The Impact of Student Stress and Self Esteem on Internet Addiction among Male and Female University Students

JYOTSANA SHUKLA
Assistant Professor (Grade III)
Amity Institute of Behavioural and Allied Sciences
Amity University Lucknow Campus, Lucknow (U.P.) India

ABSTRACT

Internet Addiction (IA) or Problematic Internet Use (PIU), as it has been variously called, is a cause of concern for many. Addressing the problem of excessive internet use is the need of the hour. The present study considers the impact of two student relevant variables *i.e.* student stress and self esteem on Internet Addiction of a cross-sectional sample of students from various streams in a private university in India. The study also explores the differences in the relationship of students stress and self esteem with Internet Addiction. A sample of 198 university students, aged 19-21 years, was randomly selected from a cross section of the engineering, commerce and humanities streams in a private university. The students were administered the Students Stress scale (Insel and Roth, 1985), Rosenberg Self Esteem scale (Rosenberg, 1995) and Young's Internet Addiction Test (Young, 1998). The prevalence rates of moderate to high internet use were high in the sample of both male and female students. A significant and positive relationship was found between students' stress and Internet Addiction in both male and female students. However, a negative relationship was found between self esteem and Internet Addiction. This negative relationship was significant in the sample of male students but not significant in the sample of female students. Regression analysis indicated that student stress alone and in combination with self-esteem explained the variance in internet addiction among university students significantly. Student stress emerged as a significant predictor of internet addiction among these students. Reducing students stress and enhancing the self esteem of students, in future interventions may go a long way in preventing excessive internet among these students.

Key Words : Internet use, Student stress, Self esteem, University students

INTRODUCTION

Internet Addiction (IA) is related with 'excessive internet misuse' (Ayas *et al.*, 2013, Grant *et al.*, 2010). It was Kimberley Young who came up with the idea of labelling problematic use of computers as a type of addiction in the year 1996. Internet addiction is considered an Impulse control disorder if not otherwise specified. According to Griffiths *et al.* (2014), the excessive use of internet has been the focus of attention of many researchers in the world due to problems resulting from misuse of internet. Internet addiction leads to serious problems related to mental health and social communication. Due to their free, easy and everyday access to internet, students are more likely to have this addiction (Naser, 2015).

It has been found that greater use of internet use is associated with a number of negative social and psychological factors e.g. a reduced social circle, and loneliness (Yang, 2001), lower self-esteem and life satisfaction (Ko *et al.,* 2005), sensation seeking (Lin and Tsai, 2002), poor mental health (Yang, 2001; Young and Rogers, 1998), and low family function (Armstrong *et al.*, 2000). Significant correlations have been found between IA and insomnia, stress, anxiety, depression and self-esteem among medical students (Choueiry *et al.*,

2016). Internet addiction (IA) is associated with sleep, mood disorders and lower self-esteem, all of which could be obstacles for students' long-term career goals and as well as harmful for the society. Therefore it would be useful to identify students with potential IA since it is often related to many other psychological problems (Younes *et al.*, 2016).

According to Akin and Iskenderm (2011), more attention has been given to the relationship of internet addiction with social, educational, and physical variables and emotional variables e.g. depression, anxiety, and stress, have been somewhat ignored.

In the present study, self esteem and student stress levels in relation to IA were taken as variables of interest, as such studies on Indian university student samples have not been taken up in the past.

Student Stress:

Student stress research seems to have gained popularity in the 1980s. College students go through a lot of pressure such as, leaving the family home, feeling intense pressure to obtain high grades in order to get career of their choice, taking final exams, trying to establish a romantic/social life, dealing with (often very high) costs of college and possibly working at a job. Stress may be a positive or negative experience for the students. It may affect their academic life and disturb their privacy. Differences have been found in the levels of stress experienced by male and female students (Buyukbayraktar, 2015). Students increasingly face stress related to the pressure of studies, pressure from teachers and parents, due to examinations and due to their peers. Students do not pay attention to their stress which could be lead to a number of mental and psychosocial problems (Behere, Yadav, and Behere, 2011). Britz and Pappas (2010) reported a high degree and frequency of stress among college students, with 50 per cent of students reporting high levels of stress. Academic workload and time management were the major stressors. These high levels of stress were accompanied by poor health habits such as unhealthy diet and lesser sleep (Britz and Pappas, 2010). Studying student stress levels of Indian University students in relation to the levels of Internet addiction levels has not been explored so far.

