



International Journal of Home Science

ISSN: 2395-7476
IJHS 2019; 5(3): 259-263
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www.homesciencejournal.com
Received: 07-07-2019
Accepted: 09-08-2019

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Smartphone usage patterns of college students

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Abstract

College students are a section of the population with a high usage of smartphones. The self efficacy of this age group in adapting to the latest updates and advancements in technology motivate them to use these phones with advanced features. Availability of smartphones at lower prices, low tariffs on calling and uninterrupted internet connectivity has further increased the usage of smartphones by college students. Vast research is going on across the globe to study the smartphone behaviours of college students and also the effect it is going to cause to the users. Present study is undertaken to study the time spent on smartphone and also to study the various patterns of smartphone usage like the various activities carried out on smartphone and the preferred apps by the college students.

The study group comprised of college students in the age group of 16 years to 25 years and majority pursuing their under graduation. Major chunk of the participants are from low and middle income groups and the students possessed phones of reputed brands irrespective of their family income. The results revealed that the college students are spending up to 6 hours and a few of them more than 6 hours also. They shared up to 100 text/whatsapp messages on working and holidays without any difference and a few of them even shared up to 500 messages. It was also found that they spend more time on entertainment followed by academics and social activities. Least preferred activity was shopping. Regarding the apps installed, majority of them installed more entertainment apps and the least number of apps installed were dating apps followed by health apps.

Keywords: Adolescent, rural, urban, habits, attitudes, education

Introduction

College students are the section of the population with high usage of smartphones. The self efficacy of this age group in adapting to the latest updates and advancements in technology motivate them to use these phones with advanced features. The statistics indicate that 90 percent of the college students own a mobile phone and majority of them are smartphones. Availability of smartphones at lower prices, low tariffs on calling and uninterrupted internet connectivity has further increased the usage of smartphones by college students. In the present education system, smartphones are even used as a teaching/learning tool. Smartphones are serving many needs of college students viz., learning, entertainment, social connectivity, shopping, organizer and so on.

A study conducted by Pew research Center also stated that young people under the age group of 35 were more likely having smartphones in many countries across the world. Another study conducted by Dr. Khan in collaboration with ICSSR on students from 20 central universities of India revealed that while only 26 percent of the respondents used their phone primarily for calling, the other 74 percent used it for entertainment, social networking and browsing. It was also found that while 14% of those surveyed use smartphones for 3 hours or less in a day, 63% use smartphones for 4 to 7 hours daily and shockingly 23% are logging more than 8 hours daily. (India Today, 2018) Bagimilik Dergisi (2017) [2] in a study conducted in Turkey on students found that the average time spent on smartphones per day is +3.15 hours and the major activities on smartphones were listening to music, texting, social networking, watching films and chatting while only a few used it for note making, scientific information, shopping and emailing. Adelhardt, Z., Markus, S., & Eberle, T. (2018) [1] found that smartphone usage was positively correlated with their positive attitude towards technology use. The present study is an attempt to study the smartphone usage patterns of college students.

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Materials and Methods

The study is undertaken in Kakinada city, East Godavari, Andhra Pradesh, India. Kakinada is a hub of educational institutions with various Government and private colleges. The sample included 400 students of engineering, medical, government and private degree colleges and vocational college. The college students in the age group of 16-25 years were included in the study. Those students, who were using smartphone for not less than a year were selected through Purposive sampling technique. Married students were not included in the study. In the selected colleges of Kakinada, the study was carried out during January 2019 to April 2019. Those who participated in the study were given consent forms to give their willingness to participate in the study which also

stated that no remuneration is provided for participating in the study and the participation was purely voluntary.

The tools used for the study are a General Questionnaire to study the socio demographic variables of the respondents and a Smartphone Usage Questionnaire developed by the investigator for the study. All the tools used for data collection are self reported questionnaires. The questionnaire was sent for content analysis to the experts in the area of study and the necessary modifications were undertaken.

Results and Discussion

The collected data on the smartphone usage patterns of the selected college students is analyzed and tabulated and the results are presented below.

