.65 6.39

Total GHQ			
Gender	Addict	Mean	SD
Female	Internet Addict Non Internet Addict	52.26 38.36	14.44 18.80
Male	Internet Addict Non Internet Addict	43.82 31.52	20.61 26.01

Table 2 indicated the means of gender, internet addiction and no internet addiction on the four dimensions of General Health Questionnaire.Somatic symptoms were found more in female students who were internet addicts (Table 2) (M=13.04,SD=3.94) than the male students who were internet addicts (M=10.86, SD=5.71).

Anxiety was found more in female students who were internet addicts (table-2) (M=12.92, SD=4.65) than the male students who were internet addicts (M=10.72, SD=6.25). Social dysfunction was found more in female students who were internet addicts (Table 2) (M=14.62, SD=3.86) than the male students who were internet addicts (M=12.69, SD=4.81). Severe depression was found more in female students who were internet addicts (table-2) (M=12, SD=5.05) than the male students who were internet addicts (M=9.55, SD=5.65). On whole, female students who were internet addicts scored more than the female students who were not internet addicts on all the four dimensions of GHQ (somatic symptoms, anxiety and insomnia, social dysfunction and severe depression) [22]. Male students who were internet addicts scored more than the male students who were not internet addicts on all the four dimensions of GHQ (somatic symptoms, anxiety and insomnia, social dysfunction and severe depression) (Table 3).

Table 3: ANOVA outcomes on the General Health Questionnaire and its dimensions.

Sources of variance	df	Mean square	F	Sig
Somatic				
Gender	1	115.95	4.25	.05*
Internet Addict	1	360.23	13.21	.01**
Gender* Internet addict	1	.002	.000	.994
Anxiety				
Gender	1	52.96	1.52	.220
Internet Addict	1	219.16	6.23	.05*
Gender* Internet addict	1	13.26	.381	.538
Social dysfunction				
Gender	1	113.06	4.24	.05*
Internet Addict	1	273.60	10.26	.05*
Gender* Internet addict	1	1.15	.043	.836
Depression				
Gender	1	101.08	3.42	.062
Internet Addict	1	239.73	8.10	.05*
Gender* Internet addict	1	4.23	.150	.700
Total GHQ				
Gender	1	1441.60	3.57	.062
Internet Addict	1	4230.60	10.47	.05*
Gender* Internet addict	1	15.59	.039	.845

*p<.05
**p<.01

Table 3 indicated the ANOVA outcomes on the General health Questionnaire and its dimensions. The main effect of gender on the dimension of somatic symptoms indicated that female students exhibited more somatic symptoms than the male students $F_{(1, 96)} =4.25$, p<.05. The main effect of gender on the dimension of social dysfunction, $F_{(1, 96)} =4.24$, p<.05, indicated that female students exhibited more social dysfunction than the male students. The main effect (Table 3) of internet addiction on the dimension of somatic symptoms, $F_{(1, 96)} =13.21$, p<.01 indicated that internet addict students displayed more somatic symptoms than non-internet addicts. The main effect (Table 3) of internet addiction on the dimension of anxiety, $F_{(1, 96)} =6.23$, p<.01 indicated that anxiety was found more in the internet addict students than those with no internet addiction. The main effect (Table 3) of internet addiction on the dimension of social dysfunction, $F_{(1,96)}=10.26$,p<.01 indicated that significant difference was found between the internet addict students and students with no internet addiction on the domain of social

dysfunction. The main effect (Table 3) of internet addiction on the dimension of depression, F (1, 96) =8.10, p<.01 indicated that internet addict students and non-internet addicts scored significantly different on their scores of depression [23-26]. The overall main effect of internet addiction, F(1,96)=10.47, p<.05on a whole suggested that the internet addict students showed significant difference with the non internet addict students on the four domains of GHQ (Figure 1).

Figure 1 indicates the mean scores of gender and internet addiction/ non internet addiction on the four dimensions of General Health Questionnaire. Female internet addicts have scored more than the male internet addicts on the dimensions of somatic symptoms, anxiety, depression, insomnia and social dysfunction.

Discussion

The aim of the present study was to examine the mental health status of students with internet addiction. The study also took into account the role of gender and its interaction with the level of internet addiction on the mental health status of youths. Internet Related Problem Scale was used to assess the participants on the nine dimensions of internet addiction. The General Health Questionnaire was administered to examine the mental health status of participants on the four dimensions that is somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. The results indicated that out of 100 participants, 65 students (26 females and 35 males) were found to be internet addicts.

Both the male and female students who were internet addicts scored higher on all the four dimensions of GHQ. Students who were internet addicts (both males and females) exhibited more mental health problems than the students who were not internet addicts. Female students who were internet addicts scored higher than the male students who were internet addicts on all the four dimensions of GHQ. Thus the female internet addict students showed greater mental health problems than those of male internet addict students. Overall significant difference was exhibited between the students with internet addiction and with no internet addiction on all the four domains of the GHQ.

