



Internet Addiction among Adolescents

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ABSTRACT

The Internet is a widely used tool known to foster addictive behavior, and Internet addiction threatens to develop into a major public health issue in the near future in a rapidly developing country like India. Internet addiction in adolescence can have a negative impact on identity formation and may negatively affect cognitive functioning, lead to poor academic performance and engagement in risky activities, and inculcate poor dietary habits. Recent reports indicated that some online users were becoming addicted to the Internet in much the same way that others became addicted to drugs or alcohol, which resulted in academic, social, and occupational impairment. The aim of the study is to examine the prevalence of internet addiction among adolescents. For the purpose of the study 272 adolescent's students (176 male, 96 female) from formal schools and colleges at Chhattisgarh. The sampling was based on random sampling method. The age range of the students is 14yrs-19yrs. The tools, demographic data sheet designed for the purpose of this study and Internet Addiction Test (IAT) by Dr. Kimberly Young to measure the levels of internet addiction were used. The results revealed that prevalence of average internet addiction was 57%, problematic addiction was 41.9% and severe addiction was 0.7%. The gender difference was found on internet addiction that males were more addicted to the internet than female. It was also found that the duration of internet surfing and time spent for internet usage of the students were significant for internet addiction. Based on the results, internet addiction should be considered as a serious problem in adolescents and young adults. So, it is necessary that proper use of internet to be educated to adolescents and young adults to prevent the risk of internet addiction.

1. Introduction

In the four decades since its inception, the internet has driven dramatic change. It has enabled flow of information, including entertainment, news, financial, and academic material. It has brought people closer together by enabling various forms of interpersonal communication, notably E-mail, instant messaging, video conferencing and social networking. In a very short period, it has become difficult for most of us to imagine a world without instant and continuous access to the internet (Gnanasambandam et al., 2012). In the new generation, the Internet has become an important tool for education, entertainment, communication, and information-sharing. Easy access and social networking are two of the several aspects of the Internet fostering addictive behaviour (Kuss & Griffiths, 2011). Research studies in the Western and Asian contexts suggest that the risk of Internet addiction among young people is increasing (Daniel, et al., 2013). Recent reports indicated that some online users were becoming addicted to the Internet in much the same way that others became addicted to drugs or alcohol, which resulted in academic, social, and occupational impairment (Goldberg, 2013). International estimates of Internet addiction widely varies. In a multicenter study, the prevalence of adolescent's internet addiction was reported between 7.9% and 22.8% (Tsitsika et al., 2014). Another study reported the internet addiction equal to 4.4% among university students in Ilam (Durkee, 2012).

In another study, 1.6% of Korean adolescents have reported to suffer from internet addiction and 38% of the participants had the potential for Internet addiction (Kim et al., 2006). In addition, in some studies, its prevalence, has been reported to be up to 26 % (Moreno et al., 2011). In fact, every one in eight US adults are addicted to internet (Aboujaoude et al., 2006).

There has been an explosive growth in the use of internet not only in India, but also worldwide in the last decade. There were about 42 million active internet users in urban India in 2008 when compared to 5 million in 2000, as reported by internet and mobile association of India, I-Cube 2008 study. India now has the world's third-largest national digital population, with approximately 120 million internet users in 2011. The number of internet users in India has grown five-fold since 2005. Mobile Internet usage is growing at the rate of nearly 85% per annum, with nearly 75% of nonvoice usage being devoted to entertainment, where video and music streaming are major growth activities (Chandra 2012). The population of India is around 1.2 billion as of 2012, of which the number of Internet users (both urban and rural) is around 205 million. It is estimated to increase to 243 million by June 2014, and India will be the second-leading country after China which currently has the highest Internet user base of 300 million (Internet and Mobile Association of India, 2013). College students are especially vulnerable to developing dependence on the Internet, more than most other segments of