Self-esteem:

Self esteem is a positive and negative evaluation of self. If people do not have self esteem, they will be more prone to experience anxiety and other negative psychological outcomes such as depression, feelings of insecurity, inadequacy, etc. High self-esteem leads to greater self confidence and to better adaptation to difficult situations (Bisinger *et al.*, 2006). It is also believed that self-esteem would help predict the frequency and intensity of stressful thoughts and experiences of an individual (Juth *et al.*, 2008). Self esteem is also considered an important variable while understanding rejection and social withdrawal or 'people apathy' (MacDonald and Leary, 2005). It can be assumed that low self-esteem may predict Internet addiction (Bahrainian *et al.*, 2014). When social integration and support are low, the level of self-esteem will accordingly decrease (Garaigordobil *et al.*, 2009). Also studies have found an inverse relation between self esteem and depression and anxiety, hence studying factors associated with low esteem in students is important (Moksnes and Espnes, 2008, Sowislo and Orth, 2013). Moreover, studies also reveal that decrease in the levels of self-esteem may result in an increase in suicidal ideation (Creemers *et al.*, 2012). Studying self esteem and student stress levels of Indian University students in relation to the levels of Internet addiction levels has not been explored so far.

The above review reveals a number of studies which have found a negative relationship of self esteem with internet Addiction and a positive relationship of student stress levels with Internet Addiction. Studies on Indian sample exploring the relationship of student stress and self esteem with Internet Addiction are lacking. Therefore, it would be pertinent to look into the relationship of student stress and self esteem with internet use among Indian university students. Also, the study looks into the gender differences in the relationship of student stress and self esteem with internet addiction.

METHODOLOGY

Sample:

The confidence level of 95% and a confidence interval of 6.68 was taken up to calculate the sample size, taking the total population of students as 5000 approximately. The required sample size came to be 163. Data was collected on 210 students based on incidental sampling. A total of 12 forms were rejected since they had either incomplete demographic information or any of the tests were left incomplete. A total of 198 students thus constituted the sample of the study. The method of incidental sampling was followed. The students were

administered the test in the free time during their regular schedule. The students were from commerce, humanities and engineering backgrounds. There were 113 males and 83 females in the sample. The age range of the subjects was 19-21 years.

Variables and measures:
Young's Internet Addiction Test (IAT):

Young's Internet Addiction Test (YIAT) is one of the reliable and valid tests of addiction related to use of Internet. It was developed by Dr. Kimberly Young in 1998. It consists of 20 items which measure mild, moderate and severe level of Internet Addiction. The higher the total scores on the scale, the greater the level of internet addiction. With scores of 20 – 49 points, a person is an average on-line user who may search the Web a bit too long some times, but he/she has control over the usage. For scores 50 – 79 points, it is interpreted that the person experiences frequent problems due to internet use. Such an individual needs to consider the full impact of internet use on his/her life. Scores ranging from 80 – 100 points reflect that internet usage is leading to many problems in one's life. Such a person needs to reduce the adverse impact of Internet use on his/her life by addressing the problem of high internet usage.

The Students Stress Scale:

The Students Stress Scale (Insel and Roth, 1985) is an adaptation of Holmes and Rahe's social Readjustment Rating Scale. Each life event in the scale is given a score. The score shows the extent of readjustment an individual has had to make in his/her life due to a given life event. Those who score higher have a greater health risk. The Student Stress Scale gives a score after adding all the points for the life events checked by an individual. Those who score 300 and higher have a high health risk; scores of 150 to 299 indicate a 50/50 chance of serious health issues in the next two years. The individuals scoring below 150 stand a 1 in 3 chance of serious health risk.

