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RESEARCH ARTICLE

Mobile Usage Behaviour Among Agricultural Students During Covid-19

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ABSTRACT

Mobile phones have become an increasingly important part of our lives, especially in recent years due to the COVID-19 pandemic, particularly among students. Since the beginning of the pandemic, we have witnessed a series of lockdowns that prevented us from communicating with the outside world, leaving us with only a phone as the means of communication. In a matter of days, schools and colleges went online, increasing students' mobile usage. The present study was conducted to understand the mobile usage behaviour among agricultural students of Tamil Nadu Agricultural University, during COVID-19. Empirical data was collected from 60 students using a structured interview schedule. Findings revealed that students used their mobile phones for more than 8 hours a day during the lockdown. Video conferencing apps like Microsoft Teams, Google classroom, etc. were used more frequently, followed by social networking apps. Age showed a significant and positive correlation with mobile usage behaviour at 0.05 level of probability whereas, education, social media addiction, monthly expenditure, and internet usage were found to exhibit a positive and significant correlation with mobile usage behaviour at 0.01 level of probability.

Keywords: *Mobile Phones; Digital education; COVID-19*

INTRODUCTION

Mobile phones, as an information and communication technology (ICT) tool, resolves some of the most difficult problems pertaining to the educational system, namely access, equity, and quality. (Anil Kumar Malik, 2021). The same was proven to be true during the Covid-19 pandemic. During the outbreak of the COVID-19 pandemic due to social distancing, the only way to get an education was through an online medium (Gupta and Sharma, 2020). Despite how abrupt the transformation may have seemed, it is nevertheless true that digital education has become the norm. Due to its versatility and effectiveness, mobile learning (m-learning) has currently taken the place of traditional classroom learning as a global standard for education, particularly higher education (Biswas, Roy, & Roy, 2020). The Government of India and other organisations have launched a number of initiatives as part of the Digital India Campaign (2015) to revolutionise connectivity and get the needed information to students at the earliest (National Education Policy, 2020). With a plethora of government initiatives in the form of online learning portals such as PM e Vidya, DIKSHA, SWAYAM PRABHA, ePathshala Portal, NISHTHA, and others, it's fair to conclude that the pandemic has merely boosted digital learning. The COVID-19 pandemic struck during a period of exceptional scientific advancement and widespread digitalization. In his recent global poll, Sebire , (2020) found that over 70% of internet users—particularly the younger generation—were using their mobile phones more frequently as a direct result of the lockdown brought on by the coronavirus pandemic. Overusing smartphones can result in a variety of physical and psychological health issues, including shoulder, neck, and lower back discomfort, depression, and anxiety (Alsalameh *et al*., 2019).

This study was conducted to evaluate the mobile usage behaviour of agricultural students at Tamil Nadu Agricultural University during the COVID-19 crisis. The study also assesses the students' perceptions of the benefits and drawbacks of mobile phones during the lockdown.

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MATERIAL AND METHODS

The study was conducted among the Post-graduate (M.Sc. and PhD) students of Tamil Nadu Agricultural University. 60 PG students were selected through a proportionate random sampling method. Data was collected through a well-structured interview schedule. Collected data were tabulated and analysed using Percentage Analysis, Correlation, and Regression Analysis. The selected characteristics of the respondents as independent variables included in the present study were their age, education, social media addiction, monthly expenditure (on phone), internet usage, sleeping patterns, and awareness (about the harmful effects of mobile phone overuse). Usage pattern as the dependent variable was measured using a teacher-made test with a slight modification developed by Anil Kumar Malik *et.al*. (2021). Pearson Correlation Analysis and Regression Analysis were used to find out the relationship between Independent and Dependent Variables.

Results and Discussion

Table 1. Relationship between Dependent and Independent variables (n=60)

Variable No.	Variables	Correlation Coefficient 'r' value	Regression Coefficient 'b' value	t- Values
X_1	Age	0.277*	0.267	2.109*
X_2	Education	0.578**	0.387	2.207*
X_3	Social Media Addiction	0.605**	0.036	0.166
X_4	Monthly Expenditure (on phone)	0.682**	0.681	2.397*
X_5	Internet usage	0.459**	0.083	0.306
X_6	Sleeping pattern	0.001^{NS}	-0.065	-0.505
X_7	Awareness	0.152^{NS}	0.171	0.570

*. Correlation is significant at the 0.05 level (2-tailed),
**. Correlation is significant at the 0.01 level (2-tailed).
NS= Non-Significant
R2=0.581

From the above table, it is evident that student's age exhibited a positive and significant relationship with their mobile usage at a 0.05 level of probability, whereas factors such as education, social media addiction, monthly expenditure and internet usage exhibited a positive and significant relationship at 0.01 level of probability with their mobile phone usage. While in the case of partial regression coefficient; age, education and monthly expenditure were found to be significant whereas, social media addiction, internet usage, sleeping pattern and awareness did not significantly contribute to the usage behaviour of phones. Further, it was revealed that all the seven independent variables jointly contributed 58.1 per cent variation in the usage behaviour of mobile when other factors were kept constant.