the society. This can be attributed to several factors including the following: Availability of time; ease of use; unlimited access to the Internet; the psychological and developmental characteristics of young adulthood; limited or no parental supervision; an expectation of Internet/computer use implicitly if not explicitly, as some courses are Internet-dependent, from assignments and projects to communication with peers and mentors; the Internet offering a route of escape from exam stress (Kandell, 1998), all of which make Internet overuse a significant cause of concern for parents and faculty. Several risk factors have been identified as determinants of internet addiction including: being male, living in metropolitan areas, not living with biological parents, low parental involvement, parental unemployment (Durkee, 2012), low educational level of parents, being so young when using internet for the first time, overusing of social and game network sites (Tsitsika et al., 2014). Another study reported the parental conflict and inadequate supervision on unessential internet use as the main causes of Internet addiction (Shek et al., 2008). Due to the lack of parental control and the feeling of independence, adolescents and young adults are at high risk of behavioral addictions.

A study reported that college students are a group that may be particularly vulnerable to internet addiction (Anderson, 2001). A study found the typical profile of an internet user was: the mean duration of internet use was 73.43 months, two-third of them were using internet on a regular basis for a period of more than a year, the main duration of daily internet use was 39.13 months, the average time spent in internet use was 2.13hrs everyday and more than half of the sample (56.73%) was using internet at least for 2h/day (Sandeep, et al., 2012). Hashemian et al., (2014) of conducted a study on prevalence of internet addiction among adolescents and revealed that 43.7% of students were placed in the Internet addiction group and 39.6% of students had mild addiction but no case of sever Internet addiction was seen in their study. An Indian study revealed concluded on prevalence of internet addiction among adolescent age group and found that 74.5% were moderate (average) users, 24.8% as possible addicts, and 0.7% as addicts (Deepak et al., 2013). Other Indian studies found that there is a significant difference on internet addiction and gender. Males were more addicted to the internet than female (Sharma et al., 2014; Gopala Raju et al., 2014).

2. Methodology

Aim: The aim of the study is to examine the prevalence of internet addiction among adolescents.

Sample: For the purpose of the study, the sample consists of 272 adolescents from Higher Secondary School and Colleges based on random sampling method. The age range of the students is 14yrs-19yrs. The data was collected from both high schools and colleges of Hyderabad city through management.

Inclusive Criteria: The students from high schools and colleges with the age range of 14-19yrs from both genders, who are attending in a day scholar model and willing to participate in the study, were included.

Exclusive Criteria: The students from residential model mental retardation and other visible physical disorder cases were excluded from the study.

Tools used: Demographic data sheet designed for the purpose of this study. Internet Addiction Test (IAT) by Dr. Kimberly Young to measure the levels of internet addiction. It consists of 20 items with 5-point scale that measures mild, moderate and severe level of Internet Addiction.

Procedure: The sample was selected from high schools and colleges by using random sampling with each alternate student were selected from the class register at Chhattisgarh, India. The sample consists of 272 students (176 male, 96 female) from formal schools and colleges who were selected after getting the informed consent from the school authority and the participants. The selected sample was administered Internet Addiction Test (IAT) individually. Keeping in view the aims of the study, data was analyzed using SPSS software, the means and standard deviations for scores on different variables were calculated.

3. Results

In a total sample of 272 children, 19.9% (54) students are from 14year age group, 23.9%(65) students are from 15year age group. The students from 16year age group are 5.5% (15) students and 17year old students are 14.7% (40). 18year and 19year old students are 18% (49). In this sample, most of the students are from 14 years to 15 year old children.

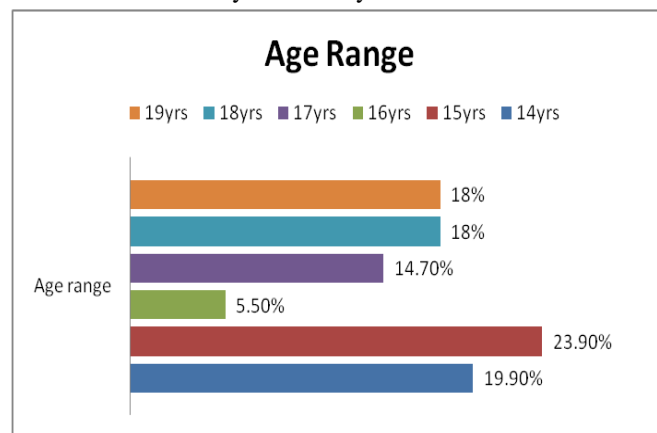


Figure 1. Age range of the students.