The Rosenberg Self-Esteem scale:

The Rosenberg self-esteem scale (Rosenberg, 1965), being one of the widest used tools to measure self esteem, was developed to assess self-esteem. The scale focuses on a person's general feelings toward himself/herself, with no reference to any one quality. One half of the items in the scale have been framed in a positive direction ("On the whole, I am satisfied with myself"), while the

other half in a negative direction ("All in all, I am inclined to feel that I am a failure"). The higher the total scores on the scale, higher the self esteem of the students.

RESULTS AND DISCUSSION

Descriptive statistics:

The distribution of internet scores for males and females (Fig. 1) shows that 90.26% (64.60% +25.66%) of male students in the sample and 84.33% (66.26% +18.07%) of female students in the sample had average to high internet addiction scores.
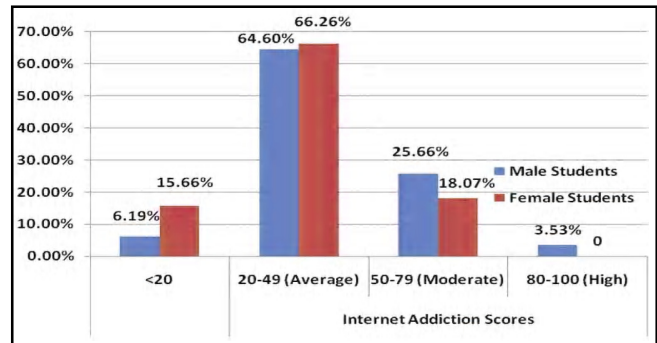

Fig. 1 : **Distribution of Internet Addiction Scores for Male and Female University Students in the sample**

The distribution of student stress scores (Fig. 2) shows that 41.59% male students and 38.55% female students had stress scores in the range of 150-300 and 38.93% of male and 44.57% female students had stress scores >300. Thus it is seen that after summing up the these two categories of stress scores, a total of 80.52% of male students and 83.12% female students had stress scores greater than 150. As per the scale, the scores above 150 shows that the students have high stress levels and run potential risks of developing health problems in
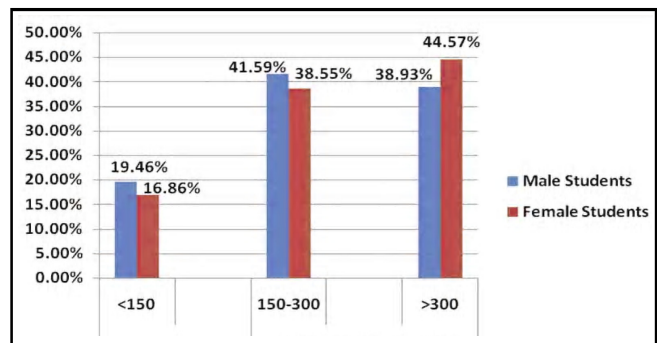

Fig. 2 : **Distribution of Student Stress Scores for Male and Female University Students in the Sample**

the next six months. This is one of the significant findings in the present study.

The distribution of self esteem scores (Fig. 3) shows that 84.93% of male students 87.94% of female students had average to high self esteem (scores between 15-25).
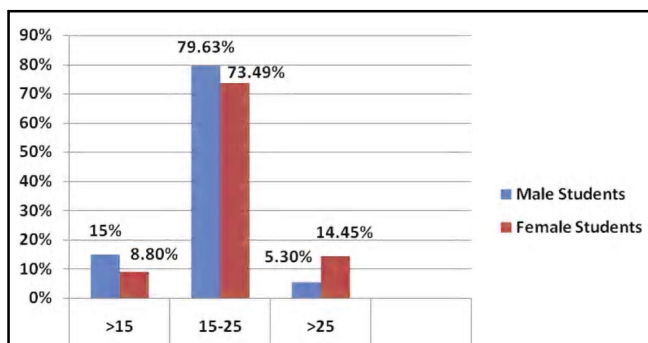

Fig. 2 : **Distribution of Student Stress Scores for Male and Female University Students in the Sample**

t-test:

The results of t-test (Table 1) shows that male students had significantly higher internet addiction scores as compared to female students (p<.01). There were no gender based differences as far as the student stress scores are concerned. Nevertheless, it is notable that both male and female have high stress scores. As far as self esteem is concerned, the table shows that females were comparatively high on self esteem as compared to male students (p< .01). Thus, significant gender differences have emerged in the levels of internet use and self esteem.

