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# THE IMPACT OF SCREEN ADDICTION ON THE ACADEMIC INTEREST OF COLLEGE STUDENTS: A CONCEPTUAL PAPER

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ABSTRACT The rise of technological innovations has changed our way of living. As of now, we cannot imagine our lives without screens, be it smartphones, laptops, tablets, or smartwatches. Though these devices have been extremely beneficial to mankind in terms of communication and connection, they have many disadvantages. This paper reviews the literature on technology addiction and establishes how it impacts the academic interest of college students. The main objective here is to show the gap between the need and overuse of technology. Further, we discuss the intentions of tech giants and conclude by pointing out how can individuals be mindful while interacting with devices.

#### INTRODUCTION

Smartphones are impacting day-to-day life in many ways. The smart devices' role in shaping interaction in this era has been dramatic and far-reaching. [The Economic Times 2022] Agencies according to Deloitte's analysis the demand for smartphones in India is expected to increase by 6 percent i.e., to reach 400 million from 300 million in 2021. India's computer market shipment grew by 44.5 percent in the calendar year 2021 over 2020 driven by laptops and desktop computers the total PC market touched 14.8 million units in 2021. The statistics indicate the significant demand growth and user base of these devices. The evolution of a mobile phone to a smartphone, a computer to a laptop in the past decade has changed the way we live. With over 3.5 million applications accessible on various devices available on different platforms we have made day-to-day life easier than ever before. But how much of it is necessary? This is the real question.

[Tech target contributor 2018 ]Technology addiction is an impulse control disorder involving the obsessive use of mobile devices, the internet, or video games, despite the negative consequences of the technology used. The disorder may also be referred to as digital addiction or internet addiction. Although technology addiction is not currently included in the Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM), its symptoms are similar to that of another behavioral addiction that is included in the manual, compulsive gambling. As with other impulse control disorders, tech addicts can experience short periods in which symptoms subside and long periods when symptoms are stronger. Features like screen time and digital well-being on smart devices act as indicators of addiction in addition there are test instruments such as IAT developed by researchers to diagnose addiction.

Internet and smart devices have only been available for the past two decades and their effects are to be discovered. many studies have shown that users can develop addictive behaviors with technology and the internet, including thinking about the device or platform constantly and craving to use it, using their smart devices to cope with their mood, and experiencing symptoms of withdrawal when they are unable to access their devices. It is a matter of concern if these behaviors progress to intervene with day-to-day life and productivity. Experts say that adults should limit their screen time outside of work to a maximum of 2 hours. But the average screen time of young adults is at an alarming rate.

The sad reality is that technology giants such as Google, and Meta intentionally create algorithms to keep people hooked to their screens. From the tiniest details like the shape, the color of the application icon is made bright and attractive so that users click on it. Users have to possess a good amount of self-control to escape technology addiction. Mindless scrolling or browsing, the ocean of entertainment platforms, prolonged exposure to blue light, and radiation emitted from the phone can have side effects on both physical and mental health.