Table 1: Socio-demographic variables of the respondents

Socio-demographic Variables		Frequency (N=400)	Percentage
Age	16-17	16	4
	18-19	194	49
	20-21	149	37
	22-23	25	6
	24-25	16	4
Gender	Male	153	38
	Female	247	62
Type of family	Nuclear	338	82
	Joint	45	11
	Extended	29	7
Mothers Education	Illiterate	189	47
	Schooling	153	38
	College	21	5
	Graduation	29	7
Fathers Education	PG	8	2
	Illiterate	151	38
	Schooling	105	26
	College	54	13
	Graduation	78	19
Family Income	PG	12	3
	Less than 1 Lakh	280	70
	1-3 Lakhs	87	22
	3-6 lakhs	21	5
	7-10 Lakhs	8	2
	Above 10 Lakhs	4	1

The above table presents the frequencies and percentages of the demographic variables of the respondents. The variables studied were age, gender, type of family, mother's and father's education and family income. Out of the total respondents, nearly 50 percent belong to the age group of 18-19 years and 20-21 years (39%) which indicates that majority of them are undergraduates. Reason for majority being in under graduation is that most of the college students are purchasing smartphones after they enter their under graduation. While selecting the sample for the study, it was found that the junior colleges are not permitting the students to carry phones to the college.

Regarding gender, Males were 38 percent and females were 62 percent. Among the respondents, majority (82%) are from

nuclear families and very few of them are from joint (11%) and extended families (7%). Mother's education level was very low i.e., 85 percent of them are illiterates or have completed their schooling. Only 12 percent of them are graduates and Postgraduates. Similarly, in case of fathers as well only 22 percent of them possess graduation and post graduation degree while majority (64%) are either illiterates or completed just their schooling. The family income of the respondents indicates that major chunk of the respondent's income lies below rupees 1 lakh per annum and out of the total respondents, 92 percent fall under the income below 3 lakhs and only 1 percent of them have the annual family income of above 10 lakhs.

Table 2: Showing the Smartphone Usage Patterns of College Students

Smartphone Usage Patterns	Frequency N=400	%	Frequency N=400	%	Frequency N=400	%	Frequency N=400 %	
	Less than 5000		5000-10000		10000-20000		Above 20000	
Average cost of the phone	24	6	240	60	120	30	16	4
Years of smartphone usage	1-3 yrs		3-5 yrs		More than 5 yrs		-	
	300	75	80	20	20	5	-	
Time spent on smartphone per day	Less than 1 hour		1-3 hours		3- 6 hours		Above 6 hours	
	32	8	196	49	128	32	44	11
No of text/Whatsapp messages sent on a working day	Nil		Up to 100		101-500		More than 500	
	12	3	351	85	42	10	7	2
No of text/Whatsapp messages sent on a working day	12	3	283	69	94	23	22	5

It can be inferred from the table that majority (60%) of the sample had smartphones in the price range of Rs.5000 to Rs.10000 while 30 percent of them had smartphones worth Rs.10000 to Rs. 20000 and only 4 percent of them possessed the smartphones of above Rs.20000/- price range. It is surprising to note that, the family income of majority of the participants is below one lakh per annum but they were using smartphones of reputed brands and medium to high price range. These results can be supported by the findings of Bhuvanewari (2016) [3] in a study conducted in Palakkad district of Kerala who found that no significant relationship exists between family income and the brand of the phone used by youth.

With regard to years of smartphone usage of the respondents, 75 percent of them are using their smartphones for less than 3 years and only 5 percent of them were using for more than 5 years.

Pertaining to the time spent on smartphone per day, it is observed that major chunk of them spend nearly 1-6 hours (81%) on their smartphones and 11 percent of them spend more than 6 hours per day on smartphone. These results are

consistent with the findings of Uichin Lee (2014) [7] who divided the sample in his study into risk and non risk group based on their responses and found that the risk group spent 253 min per day (nearly 4hours) while the non risk group spent 207 min per day. Bagimilik Dergisi (2017) [2] also reported that in his study conducted in Turkey the average time spent on smartphones per day is ± 3.15 hours by the students.

