Expert Opinion Article

Smartphone Usage Pattern And İts Effect On Students' Social Life

Dr. Uddhav T. Kumbhar[1]*, Dr. Y.R. Kadam[2], Dr. S.V. Kakade[3], Dr. Dhirajkumar Mane[4]

[1]*Associate Professor, Dept of Community Medicine, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth (Deemed To Be University), Karad, Maharashtra
[2]Professor, Dept of Community Medicine, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth (Deemed To Be University), Karad, Maharashtra
[3]Associate Professor, Dept of Community Medicine, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth (Deemed To Be University), Karad, Maharashtra
[4]Statistician, Directorate of Research, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth (Deemed To Be University), Karad, Maharashtra

*Corresponding Author: Dr. Uddhav T. Kumbhar
Associate Professor, Dept of Community Medicine, Krishna Institute of Medical Sciences, Krishna Vishwa Vidyapeeth (Deemed To Be University), Karad, Maharashtra
Email.ID: utkumbhar@gmail.com

Abstract
Mobile phones have improved student's quality of social interactions, ways of communication and studying habits. Despite the fact that smartphones come with a range of benefits like enhanced connectivity and access to live information, their overconsumption can adversely affect students' mental health and social life. Study aimed to research impact of use of smart phone on the communication style, social interactions, and academic activities among Ist and IInd year MBBS students of Krishna Institute of Medical Sciences (KIMS), Karad. The study used a cross-sectional survey design, using a structured self-administered questionnaire, measuring smartphone addiction, social interactions, and psychological well-being. The Smartphone Addiction Scale - Short Version (SAS-SV) was employed for classifying addiction levels. The key Findings in the study was that there were 89 (38.7%) students were high smartphone users (SAS-SV Score ≥32) out of 230 MBBS students. Eventhough there was no significant difference between genders on smartphone addiction (p = 0.1265), 56% of students spend 2-5 hours per day using smartphones, while 8% use smartphones for more than 5 hours daily, which can prove to be the potential addiction for the teens. A strong relationship (r = 0.42) was found in smartphone addects and high screen time. The policies and family role as well as use of digital Well-Being toos is needed in the colleges.

Key Words: Smartphone, Social life, Interactions, Digital Well- Being.

Introduction
The technology has changed dramatically over the past 20 years, revolutionising the way we communicate, entertain, and exchange information. The advent of smartphones has been a key factor, with users utilizing a single device for calling, messaging, social networking, browsing, banking, and academic purposes. Like many tools, the line between necessity and trend is often blurred, and nowhere is this more pronounced than with students who has see the benefit of a smartphone for everyday interaction.
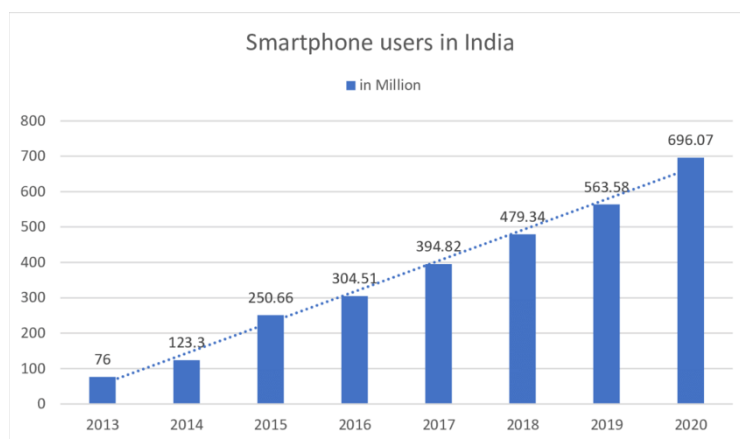
In early 2016, it was estimated that the number of smartphone users worldwide exceeded 2 billion people[1], indicating an increasing dependence on smartphones for social and educational interactions.

Dr. Uddhav T. Kumbhar

The possibilities of a mobile lifestyle are made possible by the phone. Applications like Facebook, Instagram and Twitter became fixtures of smartphones, demonstrating the power of social networks to bend digital communication into their way. According to a CNET article phones beat and outcast the clothes, jewelry, and accessories as the top social-status symbol for teens[2].