#### REVIEW OF LITERATURE

- 1. The scholars Choudhury and Tripathy [2018] established a study on the impact of smartphone addiction on academic performance. The research objective was to establish the relationship between smartphone addiction and students' academic performance. The researchers used a survey questionnaire as the methodology, they had taken a sample of total 222 university students as their sample and did and the data were analyzed using machine learning techniques using classification models. They found out that around 75% of students were having access to 3G and 4G internet connectivity on their smartphones and only 21% of students were regularly involved in some outdoor sports activity. The heat experiments conducted gave significant results. Smartphone usage patterns along with academic attributes could be used to pre-determine academic performance. Classification algorithms like SVM, RBF neural network, and Naive Bayes classifier were used to pre-determine academic results. Three important observations were made. Firstly, a positive correlation existed between internet connectivity(4G/3G) and smartphone addiction. Secondly, there was a negative correlation between academic performance and smartphone addiction. This indicates that the use of smartphones should be discouraged in the student community. Thirdly there was a negative correlation between high participation in sports activity and smartphone addiction.
- 2.THE SCHOLARS Edward W. N., Krumay, and Margiol [2014] established a study called 'NOT Without My Smartphone! impacts of smartphone usage. This study explores the potential negative effects of smartphone addiction on beliefs and implications for technology use. Using a quantitative survey linking smartphone addiction with technology acceptance. Based on the research model and hypotheses, the researchers designed the research instrument for a quantitative survey they applied PLS-SEM as it makes no assumptions about the data and supports predictive and exploratory purposes (Hair et al. 2013). they used the software package SmartPLS (Ringle et al. 2005) and SPSS (version 20) for further statistics. The 296 respondents showed signs of addictions confirming the assumptions of the scholars.
- 3. The scholar L. Yobel [2019] established a study on screen addiction among adolescents. The paper's main objective is to study the effects of screen addiction on the health of adolescents. The researcher has used a quantitative study method the sampling method used is convenient sampling. The tool used for the data collection is a questionnaire that comprises a personal profile, screen usage level, and withdrawal symptoms. 106 samples were collected. The data were collected from school students and college students. Primary data were collected from the adolescents and secondary data were collected from various books, journals, and articles used for the data collection. The results show 39.6% use their screens for a long time and 46.2% have not taken any decisions regarding the time limit in using screens. 40.6% of the respondents get relaxed and feel happy when they are in front of screens. At the same time, 49.1% of the respondents sometimes use the screens unlimitedly. When they didn't get the screens to use 26.4% of them moderately gets disturbs when someone irritates them. Above all 32.1% of the respondents get aggressive when someone took away their phone while using it. 49.1% are moderately using screens and 70.8% of the respondents are having withdrawal symptoms moderately.
- 4. the scholars H S Feride, Azime, Kusmar & Aygin [2019] conducted a study on the Effect of technology addiction on academic success and fatigue among Turkish university students. This study was conducted to determine the effect of technology addiction levels on academic success and fatigue in university students in Turkey. 743 students continuing their undergraduate education at a single university participated in this descriptive correlational study. Data was collected using a Student Identification Form, The Problematic Mobile Phone Use Scale, the Internet Addiction Scale, and the Piper Fatigue Scale. 9.8% of the students exhibited internet addiction risk, while internet addiction was detected in 0.7%. Compared to students showing no addiction

symptoms, students who scored in the internet addicts category were found to have lower academic success averages and higher fatigue levels. It was found that smartphone addiction of students alone explained 5.8% of the total variance in fatigue levels while the internet addiction of students alone explained 6.8% of the total variance in fatigue levels.

- 5. the scholars E Karadağ and B Kılıç [2019] established a study on Technology Addiction among Students According to Teacher Views. The objective of this study was to analyze students' technology addiction and the role of the school in preventing technology addiction based on teacher views. Phenomenology, one of the qualitative research designs, was used and quantitative methods were used as well. It was reported by the participant's primary, secondary, and high school teachers that technology addiction was very common among students. The effects of technology addiction on students were analyzed based on the views of the participants. They argued that technology addiction has negative physical, social and psychological effects on students.
- 6. the scholars M Kumar and A Mondal [2018] established a study on Internet addiction and its relation to psychopathology and self-esteem among college students. The main objective of this study is to explore Internet use and its relation to psychopathology and self-esteem among college students. A total of 200 college students were selected from different colleges in Kolkata through random sampling. Young's Internet Addiction Scale, Symptom Checklist-90-Revised, and Rosenberg Self-Esteem Scale were used to assess the Internet usage, psychopathology, and self-esteem of college students. Depression, anxiety, and interpersonal sensitivity were found to be correlated with Internet addiction. Along with that, low self-esteem has been found in students to be associated with possible users of the Internet.
- 7. the scholars J Hamissi, M Babaie, M Hosseini, and F Babaie [2013] established a study on The Relationship between Emotional Intelligence and Technology Addiction among University Students. The objective of the research was to find out what was the connection between technology and the emotional intelligence of the students. 201 participants who were medical students were selected using random sampling. Data were entered using the Epi Info computer program after which it was transferred to the SPSS, version 15, and program for analysis. Univariate analyses were performed by use of the Chi-square test and variance analysis in % a 95-confidence level. The findings of this study showed that students with high EI scores are less internet addicted. Interactive practice and EI scores are different explanations of IA prevention to make better individual and social relations.
- 8. the scholars DR. S. Vijayanand and DR. P. Krishnaveni [2022] established a study on the psychological impact of internet addiction among higher secondary students on the introduction of an online class pandemic. The objective of the study was to learn about the psychological impact of internet addiction among higher secondary students during the prevalence of covid 19 pandemic. Research Methodology