Chatting is one of the major activities carried out on smartphones by students (Xavier Carbonell, *et al.*, 2012) [8]. In the present study, the messaging patterns of the respondents were studied. From the data, it can be inferred that the college students send nearly 100 to 500 text/ Whatsapp messages per day. There were no prominent differences between a working day and holiday as majority of them send nearly 100 messages either it's a holiday or a working day. Less than 5 percent of them send more than 500 messages per day.

For clear understanding of the sample distribution, the tabulated data is presented graphically through pie-charts below:

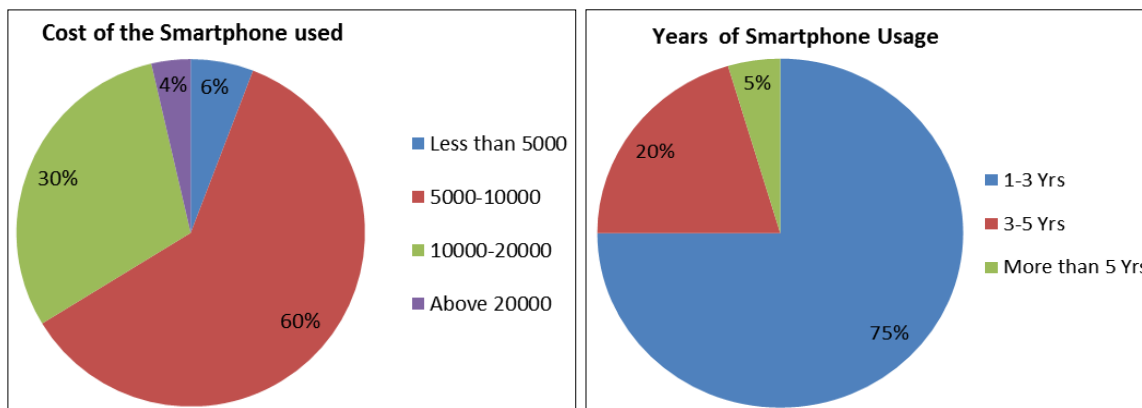


Fig 1 & 2: Distribution of sample based on cost of the smartphone and years of usage

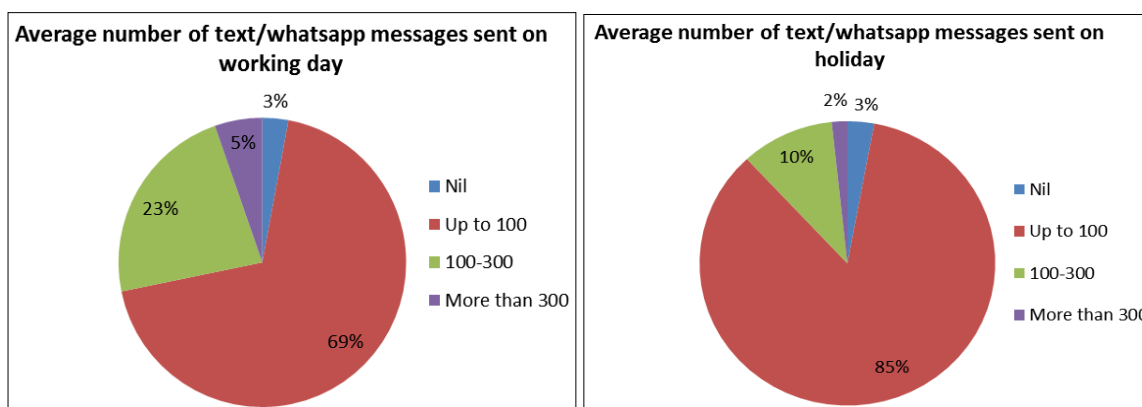


Fig 3 & 4: Distribution of sample based on the number of messages sent on a working day and a holiday

Social networking, entertainment, shopping, academics etc., are the other activities actively carried out on smartphones by the students. In the present study, an attempt was done to

study the time spent by the college students on various activities via smartphone. The results are presented in table 3.