Looking at the overall correlations for the total

sample of students (ignoring the gender differences) (Table 2), it can be seen that there is a significantly high positive correlation (p<.01) between student stress and internet addiction scores. However, there is a negative correlation between self esteem and internet addiction scores (Table 2), although the correlation is not found to be significant. It may be said that student stress is positively related with internet addiction and self esteem is negatively related with internet addiction. However, in the case of self esteem this relationship has not emerged as significant in the present research, when the whole sample was considered.

When looking at the relationship of variables, across the two genders, it is seen that for both male and female undergraduates, there is significant negative correlation between student stress scores and internet addiction scores. However, as far as the self esteem scores are concerned, there is a negative relationship between self esteem and internet addiction scores, in both male and female samples, but this negative relationship is significant only for the female students and not for the male students (Table 3). Thus, in the sample of females, there is a significant positive correlation between student stress and internet addiction, and there is also a significant negative correlation between self esteem scores and internet addiction scores. In the sample of males, there is a significant positive correlation between student stress and internet addiction scores, and a negative (but not significant) correlation between self esteem and internet addiction scores.

The stepwise linear regression analysis:

The students stress predicts internet addiction

Table 1 : Gender differences in Internet Addiction, Student stress and Self Esteem among University students							
Variables	Gender	N	Mean	Std. Deviation	Std. Error of Mean	t	Significance
Internet addiction	Males	113	41.76	15.46	1.454	-3.068	.002**
	Females	83	34.91	15.43	1.694		
Student stress	Males	113	18.36	5.82343	.547	-2.018	.004**
	Females	83	19.91	4.55	.499		
Self Esteem	Males	113	276.12	158.11	14.87	.015	.988
	Females	83	275.80	132.27	14.51		

**p<.01; *p<.05

Table 2 : Overall correlation among the variables of the study			
	Internet Addiction	Student stress	Self esteem
Internet addiction	1	.257**	-.134
Student stress	.257**	1	.018
Self-esteem	-.134	.018	1

Table 3 : Gender wise correlations between Self esteem, Student stress and Internet addiction Scores

Variables	Gender	Internet Addiction	Student stress	Self-esteem
Internet Addiction	Male	1	.269[**]	-.041
	Female	1	.257[*]	-.272*
Student Stress	Male	.269[**]	1	.090
	Female	.257[*]	1	-.132
Self-esteem	Male	-.041	.090	1
	Female	-.272*	-.132	1

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 : Model Summary

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	SMEAN(Student stress)	.028	.007	.257	3.730	.01**
2	SMEAN(Student stress)	.028	.007	.260	3.795	.01**
	SMEAN(Self esteem)	-.408	.202	-.139	-2.023	.044[*]

a. Dependent Variable: SMEAN (Internet addiction)
b. Predictors: (Constant), SMEAN (Student stress)
c. Predictors: (Constant), SMEAN (Student stress), SMEAN (Self esteem)

significantly (β = .257, p<.01) (Table 4). Moreover, student stress and self esteem together also predict internet addiction significantly (β for student stress = .28, p<.01; β for self esteem = -.139, p<.05) (β for student stress and self esteem = .292, p<.01) (Table 4). Student stress seems to play a greater role in predicting internet addiction in this study (Table 4).