As this research is quantitative and descriptive in nature, 201 respondents who were studying higher secondary courses in the Salem District of Tamil Nādu were selected through a simple random sampling method. Percentage analysis and Regression analysis were carried out. it is seen that 160 of them with 79.6 percent strongly disagreed/disagreed the version about not concentrating on the school work due to that usage. Also, most of the students (123 with 81.2%) strongly disagreed with the point that usage of the internet detaches from their friends' circle, and also 180 students with 89.5 percent strongly disagreed/disagreed about preferring internet and web friends at all times. But 139 students with 69.1 percent strongly agreed/agreed that they got tension when anyone interrupted them during internet surfing time. Confirming addiction.

- 9. the scholars N Sinsomsack & W Kulachai [2018] conducted a study on the impacts of Smartphone addiction The objective of this study was to examine Smartphone addiction among high school students and its impacts. The samples of the study were 341 high school students in the Eastern region of Thailand derived from stratified random sampling. The questionnaire was used to collect the data. The data were then analyzed using correlation statistics. The results indicated that Smartphone addiction had a positive impact on mood disorders. It also hurt the health, family relationship, social relationship, and academic performance of high school students.
- 10. the scholars, A G Santillán and E.E Ramos [2020] conducted a study called Addiction to the Smartphone in High School Students: How It's in Daily Life? The objective of the study was to analyze the use that students give to their mobile phones, to determine if this has generated addiction, in addition to identifying if use differs in men and women. Participants were 184 high school students enrolled in a public sector institution in the Port

of Veracruz, Mexico. To obtain the data, the SAS-CV test was used. This contains questions related to the profile of the respondent and 10 items in Likert format. It was distributed via electronic devices for their response. The data were statistically analyzed using polychoric correlation matrices and factor analysis with component extraction. The main findings demonstrate the obtaining of three components: physiological, dependence, and distraction, which account for 68% of the total variance, and it was also shown that there are no differences by gender.

- 11. the scholars Mukhdoomi, Arooba and Farooqi, Asma and A Khan, Tabassum and Ajmal, Warisha and Tooba, and Zorain [2020] established a study on The Impact of Smartphone Addiction on the Academic Performance of Higher Education Students. The study aims to investigate the impact of smartphone addiction on the academic performance of college students. For this purpose, they have used the "Theory of Planned Behaviour (TPB)" in investigating academic performance., data are collected from the students of Iqra University's north campus using quantitative research. In this research, correlation design Is used, they found that there is a positive relationship between behavioral intention and academic performance. This proves that until and unless students are not intrinsically motivated, they cannot pose smartphones.
- 12. the scholars P Mohammadkhani, E Alkasir, A Pourshahbaz, F J Dehkordi, and E S Sefat [2016] established a study on Internet Addiction in High School Students and Its Relationship with the Symptoms of Mental Disorders. This research aimed to study Internet addiction and its relationship with the symptoms of mental disorders. The study was descriptive and correlational design. The sample population consisted of all male and female high school students of the academic year 2013-2014 in district 5 of Tehran. A sample of 400 participants was randomly selected for analysis using the cluster sampling method. An Internet addiction test and a Brief Symptom Inventory were used to collect data, and data were analyzed using a T-Test, Pearson correlation coefficient, and multiple regression analysis. The results showed that there was no significant difference between the prevalence of Internet addiction in male and female high school students in district 5 of Tehran. However, there was a significant positive relationship between Internet addiction variables and symptoms of mental disorders, and particularly, independent variables of psychosis and anxiety from the signs of mental disorders had a profound effect on Internet addiction.
- 13. the scholars L. Zamboni, I Portoghese, A Congiu, S Carli, R Munari, A Federico, F Centoni, and A Lodi [2020] established a study on Internet Addiction and Related Clinical Problems in young Italian adults. In discussing IA, it is necessary to be aware that this is a construct for which there is still no clear definition in the literature. Nonetheless, its important clinical implications, as emerging in recent years, justify the lively interest of researchers in this new form of behavioral addiction. Over the years, studies have associated IA with numerous clinical problems. However, fewer studies have investigated what factors might mediate the relationship between IA and the different problems associated with it. This is one such study. The Italian version of the SCL-90 and the IAT were administered to a sample of almost 800 adolescents aged between 16 and 22 years. The scholars found the presence of a significant association between IA and two variables: somatization ( $\beta = 7.80$ ; p < 0.001) and obsessive-compulsive symptoms ( $\beta = 2.18$ ; p < 0.05).
- 14. the scholars Y Zenebe, K Kunno, M Mekonnen, A Bewuket, M Birkie, Necho, M Seid, M Tsegaw & B Akele [2021] established a study on the Prevalence and associated factors of internet addiction among undergraduate university students in Ethiopia: a community university-based cross-sectional study. The main objective of this study was to assess the prevalence and associated factors of internet addiction among University Students in Ethiopia. A community-based cross-sectional study was conducted among Wollo University students from April 10 to May 10, 2019. A total of 603 students participated in the study using a structured questionnaire. A multistage cluster sampling technique was used to recruit study participants. A binary logistic regression method was used to explore associated factors for internet addiction and variables with a p-value < 0.25 in the bivariate analysis were fitted to the multi-variable logistic regression analysis. The strength of the association between internet addiction and associated factors was assessed with odds ratio, 95% CI, and p-value < 0.05 in the final model was considered significant. The prevalence of internet addiction (IA) among current internet users was 85% (n = 466). Spending more time on the internet (adjusted odds ratio (AOR) = 10.13, 95% CI 1.33-77.00)), having mental distress (AOR = 2.69, 95% CI 1.02-7.06), playing online games (AOR = 2.40, 95% CI 1.38-4.18), current khat chewing (AOR = 3.34, 95% CI 1.14–9.83) and current alcohol use (AOR = 2.32, 95% CI 1.09–4.92) were associated with internet addiction.