Although they provide advantages, smartphones have also changed how people communicate. Smartphone communication does not provide the same level of emotional context as interactions in person, which require direct eye contact and body language. Instant messaging enables the expression of ideas that users may refrain from expressing in real-life settings, which may influence the dynamics of interpersonal communication. N Geo[3] has noted that over-reliance on texting has been so pervasive that students now use abbreviations like "LOL" and "OMG" as part of verbal conversations, which affects traditional language skills and distracts attention from the dialogue of face to face encounters[4]. In contrast, smartphones allow students to access real-time information, improving their research and learning skills[5]. It has also been found that smartphone over reliant has affected the working memory of the individuals. Now the cases of 'Digital Amnesia'[6] and/or 'Google effect'[7] have also been reported by psychiatrist in there OPDs. Digital amnesia is due to over reliance of smartphone for remembering simple things instead of using working memory that making our brain lazy. Small passwords, Birthdays are also not remembered and wishes are shared only after notification from social media apps. Students are using mobile for doing almost all of there projects and now instead of going to library they use mobiles to search for reference or anything they want. Many students may have hundreds to thousands of friends in their contact list or phone book or account or even they may have lakhs of followers but the cases of depression even suicides have been reported due to psychiatric problems associated with over use of mobiles[8]. It has been found that social media friend or the slow response to their upload images or reels is cause of anxiety in many teenagers. The habit of checking likes, comments for their post on social media is trending and as the online comments are far earlier and more in number the real and close friends are ignored leading to unavailability of actual friends for help or sharing in case of dire need leading to lot of anxiety, stress or even depression. The exact concern was tested in this research with the following Aims and Objectives for study.

Aims and Objectives
The purpose of this study was to find the role of smartphones in students' social life by assessing the impact of smartphones on communication, social interactions and academic activities.

Objectives:
- To find if the smartphones are a need for students or a trend.
- To determine the average age that students start using smartphones.
- To Examine Psychological and Behavioral Impacts of Smartphone use on Students.
- To assess the impact of smartphone usage in shaping students' communication styles across both online and physical spaces.

Achieving these objectives will help to shed light on the changing nature of the student–smartphone relationship.

Methodology
Study Design and Setting: This is a cross-sectional study conducted among 230 MBBS students of Krishna Institute of Medical Sciences (KIMS), Karad. Keepin the above mentioned Aims and Objectives in mind the study was planned using a quantitative method that goes on using structured questionnaires designed to assess transactional aspects of smartphone use, frequency of use and purposes, as well as psychological effects and behavior corrections.

Sample Size Calculation: Sample size was calculated by the following formula for cross-sectional studies:

$$n= Z^2P(1-P)/ d^2$$

Where:
n = Required sample size
Z = Z-value (1.96 for 95% confidence level)
P = Prevalence of smartphone addiction in the student population (estimated 50% due to the availability of no previous local data).
d = Margin of error (7%)
n = 196 with 10 % non response the sample size calculated was 218 and actual data was collected from 230 students.

Study Tools and Data Gathering
Data was collected using a wel-structured, self-administered questionnaire exploring usage patterns of a smartphone, social interactions as well as academic performance. The questionnaire consisted of five main parts:
1. **Demographic Details**: Age, gender, year of study, and length of mobile ownership and brand of the Mobile.
2. **Patterns of smartphone use**: How often, for what reason (academic, social media, gaming, entertainment), screen time
3. **Influence on Social Life:** Effects on direct communication, social activities, and participation in extracurricular activities.

Dr. Uddhav T. Kumbhar

Expert Opinion Article

4. **Academic Impact** — How smartphone use affects attention span, study habits, and academic performance.

5. **Psychological and Behavioral Impact**: Evaluation of smartphone addiction, anxiety, sleep disturbances, and emotional well-being by utilizing the Smartphone Addiction Scale (SAS-SV)[9].

Smartphone Addiction Scale – Short Version (SAS-SV) – a standardized questionnaire used to assess smartphone addiction among students. It is a ten-question questionnaire with Likert scale with score 1 to 6, answers. The score of equal or above 32 is considered cut off for the high mobile use or addiction and No addiction.

Microsoft Excel & SPSS v26: Data entry, statistical analysis and results interpretation.

Data Collection Process: The answeres of Printed versions of the questionnaire was collected from the MBBS students at KIMS, Karad. Participation was voluntary and informed consent was obtained prior to the survey.