The internet addicts (both male and females) scored higher than the students who were not internet addicts on all the four dimensions of GHQ. The findings of the study are in line with the findings of Jahanian and Seifury [16] who found out that there is a significant and inverse relationship between Internet addiction and students' mental health. The reason behind this may be that the internet addict students spend continuous time on the internet despite of being aware of its disadvantages. They spend more time on internet than is often intended by them. This may result into headache, backache, weight gain/ loss, disturbances in sleep, Carpel tunnel syndrome and blurred or strained vision. Hence the anxiety about these physical symptoms would surely result into somatic symptom disorder. This would have a great

negative toll on the mental health status of internet addict students.

The study clearly indicates significant difference on the dimension of social dysfunction between male and female students who are internet addicts and those who are not internet addicts. The reason behind this may be that their (internet addicts) social, occupational and recreational activities are reduced or given up in order to engage in the activities on the internet. This would result into social dysfunction. Internet addict students spend more time in solitary seclusion, spend less time with real people in their lives, and are often viewed as socially awkward. Internet addict students would also attempt to conceal the amount of time spent on-line, which would result in distrust and the disturbance of quality in once stable relationships.

Some students suffering from Internet addiction may create on-line personas or profiles where they are able to alter their identities and pretend to be someone other than himself or herself. Such negative self-concepts lead to clinical problems of depression and anxiety. Impairments of real life relationships would hinder with the real life emotional support that they could get and would further lead into loneliness and depression.

Many persons who attempt to quit their Internet use experience withdrawal including: anger, depression, mood swings, anxiety, fear, irritability, sadness, loneliness, boredom, restlessness and procrastination. Also the lack of control over the excessive usage of internet and seeking sensation through its excessive use would hinder with sleep patterns leading into insomnia. Being unsuccessful at the attempts for continuous incline to control or curb the behaviour would lead into depression and anxiety. The tolerance symptom would demand for more time to be spent on the internet which would interfere with the normal functioning of day to day life and the person would be more secluded resulting into depression. Thus escaping from the realities of the real world, using internet as the defence mechanism of denial and lack of self-regulation to curb the excessive usage of internet would heighten the amount of anxiety and depression. Also the tolerance and withdrawal effects would have a negative bearing on the mental health status of the youths with internet addiction.

The findings of this study makes a concordance with the study by Yang and Tung [13] where it was found out that the internet addict students manifested higher tolerance and withdrawal symptoms and were engaged in compulsive usage of internet . Also this study stands in line with the research done by Cao and Su [14] which revealed that adolescents with Internet addiction possess different psychological features when compared with those who use the Internet less.

Female students who were internet addicts scored higher than the male students who were internet addicts on all the four dimensions (Somatic symptoms, anxiety and insomnia, social

dysfunction and severe depression) of GHQ. Putting it the other way, the female internet addict students showed greater mental health problems than those of male internet addict students. Mostafaei and Khalili [15] also found that females more than males have signs of internet addiction. The reason behind this may be that the females in Indian culture are not given the equal amount of social exposure as that of males. They remain more confined within the boundaries of family than those of males. Hence they would search for the happiness from the fantasy world of internet. For this they might create online personas and that is totally different from their real life personality. This negative self-concept may further lead into depression and anxiety.

They might try to derive satisfaction from the virtual world but as the females of this age (20-24) have to manage both the family and academic life, the excessive internet usage hinders in various spheres of life leading to more anxiety and depression. The more time they spend on the internet, the more distant they become from the actual world leading into social dysfunction. The lack of control over the urges to sit on internet and the denial of responsibilities, further overburdens them with numerous tasks to be carried in one go. This hampers their somatic wellness and leads into somatic problems and insomnia.

On the other hand male students are more likely to indulge in activities on the internet that involve exerting dominance and power like playing online video games and online gambling. They are less likely to become emotionally involved on the activities of internet. So although they would be internet addicts but it is not necessary that it would affect their mental health status to such a negative extent as that of females.

Implications

Findings of the study indicate that internet addict students have greater mental health problems than the students who are not internet addicts. So the findings of the study may have counselling implications for the students who are internet addicts. Certain intervention programmes can be made for the youths in order to help them control the excessive usage of internet and increase their mental health status. As female internet addict students have been found to be having more mental health problems as compared to male internet addict students, the psychological problem of female students needs to be understood in terms of problematic internet use or internet addiction. The warning signs of internet addiction might be used as an indicator for the risk of developing internet addiction beforehand only.

Limitations

The total sample size of the participants was small. It limits the generalisation of the findings. The present study is based on self-report measure of data collection. Other methods of data collection can also be used to make the research more authentic.

Various personality variables like self-esteem, self-concept, self-regulation, self-efficacy and other variables that influence the internet use could be included.

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