A Study on Pattern of Internet Use And Its Correlation With Personality Trait Among Technical Students (Medical & Engineering)

Santanu Ghosh	Assistant Professor, Department of Psychiatry, Tripura Medical College Agartala & Dr. BRAM Teaching Hospital, Agartala. PhD Scholar, Psychology, Tripura University
Ganajit Debbarma	Associate Professor, Department of Psychiatry, Tripura Medical College & Dr. BRAM Teaching Hospital, Agartala.
Anjana Bhattacharjee	Assistant Professor, Department of Psychology, Tripura University.
Epsita Ghosh	Post Graduate Trainee, Department of Endodontics, Regional Dental College, Guwahati, Assam.

ABSTRACT

Introduction: The use of the internet and its accessory services have become a part and parcel of everyday life. Internet has found usage in nearly every sphere of daily living like management of essentials of daily living, communication issues, recreational use etc. Day by day the numbers of internet users are increasing. Social media like Facebook, twitter and WhatsApp are the very popular terms related to internet use among young generations. Using internet we can upgrade our knowledge as well as able to communicate with our near and dear one. In this sense internet use makes our life easy. However excessive internet use may bring curse in life.

OBJECTIVES OF THE STUDY: 1) To determine the pattern of internet use among professional students of Tripura. 2) To determine the prevalence of excessive internet use among professional students. 3) To compare the sub groups of internet users (viz. average user, frequent on-line users and users having significant problems) with respect to personality trait in the study group. 4) To determine the relationship between pattern of internet use and personality trait among professional students.

METHODOLOGY: Sample: The study was done on the students of Tripura Medical College and Techno India Engineering college of Tripura. Sampling Technique: Simple Random sampling, subject to consent by the student. Inclusion Criteria: 1) All undergraduate students in the selected colleges using internet and willing to participate in the study. 2) Age: no age bar. 3) Undergraduate students of either sex irrespective of marital status. Exclusion Criteria: 1) Subjects with prolonged absence in the class at the time of the study. 2) Subjects having any prior history of mental illness. STUDY TOOLS: 1) Socio-Economic Information Schedule 2)The Internet Addiction Test (Developed by Dr. Kimberly Young). 3)The Neo Five inventory. Developed by Costa and McCrae's (1989, 1992).

Results and Conclusions

Total 184 male and 179 students participated in the study of which 259 were Medical students and 104 were engineering students. Among them 55.1% students were using laptop. The students were using internet from last 4.35 ± 2.36 (years). They use internet 2. 65 ± 2.00 (Hours) per day. 82.4% students uses internet at night. 82.1% students surf internet in mobile phone.82.6 % students uses internet for Educational, Social Networking, Recreational and Gaming. 89% students have no other types of addiction. Among them 8.8% students were problematic internet users. Most of the internet abusers were personality trait of neuroticism and extraversion.

INTRODUCTION

The use of the internet and its accessory services have become a part and parcel of everyday life. Internet has found usage in nearly every sphere of daily living like management of essentials of daily living, communication issues, recreational use etc. Day by day the numbers of internet users are increasing. Social media like Facebook, twitter and WhatsApp are the very popular terms related to internet use among young generations. Using internet we can upgrade our knowledge as well as able to communicate with our near and dear one. In this sense internet use makes our life easy. However excessive internet use may bring curse in life.

Emerging data suggests that the excessive use of the internet is fraught with dangers of negative influence on a host of daily life activities, sometimes leading to a state resembling addiction to various substances. Internet addiction is not formally recognized as a clinical disorder by the WHO despite increasing evidence that excessive internet use can interfere with daily life and work.

Psychologists have labeled Internet addiction as Internet Addiction Disorder – IAD, a term first used by Goldberg (1996). According to Goldberg, IAD exists when the individual experiences "decreased occupational, academic, social, work-related, family-related, financial, psychological, or physiological functioning.

In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), Internet Gaming Disorder is identified in Section III as a condition warranting more clinical research and experience before it might be considered for inclusion in the main book as a formal disorder. By listing Internet Gaming Disorder, American Psychiatric Association (APA) hopes to encourage research to determine whether the condition should be added to the manual as a disorder.

Operational Definitions

Pattern of internet Use: It is the repeated or regular way in which internet is being used. The internet users may be average user, frequent on-line users or users with significant problems.