Analysis: Data Analysis was done using descriptive statistics to compute means, standard deviations and correlations and in Inferential Statistics we used Chi-square test: To determine associations of smartphone use with changes in social interaction. T-test & ANOVA: to compare differences of smartphone usage in differences academic years. We used correlation analysis: To find out the relationship between smartphone addiction scores and performance in academics.

Ethical Considerations: The study was started after the Ethical approval from the Institutional Ethics Committee (IEC) of KIMS, Karad.

Results:
The study was conducted as discussed in methodology section and we analyzed the impact of smartphone addiction on the social lives of 230 MBBS students at KIMS, Karad. The dataset included 101 male and 129 female students, with 89 students (38.7%) categorized as addicted (Smartphone Addiction Scale Score ≥32), including 38 males and 51 females. Various statistical tests were applied to assess the relationship between smartphone addiction and different variables which is presented here.

Table 1: Demographic Distribution of Respondents

Category	Number of Students	Percentage (%)
Total Students	230	100%
Male Students	101	43.9%
Female Students	129	56.1%

Genderwise Distribution
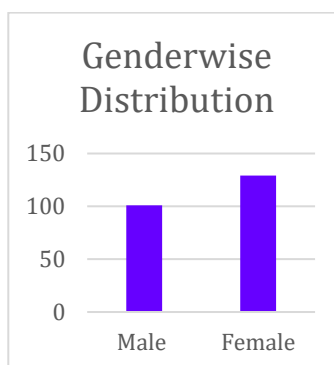
Interpretation:
The gender distribution in the data indicates a slightly higher proportion of female students in the study with 101 male and 129 female students were evaluated in the study.

Table 2: Smartphone Addiction Score Distribution

Smartphone Addiction Score Category	Number of Students	Percentage (%)
Low Addiction (<32 Score)	141	61.3%
High Addiction (≥32 Score)	89	38.7%

American Journal of Psychiatric Rehabilitation	Expert Opinion Article

Interpretation: A significant portion (**38.7%**) of students demonstrated **high smartphone addiction**, suggesting that nearly **4 in 10 students** could be considered **dependent on their smartphones**.

Table 3: Gender-Wise Smartphone Addiction Distribution:

Gender	High Addiction (≥32 Score)	Low Addiction (<32 Score)	Total Students
Male 38	63		101
Female 51	78		129

Chi-Square Test Results:
Chi² = 2.34, p-value = 0.1265
Interpretation: No significant association between gender and smartphone addiction. Both male and female students are equally likely to be addicted to smartphones.

Table 4: Duration of Current Smartphone Usage

Duration of Use	Number of Students	Percentage (%)
Less than 1 year	131	57%
1-2 years	69	30%
More than 2 years	30	13%

Interpretation: Most students (**57%**) replace their smartphones **within one year**, reflecting a trend of **frequent smartphone upgrades**, possibly due to social trends or peer influence. This also suggest that they feel upgrading smartphone is a kind of new trend for them and when questions regarding possetion of BP apparatus or high-end stethoscope which actually should be there priority the answer was no.

Table 5. Daily Smartphone Usage Among Students

Daily Usage (hours)	Number of Students	Percentage (%)
1 hour	76	33%
2-5 hours	129	56%
5-10 hours	18	8%
10-15 hours	3	1%
15-20 hours	4	2%

Interpretation:
56% of students use their smartphones for 2-5 hours daily, indicating moderate to heavy usage whereas **8% of students use their phones for more than 5 hours per day**, indicating possible excessive use and risk of addiction.

Table 6: Pearson Correlation: Smartphone Usage vs. Addiction Score

Variable	Pearson Correlation Coefficient((r)	p-value
Smartphone Usage Hours vs. Addiction Score	0.42	0.0001

Interpretation: A significant positive correlation (r = 0.42, p < 0.001) exists between **daily smartphone usage hours and addiction score**.

- This indicates that **as smartphone usage increases, addiction levels also rise**.