As per the results, males have higher rates of internet use as compared to females. In an earlier study on Indian students it was also found that males were more addicted to internet than females. The internet addiction test scoring revealed that 57.3% as normal users, 35.0% as case of mild, 7.4% as moderate and 0.3% as severely addicted to Internet (Sharma *et al.*, 2014). These findings are also similar to those found by Younes (2016) who found in their study that potential Internet Addiction was significantly related to gender and higher among males. The results are also comparable to the ones reported in other studies on young adults (Internet World Stats. 2016; Christakis and Moreno, 2009; Weinstein *et al.*, 2009). Yet, there are studies which did not find difference between genders (Fernandez-Villa, *et al., 2015*). No gender differences were found in the problematic use of internet (PIU) in a study on college students. The prevalence rate of Problematic Internet Use (PIU) assessed was 6.08%. Problematic Internet Use was found to be associated with factors such as being under 21 years of age and studying in subjects other than the health sciences. PIU was found to have significant associations with some physical problems and psychological issues e.g. risk of eating disorders, risk of mental disorder, depression, family problems and discrimination. However, no associations were found with substance use (alcohol, cannabis or tobacco) (Fernández-Villa *et al.*, 2015).

Male and female students, both show a significant positive relationship of students stress internet addiction. These findings are also similar to those by Younes *et al.* (2016) who found a strong correlation between potential internet addiction and anxiety, stress, and depression. Previous studies also reported a potential relationship between pathological internet use and depression (Tsai and Lin, 2003 and Wildt *et al.*, 2007). Vidyachathoth *et al.* (2014), found a strong correlation between negative affect and internet addiction, in their study on adolescents, thus reflecting the role of affect in behavioral addictions. They suggested that affect in adolescents can be a screening tool for internet addiction. Younes *et al.* (2016) suggested that interventions should aim at IA management as also towards addressing insomnia, anxiety, depression, stress, and self-esteem.

A significant negative correlation has been found between self esteem and internet addiction among male and female students, in the present study. However, this negative correlation is significant only for the female sample and not for the male sample in the study. This

points to the need to consider gender differences as an important variable while talking about internet addiction and related variables. In the past, self esteem has been found to be significantly and negatively correlated with internet addiction among adolescents and social self esteem and family-home self esteem have also been found to significantly predict Internet addiction (Aydm and Volkan, 2011). Significant relationships were found among Iranian university students between self-esteem and internet addiction. The study showed that persons with low self-esteem were more vulnerable to internet addiction (Naser, 2015). However, these studies did not explore the gender differences. Moreover, the finding that self esteem is negatively correlated with internet use in university students has also found support in Younes *et al.* (2016), who reported that self-esteem is significantly inversely related to internet addiction. Recent studies also show that there is a positive relationship between internet addiction and depression and loneliness, and a negative relationship between internet addiction and social interactions, and self-esteem (Ko *et al.*, 2005; Kraut *et al.,* 1998). Such studies on Indian University students are missing. These findings are similar to the findings of the present study, and the scales used are identical to the ones used in the present study for self esteem as well as for internet use. However, these studies did not explore the gender differences. In the present study the gender differences are also explored while studying the relationship of student stress and self esteem with internet addiction. The present study found significant gender differences in the relationship between self esteem and internet addiction scores.

Students stress has emerged as significant predictor of internet addiction for Indian university students in the present study. Student stress and self esteem, together, also significantly predict Internet addiction. It can be seen that gender differences with reference to student stress and self esteem were not explored in the studies earlier undertaken in the area of internet addiction. The present study fills that gap in the available literature. More studies in this area are needed to develop models for factors leading to excessive internet use, an emerging problem of our times.

Interventions to reduce student stress, an important element of mental health, and giving student stress management skills, will go a long way in reigning the growing dependence on internet, as also perhaps the excessive use of technology, in future. The impact of internet use on self esteem is not very clear from the present study. Nevertheless an indication that excessive internet use may be affecting the self esteem negatively can be seen in the present study. Therefore, efforts to maintain and enhance the self esteem may also be made a part of any plans to deal with harmful impacts of internet addiction.

Conclusion:

The present study helps us better understand the impact of impact of student stress and self esteem on internet addiction, and how these two variables differently affect internet addiction in the case of two genders, among a sample of undergraduate students studying in a private university in India. Similar studies may be undertaken considering more variables such as students from various streams, students of differing socio cultural and national backgrounds and the type of institutions that they study in. Gender seems to be a critical variable of concern, which needs to be taken up in any future study, as proved in the present study, while considering the role of students stress and self esteem in internet addiction of undergraduate studies.

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