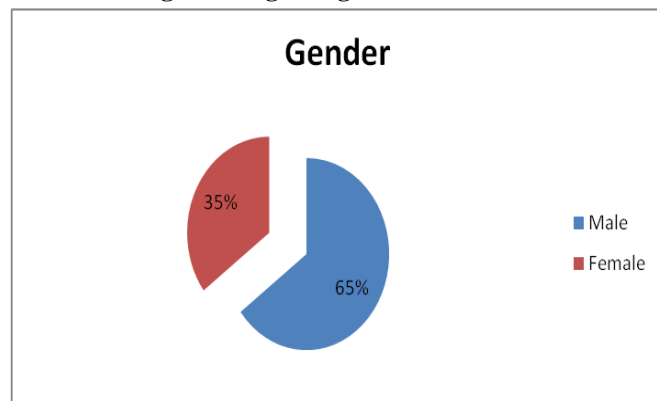


Figure 2. Gender of the students.

Graph-2 shows the gender of the students. Total number of sample was 272 students in which 174 (64%) were male and 98 (36%) were female.

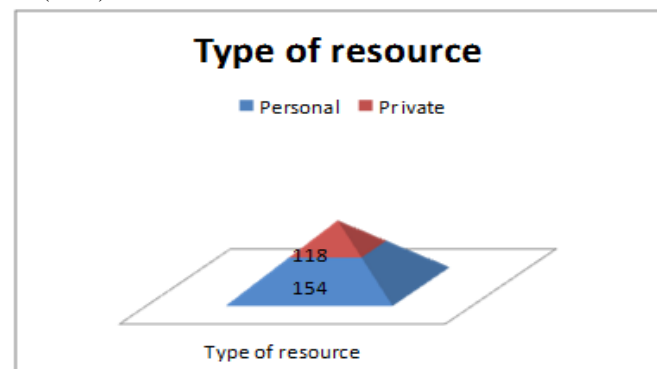


Figure 3. Give type of resource for using internet among students.

The above graph shows the type of resource for using internet among students. Total 272, personal internet was used by 154 (56.6%) students and 118 (43.4%) students are using private internet centres. Most of the students are using personal computer and internet at home than private internet centres.

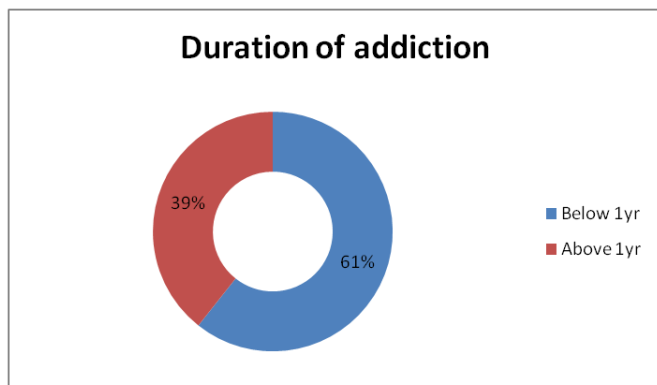


Figure 4. Gives duration of internet addiction among students.

Figure 4 shows the duration of internet addiction among students. In this total 272 sample, the students who are addicted for internet for below one year are 165 (61%) and who are addicted for more than one year are 107 (39%).