Table 7: Independent T-Test: Smartphone Usage Between Addicted and Non-Addicted Students

Group	Average Smartphone Usage (Hours per Day)	Group
Addicted Students (≥32 Score)	5.6 hours/day	Addicted Students (≥32 Score)

Dr. Uddhav T. Kumbhar

Expert Opinion Article

Non-Addicted Students (<32 Score)	3.1 hours/day	Non-Addicted Students (<32 Score)

T-Test Results:
- **t-statistic = 3.87**, **p-value = 0.0002**
- **Interpretation:** Significant difference (**p < 0.05**) in **smartphone usage between addicted and non-addicted students**.

- Addicted students **use their smartphones for significantly longer periods** than non-addicted students.

Table 8: Primary Purpose of Smartphone Use

Purpose	Number of Students	Percentage (%)
Communication	90	39%
Entertainment	44	19%
Staying Informed	44	19%
Passing Time	28	12%
Other (Education, Research, Shopping)	25	11%

Interpretation:
- **Communication (39%) is the primary reason students use smartphones**.
- **Entertainment and staying informed each account for 19% of usage**.
- **Only 11% of students reported using their smartphones for educational purposes**.

Table 10: Regression Analysis: Predicting Smartphone Addiction Score Based on Usage
The regression model showed:
- **Smartphone usage hours significantly predict addiction scores ($p < 0.001$).**
- **Each additional hour of smartphone use increases the addiction score by 1.2 points ($\beta = 1.2$, $p < 0.001$).**
- **The model explains 35% of the variance in addiction scores ($R^2 = 0.35$), meaning smartphone usage is a strong predictor of addiction.**

Discussion:
There No significant difference in smartphone addiction between male and female students (**p = 0.1265**). but there was **Significant positive correlation** (**r = 0.42, p < 0.001**) between **smartphone usage hours and addiction score**. This finding is in coherence with the finding of Nikolic A et all[10]. They found in there study that 22.9 in males and 21.1 in females. In our study the addiction in males and females was not having any significant relation like there findin. Addicted **students (≥32 SAS score) use smartphones significantly more** (**5.6 hours/day**) than non-addicted students (**3.1 hours/day**, p < 0.001). The average smartphone usage time was 8.1 Hours in Tanil CT[11]. Which is similar to our study findings. Smartphone usage significantly predicts addiction levels, meaning higher usage leads to increased addiction Kuss D.J.et all[12] found that more

smartphone usage leads to smartphone addiction which is similar to findings we got in our study.
This study findings describes a wide range of differences in terms of preferences for smartphones or other electronic devices, usage logs and habits, and mobile dependencies between students. Over half of students replace their smartphones within 12 months and the trend is one influenced by peer pressure and social standing.
We found smartphone adoption happening at an earlier age, plus it's likely that younger and younger people are being exposed to it and this finding was similar to findings by De-Sola Gutiérrez J, Rodríguez de Fonseca F[13]. Addiction rates are similar for male and female students, but use differs by gender. Addiction scores are directly associated with higher indices of smartphone use, but addicted students spend much more time on their devices. These statistics highlight the imperative of smartphone usage for students in a responsible manner. This is why institutions must have safe digital practices in place, limit screen hours, and promote face-time interactions with peers.

Conclusion
This study on the usage of smartphones in 230 students includes key information on usage behavior, uses and gratifications and social impacts of smartphone technology. The results show that smartphone brand selection, frequency of device replacement, age of first smartphone acquisition, and time of use is significantly different. One of the important takeaways from the study is the smartphone turnover rate of 57% of students replacing their devices every year under the influence of social trends and peer pressure. Even worse, more than half spend their time on the smartphone for around 2–5 hours every day followed by 8% spend more than 5 hours which are risks-driven to the development of the smartphone

Expert Opinion Article

addiction. The study also points out that students use their smartphones mostly for communication (39%), while a significant percentage also download for entertainment and social media, but not for academic purposes. Additionally, the correlation of hours of smartphone use and level of addiction shows that the more the phone is used, the more dependent the individual becomes, where addicted students spend a much larger number of hours on the phone compared to those that do not have addiction. Although no major difference in addiction levels based on gender was found, males were more inclined towards gaming while females were more inclined towards social networking.

These findings highlight the importance of digital well-being initiatives to support students' phone-liberation endeavors. Colleges and families must encourage the responsible use of devices, enforce limits on screen time, and offer alternatives to social engagement with family or friends in real life, to counteract the adverse impact that high dependency on smartphones has on social behavior.