Personality Trait: Every individual is said to have a personality of his or her own which is unique and distict from every other personality. Generally by personality, we mean that an individual has some stiking qualities or traits in which he or she differs from others, i.e. in appearance, in aggressiveness, on openness or in conscientiousness.

Professional students: Professional students are those students who are pursuing professional courses like medical, Engineering etc. Generally professional students are intended to the specific profession only.

LITERATURE SURVEY

Literature survey is an essential and very significant part of any research. The broad objective of literature survey is to have an idea about the nature and types of study carried out by different researchers across the globe on an issue. In the present study also an effort will be made to survey the related literature on Perceived stress, personality trait, Psychiatric morbidities and their relation to pattern of internet use among professional students

Wang, C.W. et al (2014) investigated the associations between personality traits, based on the Big Five model, and addictive behaviors to different online activities among 920 adolescents. The results demonstrated a significant difference in personality traits for addictive behaviors related to different online activities.

Mok, J.Y. et al (2014) aimed to classify distinct subgroups of people who use both smartphone and the internet based on addiction severity levels and how the classified groups differed in terms of sex and psychosocial traits. Through the latent classification process, this study identified three distinct internet and smartphone user groups in each sex.

Szczegielniak, A., Pałka, K., and Krysta, K. (2013) did a pilot study on 221 respndents regarding problems associated with the use of social networks. They concluded that There is a big difference between the addiction to the Internet and addictions existing within the Internet; the same pattern applies to social networking. There is a need to recognize the "social networking" for a particular activity, irrespective of Facebook, Twitter and Nasza-Klasa, which are commercial products.

Yuan, K. et al (2011) studied microstructure abnormalities in adolescent with internet addiction disorder. Their results suggested that long-term internet addiction would result in brain structural alterations, which probably contributed to chronic dysfunction in subjects with IAD.

Beutel,M.E. et al (2011) studied clinical characteristics of computer game and internet addiction in persons seeking treatment in an outpatient clinic for computer game addiction. In their study, they found that Consultation was initiated mainly by relatives--mostly the mothers (86%); 48% report achievement failure and social isolation, lack of control (38%) and conflicts within the family (33%). Two-thirds of the mainly male (96%) patients (N=131) with an average age of 22 (range 13-47) years met the criteria for pathological computer gaming, characterized by an excessive number of hours and preoccupation with gaming, high distress, and unemployment.

Yang, L.S. et al (2010) tried to find out association between adolescent internet addiction and suicidal behaviors. Of the 3507 participants, 5.2% were diagnosed as IAD, 27.4% reported suicidal ideation during the 12 months preceding the survey, with another 9.5% had a plan and 2.6% had an attempt. Internet addition was associated with suicidal ideation , plan and attempt .

Cheung, L.M. and Wong, W.S. (2011) studied the effects of insomnia and internet addiction on depression in Hong Kong Chinese adolescents. They found that there is high comorbidity between internet addiction and insomnia. Both insomnia and internet addiction emerged as significant explanatory factors, but they exerted differential effects on depression.

Weinstein, A and Lejoyeux, M. (2010) studied internet addiction or excessive internet use. They found the prevalence rate between 1.5% and 8.2%, although the diagnostic criteria and assessment questionnaires used for diagnosis vary between countries. Cross-sectional studies on samples of patients report high comorbidity of Internet addiction with psychiatric disorders, especially affective disorders (including depression), anxiety disorders (generalized anxiety disorder, social anxiety disorder), and attention deficit hyperactivity disorder (ADHD). Several factors are predictive of problematic Internet use, including personality traits, parenting and familial factors, alcohol use, and social anxiety.

Mehroof, M. and Griffiths, M.D. (2010) worked on online gaming addiction and its role of sensation seeking, self-control, neuroticism, aggression, state anxiety, and trait anxiety. In this study data were collected over a 1-month period using an opportunity sample of 123 university students. Results indicated that five traits (neuroticism, sensation seeking, trait anxiety, state anxiety, and aggression) displayed significant associations with online gaming addiction.

SIGNIFICANCE OF THE STUDY

1. Students with excessive internet use have a higher risk of substance use experience. Thus risky behavior can be identified and preventive measures can be adopted.
2. Early detection and timely intervention may prevent relationship problems arising out of internet addiction.
3. Addressing excessive internet use (internet addiction), we may encounter other Axis I mental and behavioral among students.
4. Students with specific personality trait who are vulnerable to get addicted to internet may be monitored.
5. Addressing this addiction, we can enhance the productivity of the student community.