Table 3: Showing the time spent by college students on different activities via smartphones

Time spent on different activities via smartphones	Less than 1 hr		1-3 hrs		More than 3 hrs	
	Frequency	%	Frequency	%	Frequency	%
Academic	60	15	319	80	21	5
Entertainment	32	8	320	80	48	12
Shopping	180	45	206	52	14	3
Social activities	92	23	258	65	50	12

From the table, it is evident that highest proportion of the college students in the present study are spending 1-3 hours on all the different activities and highest percent (81%) spend 1-3 hours on entertainment (online gaming, watching movies etc.). These results are in tune with the findings of Catherine Chambliss *et al.*, (2017) [4] who reported binge watching among students which included watching videos, Netflix along with other programs on TV. Shopping was found to be the least preferred activity as nearly half of them spend less than an hour on shopping online. The reason might be that all the respondents are college students and are financially dependent on their families. The results of the present study are consistent with the findings of Liu, C. H., *et al.*, (2016) [5] who reported in his study that the smartphone addiction group

spent more time on gaming and also gaming along with other multiple apps. Ruth.C.King & Su Dong (2017) [6] also found that the average time spent by a student per day on different activities like music, social media, browsing, school work, shopping etc ranged from 3.7 hours to 0.8 hours with highest time spent on music and the least on online shopping and emailing. Sana Sarfaraz *et al.*, (2015) studied the smartphone usage patterns of different colleges and universities of Karachi to study the effect of mobile phones on health. The results indicated that 24% used mobiles for more than 16 hours and the other 43.5 used it for more than 8 hours. The major activities on mobile phones were texting (63%) followed by Facebook and whatsapp (36.5%). The results are presented graphically in the fig 5.

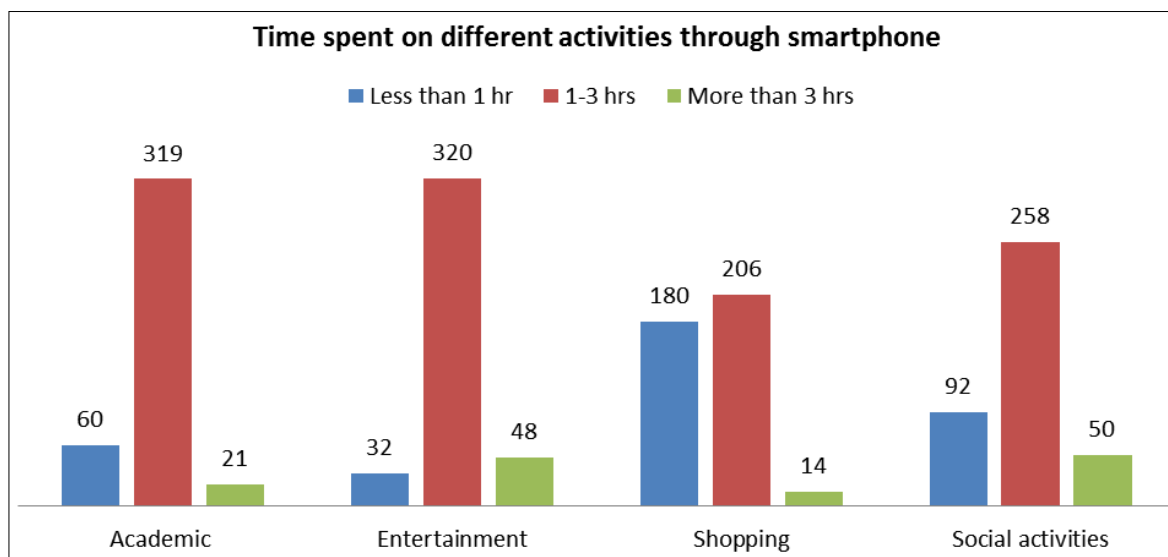


Fig 5: Distribution of sample based on the time spent on different activities through smartphone

As smartphones facilitate installation of various applications for carrying out various activities easily, the number of apps

installed in the smartphones of the respondents was studied. The results are presented in Table 4.