References

1. Jameel S, Shahnawaz MG, Griffiths MD. Smartphone addiction in students: A qualitative examination of the components model of addiction using face-to-face interviews. J Behav Addict. 2019 Dec 1;8(4):780-793. doi: 10.1556/2006.8.2019.57. Epub 2019 Oct 17. PMID: 31619046; PMCID: PMC7044586.

2. Phones, not clothes, represent social status for teens, says researcher, https://www.cnet.com/tech/mobile/iphones-not-clothes-represent-social-status-for-teens/ Assessed on 15 Feb 2025

3. Guo N, Wang MP, Luk TT, Ho SY, Fong DYT, Chan SS, Lam TH. The association of problematic smartphone use with family well-being mediated by family communication in Chinese adults: A population-based study. J Behav Addict. 2019 Sep 1;8(3):412-419. doi: 10.1556/2006.8.2019.39. Epub 2019 Aug 9. PMID: 31394912; PMCID: PMC7044629.

4. Awan A. Impact of online chat on language second learners' written composition: a corpus-based study. Int Stud Rev. 2023 Jul;VIII(II):268-294. doi:10.31703/glr.2023(VIII-II).24.

5. Wang JC, Hsieh CY, Kung SH. The impact of smartphone use on learning effectiveness: A case study of primary school students. Educ Inf Technol (Dordr). 2023;28(6):6287-6320. doi: 10.1007/s10639-022-11430-9. Epub 2022 Nov 11. PMID: 36406784; PMCID: PMC9651103.

6. Robert SJ, Kadhiravan S. Prevalence of digital amnesia, somatic symptoms and sleep disorders among youth during COVID-19 pandemic. Heliyon. 2022 Aug;8(8):e10026. doi: 10.1016/j.heliyon.2022.e10026. Epub 2022 Jul 21. PMID: 35880083; PMCID: PMC9301932.

7. Gong C, Yang Y. Google effects on memory: a meta-analytical review of the media effects of intensive Internet search behavior. Front Public Health. 2024 Jan 18;12:1332030. doi: 10.3389/fpubh.2024.1332030. PMID: 38304178; PMCID: PMC10830778.

8. Chen SS, Lam TP, Lam KF, Lo TL, Chao DVK, Mak KY, Lam EWW, Tang WS, Chan HY, Yip PSF. The Use of Close Friends on Instagram, Help-Seeking Willingness, and Suicidality Among Hong Kong Youth: Exploratory Sequential Mixed Methods Study. J Med Internet Res. 2022 Oct 12;24(10):e37695. doi: 10.2196/37695. PMID: 36223182; PMCID: PMC9607886.

9. Kwon, M., Kim, D.-J., Cho, H., & Yang, S. (2013). *Smartphone Addiction Scale--Short Version (SAS, SAS-SV)* [Database record]. APA PsycTests. https://doi.org/10.1037/t71126-000

10. Nikolic A, Bukurov B, Kocic I, Vukovic M, Ladjevic N, Vrhovac M, Pavlović Z, Grujicic J, Kisic D, Sipetic S. Smartphone addiction, sleep quality, depression, anxiety, and stress among medical students. Front Public Health. 2023 Sep 6;11:1252371. doi: 10.3389/fpubh.2023.1252371. PMID: 37744504; PMCID: PMC10512032.

11. Tanil CT, Yong MH. Mobile phones: The effect of its presence on learning and memory. PLoS One. 2020 Aug 13;15(8):e0219233. doi: 10.1371/journal.pone.0219233. PMID: 32790667; PMCID: PMC7425970.

12. Kuss DJ, Kanjo E, Crook-Rumsey M, Kibowski F, Wang GY, Sumich A. Problematic Mobile Phone Use and Addiction Across Generations: the Roles of Psychopathological Symptoms and Smartphone Use. J Technol Behav Sci. 2018;3(3):141-149. doi: 10.1007/s41347-017-0041-3. Epub 2018 Jan 8. PMID: 30238057; PMCID: PMC6133055.

13. De-Sola Gutiérrez J, Rodríguez de Fonseca F, Rubio G. Cell-Phone Addiction: A Review. Front Psychiatry. 2016 Oct 24;7:175. doi: 10.3389/fpsyt.2016.00175. PMID: 27822187; PMCID: PMC5076301.