15. the scholars R L Blasco, A Q Robres, and A S Sanchez [2022] established a study on Internet addiction in young adults. Although not recognized by the WHO or the APA, Internet addiction is a serious and problematic pathology. This meta-analysis shows that the incidence of Internet addiction in adults was high in recent years (2017–2020). According to the random effects model, the effect size returned is Z = 24.63; SE = 0.205; p = .001. In addition, high heterogeneity is evident in the research addressing this topic (O = 1240.719, df = 36, p < .001; I2 = 97.09%). On the other hand, the Eggers test indicated an absence of publication bias. The sample consisted of 30 studies with = 37 samples from Europe, Asia, America, and Oceania. The total sample was constituted of 21,378 participants (51.22% male, 48.78% women; Mean age = 23.55 years). The statistical analyses of metaregression and model comparison show a complex problem at the international level, explained by age and sex, and also by geographical area. The results of the systematic review show the increase in internet addiction in the new generations, with other variables playing a relevant role, such as an increase in individualism, lower sociability, and enculturation.

16. The Scholars S Menon, L Narayanan, and A T Kahwaji [2018] established a study on Internet Addiction: A Research Study of College Students in India. This study is a preliminary investigation of the extent of internet addiction in a management institute in India, where sampled were 300 students (first, second, and third-year students). This study was conducted using an Internet Addictions Scale developed by Young (1998) to measure the level of internet addiction. The study used a survey methodology design. Respondents were classified into "younger" and "older." There was a significant difference between the two groups, with the older group clearly showing higher internet usage. It is possible that older students were more addicted to the internet than younger students due to increased exposure to the internet. It is also possible that older students needed to spend more time because they were in their senior years requiring the investment of more time on the internet. When differences between gender and internet usage were examined, there were statistically significant differences obtained between the students in terms of this variable. An ANOVA was also done looking at differences in the sample, for both males and females, and the overall sample with GPA as the dependent variable. It was surprising to note that there were no significant differences in internet usage and GPA for all 3 ANOVA. In general, they found no evidence of severe internet addiction. The addiction was more in the range of moderate to mild addiction. However, it is possible that the reported scores were related to internetwork on campus and did not include the use of smartphones and the time spent on using social websites using smartphones. This study indicated that there is a high degree of correlation between age and internet addiction with older students being more addicted to the Internet than younger students. Also, regarding Internet usage, there were significant differences in gender with men being more addicted than women. The study, however, found no differences between the students in terms of the study year.