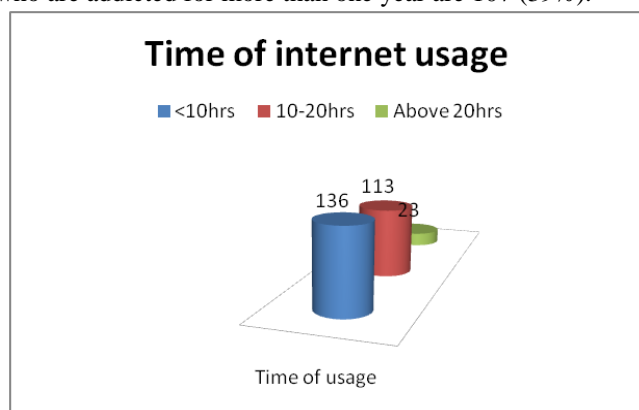


Figure 5. Gives time of internet usage of students.

Graph-5 shows the time of internet usage per day among students. The students are using internet for less than 10hrs are 50% (136), 10-20hrs are 41.5% (113) and 8.5% (23) are using more than 20hrs per a week. In this sample, most of the students are using internet less than 10hrs and 10-20hrs than more than 20hrs.

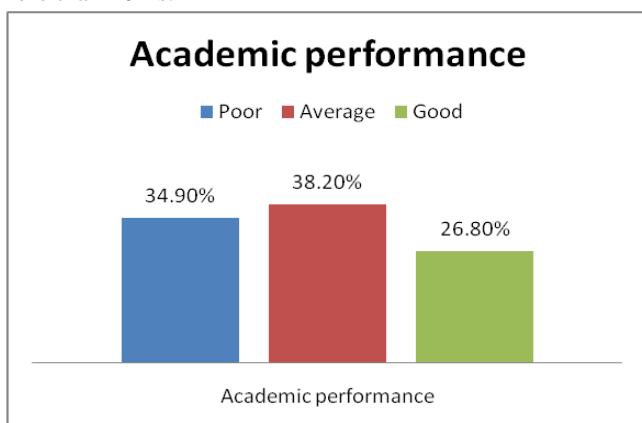


Figure 6. Gives the academic performance of the students.

Graph-6 shows the academic performance of the students. 26.8% (73) students performing good academic record, 38.2% (104) students are getting average grades and marks and 34.9% (95) students are performing poor in their

academics. Most of the students are performing average in their studies.

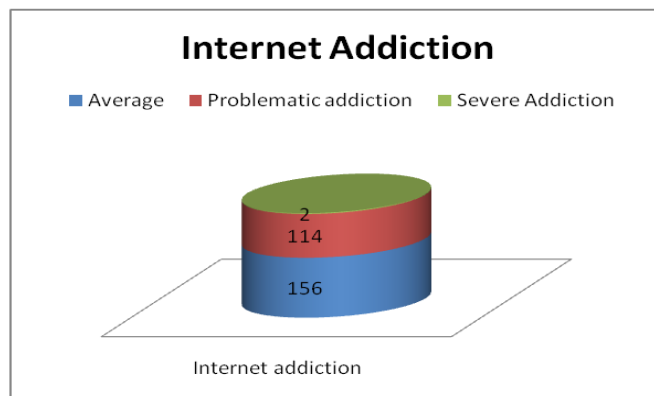


Figure 7. Gives internet addiction among students.

Based on Internet Addiction test (IAT), we have three groups of addicted students – (i) Average addiction (ii) Problematic addiction and (iii) Addicted. In this sample, 57% (156) students had average internet addiction, 41.9% (114) students belong to problematic addiction and 0.7% (02) students had severe addiction. Most of the students had average addiction and problematic addiction. To compare the severity among students mean score of Internet Addiction Test used for the study was taken into consideration and the data obtained was analyzed using analysis of variance (ANOVA). On Internet Addiction Test, there was a significant difference between these three groups of students. The mean(\pm SD) scores of students with average addiction, problematic addiction and severe addiction were 46.06(\pm 15.86), 57.63(\pm 11.9), and 80.5(\pm 1.76) respectively. It shows that most of the students average users of internet than other groups. The same internet addiction test was used and found the similar results by Hashemian et al., (2014) that 43.7% of students were placed in the Internet addiction group and 39.6% of students had mild addiction but no case of severe Internet addiction was seen in their study.