OBJECTIVES OF THE STUDY

1. To determine the pattern of internet use among professional students of Tripura.
2. To determine the prevalence of excessive internet use among professional students
3. To determine the impact of gender and economic condition on the personality trait and Psychiatric morbidities among professional students.
4. To compare the sub groups of internet users (viz. average user, frequent on-line users and users having significant problems) with respect to personality trait in the study group.
5. To determine the relationship between pattern of internet use and personality trait among professional students.

METHODOLOGY

SAMPLE : The samples were incorporated from the students from Tripura Medical College and Techno India Engineering College, Agartala. Ethical clearance from the institutional ethical committee was taken following the guidelines of Indian council of Medical research guidelines.

Sampling Technique: Simple Random sampling, subject to consent by the student.

Inclusion Criteria:
1. All undergraduate students in the selected colleges using internet and willing to participate in the study.
2. Age: no age bar
3. Undergraduate students of either sex irrespective of marital status.

Exclusion Criteria:
1. Subjects with prolonged absence in the class at the time of the study.
2. Subjects having any prior history of mental illness.

STUDY TOOLS:

Socio-Economic Information Schedule
1. **The Internet Addiction Test (** Developed by Dr. Kimberly Young).
2. **The Neo Five inventory**. Developed by Costa and McCrae's (1989, 1992)

DATA COLLECTION AND ANALYSIS:

Firstly permission from the authorities of different Medical and Engineering Institutes were sought and then a tentative time schedule was developed for data collection from the students. Data were collected from the subjects following group administration method and was analyzed quantitatively. Data Analysis was done using SPSS version 22.

Results and observations

Total number of samples collected till date is- 423

Total number of samples incorporated in analysis is 363

No. of samples discarded- 60

Reason: After initial interview 60 students never appeared for further evaluation

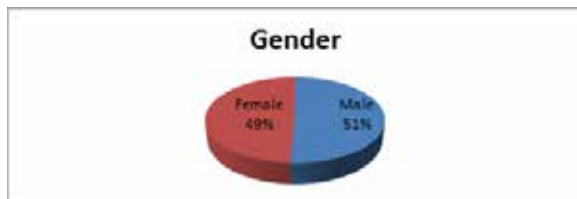Table no.1 Distribution of participants according to gender.

Table no.2 Distribution of participants according to course

Course	Frequency	Percentage
MBBS	259	71.3%
BE/B. Tech	104	28.7%
Total	363	100%

Socio-demographic variables:

Table no 3. Distribution of participants according to relationship with family members

Relationship with family members	Frequency	Percentage
Good	355	97.8%
Average	8	2.2%
Total	363	100%

Table no. 4. Distribution of participants according to family types of the students

Family type	Frequency	Percentage
Joint	34	9.4%
Nuclear	315	86.8%
Extended	14	3.9%
Total	363	100%

Table no. 5 Distribution of participants according to computer ownership status

Computer ownership	Frequency	Percentage
Don't have	106	29.2%
Desktop	40	11%
Laptop	200	55.1%
Desktop & laptop	17	4.7%
Total	363	100%

Table no.6 Distribution of participant's according to parental education

Parental education	Frequency	Percentage
Just literate	6	1.7%
Secondary	11	3%
Higher secondary	50	13.8%
Graduate	227	62.5%
Post graduate	63	17.4%
Post Doctorate	6	1.7%
Total	363	100%

Table no. 7 Distribution of participants according to types of the student's home environment

Environment	Frequency	Percentage
Good	348	95.9%
Poor	15	4.1%
Total	363	100%

Table no. 8 Distribution of samples according to family size, duration of internet use and hours spent on internet per day.

Variables	Total sample (n)	Mean ± SD
Family size	363	4.09 ± 1.64
Internet use duration	363	4.35 ± 2.36 (years)
Hours	363	2. 65 ± 2.00 (Hours)

Table no. 9 Distribution of participants according to preferred time of internet use.

Time	Frequency	Total
Day	25	6.9%
Night	299	82.4%
Day & Night	39	10.7%
Total	363	100%

Table no 10. Distribution of participants according to student's internet connection

Connection	Frequency	Percentage
Mobile	298	82.1%
Broadband	24	6.6%
Mobile & broadband	39	10.7%
Mobile & wi fi	2	0.6%
Total	363	100%

Table no. 11 Distribution of participants according to student's place of internet use.