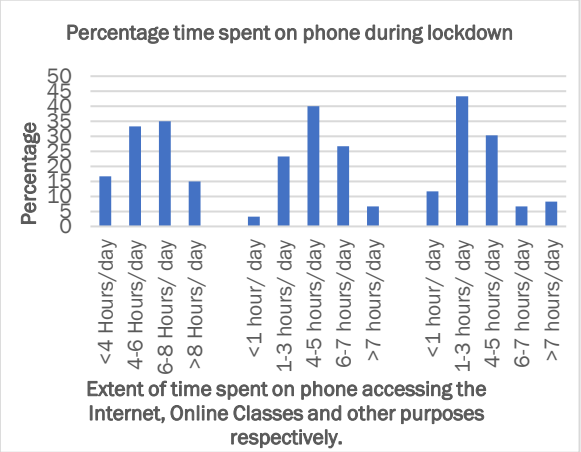

Figure 1. Percentage time spent using mobile phones during the lockdown for different purposes (n=60)

From figure 1, it is apparent that 35% of the students, used their mobile phones to access the internet for '6-8 hours per day', followed by '4-6 hours per day' (33.3%), '<4 hours per day' (16.7%) and '>8 hours/day' (15%). When it comes to time spent on the phone for attending online classes during the lockdown 40 per cent of the students used their phones for '4-5 hours per day,' followed by '6-7 hours/day' (26.7%), '1-3 hours/day' (23.3%), '>7 hours/day' (6.7%) and '<1 hour/day' (3.3%). In addition to this, time spent by the students for other purposes, 43.3% of the students spent '1-3 hours/day' on their phones daily, followed by '4-5 hours/day' (30.3%), '<1 hour/day '(11.7%), '>7 hours/day' (8.3%) and '6-7 hours/day' (6.7%). It is interesting to see that the daily usage of mobile phones for attending online classes by the majority of the students (66.7%) was 4-7 hours/day which can be attributed to the fact that classes went completely online due to the lockdown and online classes being the only means to allow students to interact with the teachers. The most popular device among students is mobile phones for online learning compared to laptops, and tablets (Akuratiya & Meddage, 2020). In recent times of outstanding global digitalization, mobile phones are very popular especially among the younger generation, for many activities like social networking, entertainment, information seeking, etc. Students have a higher affinity to buy top-end mobile phones, they feel uncomfortable without mobile phones, they keep their mobile phones switched on 24 hours, and they are equipped with almost every feature on their mobile (Belwal *et al*., 2009).

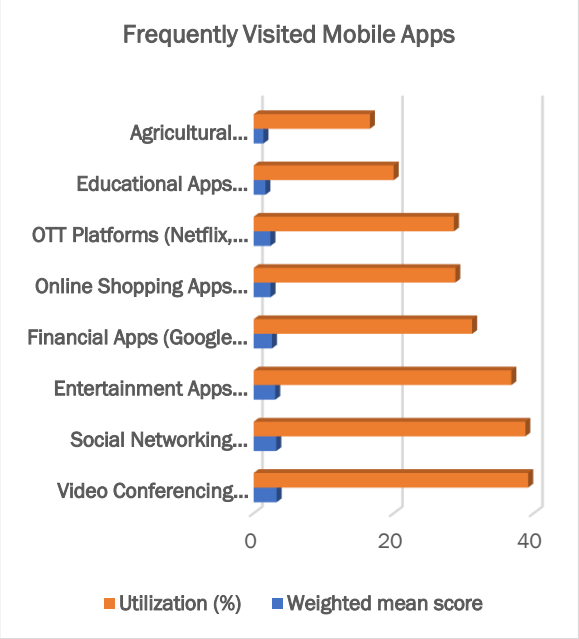

Figure 2. Frequently Visited Apps during the lockdown (n=60):

Figure 2, indicates the frequently visited apps by the students during the lockdown. It is apparent that the majority of the students used their mobile phones for accessing video conferencing apps like Microsoft Teams, Google classroom, etc. followed by social networking apps, entertainment apps, financial apps, Online shopping apps, OTT platforms, educational apps and agricultural information apps. Frequent use of video conferencing apps may be attributed to the fact that all the classes were being held online regularly during the time of the COVID-19 lockdown. Social networking apps make it possible for the isolated students to not only stay in contact with their friends but also used to share study materials, timetables and other academic materials during the lockdown period. Through social media, students can communicate synchronously or asynchronously with other students or teachers, which enhances their learning (Kot *et al*., 2017).