Table 1. Gives mean, SD (+) and significance of internet addiction among students based on gender.

Item	Gender	N	Mean(+SD)	t	Sig
(IAS) Internet Addiction	Male	176	61.27(\pm 17.2)	4.76	0.000***
	Female	96	50.96(\pm 16.7)		

***Significant at 0.001 level

The Table 1 shows the gender difference on IAS. There were statistically significant difference was found on Internet addiction test (IAS) score at 0.001 level. The mean(\pm SD) scores of male students on IAS was 61.27(\pm 17.2) and for female students was 50.96(\pm 16.7). It indicates that male children were showing significant addiction than female children. These findings are consistent with a study by Sharma et al., (2014) and Gopala Raju et al., (2014) and they found that males were more addicted to the internet than female.

Table 2. Gives mean, SD(+) and significance of internet addiction among students based on duration of internet usage.

Item	Duration	N	Mean(+SD)	t	Sig
(IAT) Internet Addiction	<1yr	165	52.08(\pm 17.06)	6.95	0.000***
	>1yr	107	66.2(\pm 15.17)		

***Significant at 0.001 level

Table 2 shows the difference on duration of internet usage and Internet Addiction Test. There were statistically significant difference was found on Internet addiction Test (IAT) score at 0.001 level based on duration of internet usage.

The mean(\pm SD) scores on IAS of students who are using since more than a year was 61.27(\pm 17.2) and for those students who are using since less than a year was 50.96(\pm 16.7). It indicates that the students who are using since more a year were showing significant addiction than those who are using since less than a year.

Table 3. Gives mean, SD (\pm) and significance of internet addiction among students based on time of internet usage.

Item	Time/k	N	Mean(\pm)SD	f	Sig
(IAS) Internet Addiction	<10hrs	136	49.53(\pm 16.35)	38.7	0.000***
	10-20hrs	113	65.54(\pm 14.73)		
	>20hrs	23	68.73(\pm 15.23)		

*** Significant at 0.001 level

Table 3 shows the difference on spending time for internet surfing and Internet Addiction Test. There were statistically significant difference was found on Internet addiction Test (IAT) score at 0.001 level based on the time spent for internet surfing. The mean(\pm SD) scores on IAS of students who are using less than 10hrs, 10-20hrs and more than 20hrs per a week were 49.53(\pm 16.35), 65.54(\pm 14.73) and 68.73(\pm 15.23) respectively. It indicates that the students who are spending their time for internet surfing for more than 20hrs are showing significant addiction than those who spent their time for 10-20hrs and less than 10hrs per a week.

Table 4. Gives the significance on Internet Addiction Test (IAT) based on age, type of source and academic performance.

Domain	Age of the student	Type of resource	Academic performance
IAT	0.000***	0.218	0.000***

***Significant at 0.001 level

Table 4 shows the difference on age of the students, type of resource academic performance and Internet Addiction Test. There is a significant difference in internet addiction among the students based on age of the students. The mean(\pm)SD scores of internet addiction in students age 14yr, 15yr, 16yr, 17yr, 18yr, and 19yr were 48.38(\pm)15.85, 48(\pm)16.79, 60(\pm)15.75, 67.86(\pm)19.65, 61.04(\pm)16.79, and 66.51(\pm)15.21 respectively. It is significant at 0.001 level. It indicates that as the age increased the addiction also increased. It indicates that older students are showing greater addiction than younger students which also concluding that college students were showing more internet addiction than school students.

Based on the type of resources there was no significant difference found on internet addiction. The mean(\pm)SD scores of internet addiction in students who were using their personal internet at home was 58.96(\pm)18.06, where as the private internet centre usage mean score was 56.3(\pm)17. It indicates that the internet addiction behaviour was not related to where the students were surfing internet; it might be their personal internet at home or a private internet centre.

Based on the academic performance, there was a significant difference found on internet addiction. The mean(\pm)SD scores of poor, average and good performance in their academics were 65.71(\pm)16.73, 62.26 (\pm)15.69 and 46.86(\pm)14.83 respectively. It is significant at 0.001 level. It indicates that poor academic performance students are showing more internet addiction than average and good academic students.