Place	Frequency	Percentage
Home	31	8.5%
Cafe	2	0.6%
Mobile	271	74.7%
Home & mobile	54	14.9%
Home & cafe & mobile	5	1.45%
Total	363	100%

Table no 12 Distribution of participants according to student's reasons for internet use.

Reason	Frequency	Percentage
Educational	13	3.6%
Social Networking	42	11.6%
Recreational	6	1.7%
Game	2	0.6%
Multiple responses	300	82.6%
Total	363	100%

Table no. 13 Distribution of participants according to other forms of addictions

Addiction	Frequency	Percentage
No	323	89.%
Tobacco	11	3%
Alcohol	8	2.2%
Tobacco & Alcohol	16	4.4%
Tobacco & Alcohol & Others	5	1.4%
Total	363	100%

Table no 14. Distribution of participants according to student's internet addiction

Internet addiction *	Frequency	Percentage
Yes	32	8.8%
No	331	91.2%
Total	363	100%

*This is done according to IAT score. Score > 50 considered as internet addiction.

Table no 15: Association between socio demographic and internet addiction.

Socio – Demographic variables	Internet addiction		p value
	Yes	No	
Gender			
Male	26 (14.1%)	158 (85.9%)	0.00*
Female	6 (3.4%)	173 (96.6%)	
Course			
MBBS	27 (10.4%)	232 (89.6%)	0.08*
BE/B.Tech	5 (4.8%)	99 (95.2%)	

Relationship			
Good	32 (9%)	323 (91.0%)	1.00**
Average	0(0%)	8 (100%)	
Environment			
Good	31 (8.9%)	317 (91.1%)	1.00**
Poor	1(6.7%)	14 (93.3%)	
Parental Education			
Just Literate	0 (0%)	6 (100%)	
Secondary	1 (9.1%)	10 (90.9%)	
Higher secondary	7 (14%)	43 (86%)	
Graduate	14 (6.2%)	213(93.8%)	0.12**
Post graduate	10 (15.9%)	53 (84.1%)	
Post Doctorate	0 (0%)	6 (0%)	
Family			
Joint	5 (14.7%)	29 (85.3%)	
Nuclear	26(8.3%)	289 (91.7%)	0.36**
Extended	1 (7.1%)	13 (92.9%)	
Computer ownership			
Don't have	7 (6.6%)	99 (93.4%)	
Desktop	9 (22.5%)	31 (77.5%)	
Laptop	14 (7%)	186 (93%)	0.01**
Desktop & Laptop	2(11.8%)	15 (88.2%)	
Connection			
Mobile	28 (9.4%)	270 (90.6%)	
Broadband	2 (8.3%)	22 (91.7%)	0.84**
Mobile broadband	2 (5.1%)	37 (94.9%)	
Mobile & Wi Fi	0 (0%)	2 (100%)	
Place			
Home	2 (6.5%)	29 (93.5%)	
Cafe	0 (0%)	2 (100%)	
Mobile	24 (8.9%)	247(91.1%)	
Home & mobile	6 (11.1%)	48 (88.9%)	0.89**
Home & cafe & mobile	0 (0%)	5 (100%)	
Reason			
Education	0 (0%)	13 (100%)	
Social net	2 (4.8%)	40 (95.2%)	
Recreational	0 (0%)	6 (100%)	
Game	0 (0%)	2 (100%)	
Multiple responses	30 (10%)	270 (90%)	
Addiction			
No	17 (5.35)	306 (94.7%)	
Tobacco	3 (27.3%)	8 (72.7%)	
Alcohol	3 (37.5%)	5 (62.5%)	
Tobacco & alcohol	8 (50%)	8 (50%)	0.00**
Tobacco & Alcohol & others	1 (20%)	4 (80%)	

* Chi square test. ** Fisher's exact test, p value < 0.05 taken as significant

Table no 16 Comparison of different variables between addicted and non-addicted groups

Variables	Internet addiction		p value
	No	Yes	
	Mean ± SD	Mean ± SD	
Family size	4.07 ± 1.602	4.28 ± 1.971	0.48
Year of internet use	4.24 ± 2.309	5.50 ± 2.615	0.00
Hours	2.59 ± 2.050	3.28 ± 1.397	0.06
Neuroticism	24.95 ± 6.624	26.03 ± 5.894	0.37
Extraversion	27.23 ± 4.426	31.44 ± 5.412	0.00
Agreeableness	27.44 ± 5.244	28.06 ± 3.860	0.51
Conscientiousness	28.67 ± 4.264	31.06 ± 4.565	0.00

t test was applied. p value < 0.05 taken as significant

Table no 17: Prevalence of depression among study participants.