17. The scholars S D. Neverkovich, I S. Bubnova, N. Kovalenko, R G. Sakhieva, Z M. Sizova, V L. Zakharova, M G. Sergeeva [2018] established a study on Students' Internet Addiction s. This research aimed to study the negative social, psychological, and pedagogical implications of the Internet on young people. The authors analyzed the internet addiction problem among students (14-19 years) from the standpoint of the social health of the individuals and society as a whole. In a pilot study, which involved more than 600 adolescent participants aged 14-19 years (secondary school, college, and university students), the authors have defined internet addiction as a complex phenomenon. The prerequisites of its development identify and highlights its formation in stages among students (mild fascination, passion, addiction, attachment). At the ascertaining stage of the experiment, a screening study was carried out to examine the state of internet addiction in young students on social networks. The results showed the necessity to design and implement internet addiction prevention programs for young students, which include three main blocks (motivational and cognitive, practice-oriented, reflexive), and a systematic plan for its implementation in the educational space framework. The stages of the experiment provided evidence of the authors' proposed effectiveness of methodologies for young people aged 14-19 years.

#### STATEMENT OF THE PROBLEM

Screens have become more than a necessity ever since the skyrocketing technological innovation, especially over the past decade. This has given rise to a new problem called technology addiction. Which is keeping students [young adults] hooked to their screens.

#### OBJECTIVE OF THE STUDY

- 1. To find out the negative effects of the overuse of the screen on students' academics.
- 2. To find out if technology addiction is affecting the focus and attention span of college students.

#### RESEARCH BACKGROUND AND MODEL

Technology addiction is not substance addiction it is behavioral in nature. The brain is a complex organ and produces many chemicals including dopamine which is the happy hormone. Dopamine is very necessary but excess of it causes the body to build resistance against it which means an individual would want more and more of it to feel a certain level of happiness. Whenever a person is feeling low the brain immediately goes back to doing an activity in this case using a phone or electronic device that rewards dopamine and this creates a pathway to addiction.

After reviewing various research papers and the theoretical explanation the main assumption made is technology influences the mood of the students which is increasing the usage of the devices and causing a behavioral pattern of addiction. The easy availability and accessibility of the devices are again influencing excess usage.

- HO Screen addiction does not negatively affect the student's academic interest
- H1 screen addiction harms the student's academic performance and has a positive effect on their mood.

Technology addiction ⇒ boosts the mood of the students ⇒ Inflates the usage ⇒ affects the focus

[Easy availability] [ by creating behavioral patterns ] and academic Interest.

#### Discussion

This research is an observation of secondary data. Based on the studies done in the past and observations made it is found that screens have a negative impact on students' academic growth and development. Screen addiction is a raising concern but there is very little awareness created about it.

Fear of missing out, internet availability, sense of comfort, masking or escaping are the contributing factors for screen addiction. The long term effects of screen addiction are unknown as screens have only existed since a few years and this kind of availability was not seen in the past but the negative effects from over usage is studied by various scholars. A Netflix documentary social dilemma released in the year 2020 tells us how dangerous technology can be to individuals. In the documentary the former employees of the technology giants talk about the strategies used by the app developers to keep users hooked to there screens. It also talks about lack of privacy and data breach.

It is important for users to be mindful while using their devices. Preventive measures are to be taken in colleges by creating awareness, encouraging students to do projects related to the topic and make good use of screen time and digital wellbeing on the devices to help track the time spent and to plan screen time. Using screens in bed time mode will also be helpful as it blocks colors. Parent supervision also helps in fighting addiction.

## Conclusions

After reviewing the literature of various scholars and the secondary data observations Its accurate to conclude by saying technology when used excessively can have harmful effects on the Behavior of the individuals especially students. Applications, softwares, interfaces, devices are designed to keep the users hooked to their screens. And the technology companies invest millions of dollars in research and development in order to achieve their goals and maximise their profits. Hence it is very important to be a mindful while interacting with technology and to understand its negative implications on the mood and focusing ability.

Technology is a big part of a student's life as everything from sharing updates study material is done using screens both productivity related and entertainment related applications being in the same device makes it challenging for the students to withdraw from their screens. Screens provide an additional sense of comfort and satisfaction which results in the cycle of addiction.

Screens affect the psychology and biology of the brain creating behavioral patterns often hard to escape from. However it is not impossible to combat screen addiction.

It is important to voice the negative implications and demanding non harmful interface and bring in regulatory measures as screen addiction is a growing concern.

The research model in this paper helps further study through experimentation and extraction of primary data which further helps to analyse and prove the hypothesis.

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