3.1 Discussion

A number of studies have been conducted across the world, especially among adolescents with respect to internet addiction. This study was attempted to understand the extent of internet addiction among school and college students.

Nalwa and Anand, (2003) investigated the extent of internet addiction in school children in India. Findings from a study conducted by Pew Internet and American Life Project, (2002) on college students' use of the Internet revealed that this group heavily uses the Internet when compared to the general population. The studies that have estimated the prevalence of internet addiction have come up with varying results (0.9-38%) depending on the criteria used and the sample studies (Niemz et al., 2005; Jang et al., 2008). In the present study, the prevalence of average internet addiction was 57%, problematic addiction was 41.9% and severe addiction was 0.7%. The similar results found by Hashemian et al., (2014) that 43.7% of students were placed in the Internet addiction group and 39.6% of students had mild addiction but no case of severe Internet addiction was seen in their study. The findings of the present study corroborates with previous studies stating that addiction is more common in males than in females (Niemz, 2005; Sharma et al., 2014; Gopala Raju et al., 2014; Goel et al., 2013; Ghamari et al., 2011, Salehi et al., 2014) and they found that males were more addicted to the internet than female. In this present study interesting findings were noted with respect to internet addiction and the hours of use per week and similarly Chou & Hsiao, (2000) found that 6% of internet addicts spent 20-25 hr per week online but no significant relationship was found between internet addiction and the hours of use per day by Deepak et al., (2013). It was also found that the duration of internet surfing and academic performance of the students were significant for internet addiction. In this study, no significant relationship was found between internet addiction and the place of accessing internet but in contrast, a study found that adolescents with addiction were also worked part-time and used the workplace to access the internet (Deepak et al., 2013; Young & Case, 2004). In some studies, the Internet addicts perceived the Internet to have significantly more negative influences on daily routines, school performance, teacher and parental relation than non-addicts, both Internet addicts and non-addicts viewed Internet use as enhancing peer relations. Moreover, students with personalities characterized by dependence, shyness, depression and low self-esteem had a high tendency to become addicted (Ching & Tung, 2007). Therefore, additional research should examine personality traits that may mediate addictive Internet use, particularly among new users, and how denial is fostered by its encouraged practice. Finally, future research should focus on the prevalence, incidence, and the role of this type of behavior in other established addictions (e.g., other substance dependencies or pathological gambling) or psychiatric disorders (e.g., depression, bipolar disorder, obsessive-compulsive disorder, attention deficit disorder).

4. Conclusion

India is a developing country that is embracing technological growth at a pace faster than ever. In the last one decade, internet has become an integral part of our life and in the emerging era, where young people have been more exposed to the internet and use online activity as an important form of social interaction. Internet addiction should be considered as a serious problem among the adolescents. The understanding that Internet use can be a disorder is still in its initial stages in India, and excessive Internet use is an emerging public health issue as research findings have highlighted that excessive use of the Internet adversely affects one's physical and mental health and social well-being. So, it is necessary for adolescents and young adults to be educated

for the proper use of the internet in order to prevent from internet addiction.

4.1 Implications of the study

This study was conducted to gain an understanding of the internet addiction among adolescents with different variables which help to develop different interventional programs for students of internet addiction in educational and home settings.

4.2 Limitations

There are some limitations involved in this study which must be addressed. Initially, the sample size of 272 students of school and colleges is relatively small compared to the estimated 47 million current Internet users (Snider, 1997). Therefore, generalizability of results must be interpreted with caution and continued research should include larger sample sizes to draw more accurate conclusions. Along with the non consideration of design effect in the calculation of sample size, the major drawbacks was social desirability bias as it was self-reporting of data, and hence the participants may have responded in such a way as to portray themselves in a good light. The sample was confined to the school and college students only and not extended to any disability or psychiatric disorders. Future studies should attempt to determine the predictive factors by identifying the causal relations between Internet addiction and the psychological characteristics of adolescents.

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