		Frequency	Percentage
	Normal	296	81.5
	Depression	67	18.5
	Total	363	100.0

Table no 18: Prevalence of anxiety among study participants

		Frequency	Percentage
	Normal	195	53.7
	Anxiety	168	46.3
	Total	363	100.0

Table no 19 Correlation between internet addiction score and personality trait

Internet addiction score	personality traits				
Pearson correlation coefficient P value Sample size	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
	0.226 0.00 363	0.228 0.00 363	0.089 0.09 363	0.057 0.282 363	0.058 0.272 363

** p value <0.05 taken as significant

In our study, it was observed that neuroticism (r=0.226, p value 0.00) and extraversion (r=0.228, p value 0.00) are positively correlated with internet addiction score and it is statistically significant. The other three personality traits are not statistically correlated with internet addiction.

Conclusion

1. 82% participants use internet at night for multiple reasons like educational purposes, social networking and recreation etc. 89% students do not have any other type of addiction. Around 82% students surfs internet from mobile phone.
2. Prevalence of excessive internet use among professional students of Tripura is 8.8%.
3. Most of the problematic internet users poses neuroticism and extraversion personality trait.
4. 46.3% professional students having anxiety disorder and 18.5 % students are depressed.

REFERRENCES

1. Abdollahi, A., Talib, M.A., and Motalebi, S. (2013). Perceived Parenting Styles and Emotional Intelligence among Iranian Boy Students. Asian Journal of Social Science and Humanities, 2(3), 460-467.

2. American Psychiatric Association.(2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington,VA: Ameecian Psychiatric Publishing.

3. Ameen, S. (2010). Internet addiction: A review. Souvenir of the 26th Annual Conference of Indian Psychiatric Society Kerala State Branch . Kottayam, India September, 17-19.

4. Beutel, M.E., Hoch, C., Wölfling, K., and Müller, K.W.(2011). Clinical characteristics of computer game and internet addiction in persons seeking treatment in an outpatient clinic for computer game addiction, Z Psychosom Med Psychother;57(1), 77-90.

5. Cheung, L.M., and Wong, W.S.(2011). The effects of insomnia and internet addiction on depression in Hong Kong Chinese adolescents: an exploratory cross-sectional analysis, J Sleep Res., 20(2), 311.

6. Mehroof, M., and Griffiths, M.D. (2010) Online gaming addiction: the role of sensation seeking, self-control, neuroticism, aggression, state anxiety, and trait anxiety. yberpsychol Behav Soc Netw, 13(3), 313-6.

7. Weinstein, A., and Lejoyeux, M.(2010). Internet addiction or excessive internet use. Am J Drug Alcohol Abuse, 36(5), 277-83.

8. Yang, L.S., Zhang, Z.H., Hao, J.H., and Sun, Y.H. (2010). Association between adolescent internet addiction and suicidal behaviors, Zhonghua Liu Xing Bing Xue Za Zhi. 31(10), 1115-1119.

9. Yuan, K. et al (2011). Microstructure abnormalities in adolescents with internet addiction disorder. PLoS One. , 6(6), e20708.

10. Wang, C.W., Ho, R.T., Chan, C.L., and Tse, S .(2015). Exploring personality characteristics of Chinese adolescents with internet-related addictive behaviors: trait differences for gaming addiction and social networking addiction, Addict Behav, 42, 32-5.

11. , J.Y., Choi, S.W., Kim, D.J., Choi, J.S., Lee, J., Ahn, H., Choi, E.J., and Song, W.Y. (2014). Latent class analysis on internet and smartphone addiction in college students, Neuropsychiatr Dis Treat.10, 817-28. doi: 10.2147/NDT.S59293. eCollection.

12. Szczegielniak, A., Pałka, K., and Krysta, K. (2013). Problems associated with the use of social networks--a pilot study, Psychiatr Danub, 2,S212-5.