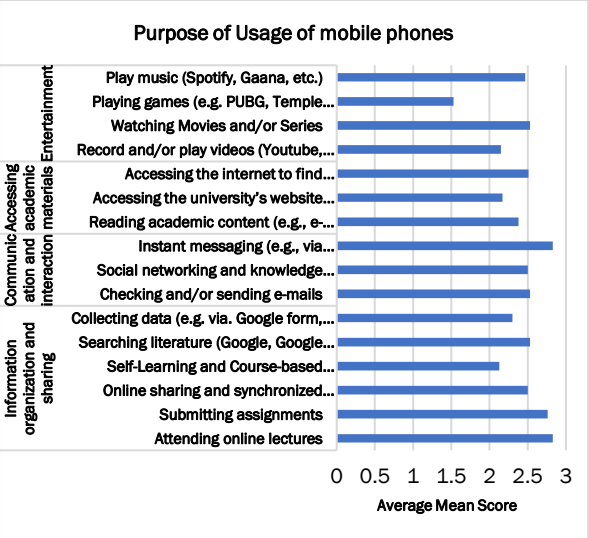

Figure 3. Purpose of usage of mobile phones during lockdown (n=60)

From figure 3, it is apparent that the usage behaviour of students was divided into four domains namely Information organization and sharing, communication and interaction, Accessing academic materials and entertainment, which is a teacher-made test with a slight modification developed by Anil Kumar Malik *et.al*. (2021). Based on the results, it was evident that students used most of their time in Information organization and sharing with an average weighted mean score of 3.01 which may be attributed to the online mode of education. People can use it to create and share information, as well as to obtain feedback (Chiabai *et al*., 2014). This was followed by communication and interaction. The increase in the rates of social media usage can perhaps be gauged in that the amount of time spent on social media and the amount of content encountered on social media seem to be triggers for social media fatigue. (Kot *et al*., 2017). This was followed by accessing academic materials with an average weighted mean score 2.35. Mobile apps provide easy access to various e-resources i.e. Scopus, Elsevier, Cera, etc. which are used by academic students to retrieve information regarding research, publishing papers, assignments, presentations, seminars and update their knowledge. (Malik, 2019). Finally, Entertainment with an average weighted mean score of 2.17, which includes watching and recording videos, listening to music, playing games and watching movies and series, basically recreational activities.

Table 2. Perceived Merits and Demerits of Mobile Phones (n=60)

Statements	Mean	Rank
Enables to obtain information at any time	2.00	1
Helps stay in touch with people	1.93	2
Hinders productivity	1.90	3
Helps to stay informed	1.85	4
Allows to better express sentiments and thoughts.	1.67	5
Text messaging impinges on communication skills.	1.47	6
Missed or bunked online class for using the phone for another purpose.	1.47	6
Spending time on the phone affects health in a negative way.	1.45	7
Spending time on the phone negatively affects studies.	1.42	8
Helps in Time management	1.28	9

Note: Scale: Merit: 1= No, 2 = Yes; Demerit: 1= Yes; 2= No.

From table 2, it is apparent that the major merit of mobile phones as perceived by the students was that it "Enables to obtain Information at any time" which maybe be attributed to the fact that mobile phones being equipped with internet connection nowadays which helps in information sharing and seeking. The Internet is home to about a billion websites and a rapidly increasing amount of data, available to anyone in a matter of seconds. Whereas the major demerit faced by the student was that it "Hinders productivity" of the students, which may be attributed to the fact that students these days are socially very active online. There are numerous social networking apps like Instagram, Facebook, WhatsApp, etc. which are used regularly by the young generation. The dependency of youths on social media has reached such a level that, without social media, every young person cannot think about the direction of their growth. The dependency of youth on social media is now leading to addiction (Monica Munjial Singh, 2019). Pandey *et al*. (2020) reported that wastage of time in irrelevant activities and health-related issues were perceived as major negative consequences of social media by the students. Other merits as perceived by the students include "Helps stay in touch with people", "Helps to stay Informed", "Allows to better express sentiments and thoughts" and "Helps in Time management" in the respective order. Demerits perceived by the students include "Text messaging impinging on communication skills", "Spending time on phone affects health in a negative way" and "Spending time on phone negatively affects studies" in the respective order. There is a need to build self-awareness among the students about the proper usage of mobile phones and guard them against the ill effects of overuse of phones that lead to wastage of time, poor health, etc.

CONCLUSION

From the study, it is evident that mobile usage has increased drastically among students due to COVID-19. It is clear that on average, students spent approximately 8 hrs/day on their mobile phones during the lockdown, which is double what students used before the pandemic. The dichotomy of mobile phones is that it helps the students to exchange useful information with classmates and at the same time if misused distract the study environment, therefore caution is required over their use. Overutilization of social media makes youth sluggish and unenthusiastic to interactions with people in real life (Kot, 2017). There is a need to encourage the students to use their mobile phones in the best way possible. Academic institution supervision must be needed to prevent the diversion of students to too much use of mobile phones in classes.

Ethics statement

No specific permits were required for the described field studies because no human or animal subjects were involved in this research.

Consent for publication

All the authors agreed to publish the content.

Competing interests

There was no conflict of interest in the publication of this content

Data availability

All the data of this manuscript are included in the MS. No separate external data source is required. If anything is required from the MS, certainly, this will be extended by communicating with the corresponding author through corresponding official mail; nikki.passah@gmail.com

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