Table 4: Showing the apps installed in smartphones of the respondents (N=400)

Variable	None	1-2	3-4	More than 4
Educational apps	104(26)	196(49)	96(24)	4(1)
Information apps	52(13)	272(68)	76(19)	0(0)
Productivity apps	64(16)	228(57)	92(23)	12(3)
Entertainment apps	32(8)	216(54)	108(27)	44(11)
Social apps	60(15)	220(55)	120(30)	0(0)
Ecommerce apps	72(18)	180(45)	76(19)	4(1)
Health apps	176(44)	184(46)	40(10)	0(0)
Dating apps	352(88)	40(10)	8(2)	0(0)

The results from table 4 indicate that entertainment apps (Netflix, Amazon Pime, Tik Tok etc.,) are the highest in number (More than 4) installed by the college students in the present study. The least apps installed were dating apps

followed by health apps i.e highest percentage of respondents (88%) says that they have not installed any dating apps and health apps (44%). It is also interesting to note that nearly 75 percent of the college students in the present study have

installed 1-4 educational apps (Edx, Swayam, Digital Library etc.) in their smartphones. As GOI is encouraging digital media in Higher education, the students are widely using these apps in their academics and as some of the colleges

have made MOOCS enrollment mandatory, it has become a necessity to install these apps. The graphical presentation of the number of apps installed in their smartphones is given in fig 6.

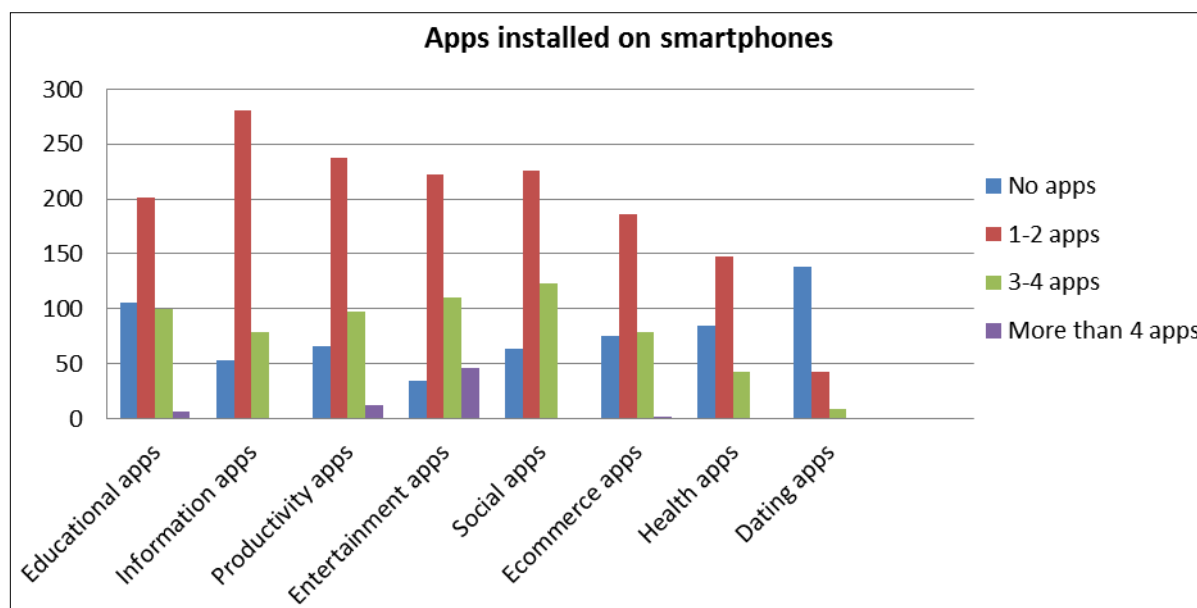


Fig 6: Distribution of sample based on the apps installed on their smartphones

Conclusion

It can be concluded from the study that the college students are widely using smartphones for various activities. Except a few, all of them are using their smartphones for longer duration. They are performing many activities on their smartphones like academics, entertainment, social networking. More time is spent on entertainment followed by social networking and academics. Various apps are installed on their phones, again the majority being entertainment apps and the least being dating apps and health apps.

Limitations of the study

- Study is limited to a geographical area of Kakinada.
- Study is limited to the college students but do not cover the other sections of that age group.

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