

Smartphone as a Means of Communication & Its Influence upon College Students

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Smartphone plays a very significant role in students' life. It is their best friend, best companion and best advisor in all aspects of their life and they feel that they cannot go without it. It has given them enormous freedom to communicate on their own terms regarding place and time. They think Smartphone has given them certain personality and status among their peers. Smartphone as a big communication media has positive as well as negative effects on students' life. They agreed that developing relationship with someone through social media may be dangerous. It may help them in their studies and at the same time it may distract them depending on their interest and attitudes towards life.

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Introduction

The introduction of Smartphone in consumer market in twenty first century has brought a revolution in communication technology. Smartphone, in practical sense, is a mobile phone with far advanced features and functions. It has a high resolution touch screen display, WIFI connectivity, Web browsing capability and the ability to accept sophisticated applications. Its impact is felt in all walks of human life. Significant number of people use their Smartphone to read news feeds, post status updates, read and reply to messages and post photos. It has provided greater opportunity for knowledge lovers to fulfill their thrust and dreams. It is one of the smart inventions in the modern world that keeps individual connected to the society and world at large. Today, use of internet has become an integral part of students' life. Smartphone along with the internet and high speed mobile browsing provide an alternative channel to deliver education services. Smartphone helps the students to keep up with their work, even if they are on sick leave or miss classes for other reasons. Smartphone can also be the source of distraction in students' life.

During study time, they check their e-mails, play online games and even watch TV channels. It enables users to interact with their friends and family when they feel. Parents, especially the mother, contact with their children time to time while they are in college or away from home. They remain worried until they come back home safely. People consider cell phones as a safety device because parents typically fear for the physical safety of their child.

Students can enhance their social life, if they so desire through their cell phone. Social networking may help to build social bonds and these may reduce or increase stresses. Smartphone undoubtedly encourage people to spend more time with the technology and less with fellow humans in disguise (Griffiths, 2000). It is quickly replacing the lap-top or desk top computer as a preferred method of accessing the internet. Students are no longer limited to their classroom boundaries; they can record primary observations from the field and analyze it on location. They can even discuss issues with their colleagues and teachers who are not present in the field. The ever growing Smartphone has opened new opportunities for students both inside and outside the classroom.

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The present young generations were exposed to mobile phone/Smartphone as

early as when they were three-four years old. Parents give their mobile phones to them for playing games and they avail this opportunity to feed them as they very often refuse to be fed. The young adults use their phones while they are walking, driving (a car or motor cycle), crossing the rail line and even in the class room during the class hours when teachers turn towards the blackboard. Very often, when they are in a bus or a cab or an auto-rickshaw for commuting, their Smartphone is on and their eyes are fixed on the screen. They are not interested to know what is going on around them. They are not sure who is sitting beside them and when he/she is leaving. When they even talk with friends their eyes are glued to their Smartphone's screen. Jackueline Wilson, a recipient of the 'Bafta children' special award mentioned that "today's children are growing up in a completely different world. Their lives are ruled by social media. Electronic life has wiped out books" (Rackham, 2017). They no longer try to remember things as they rely on their Smartphone for everything. It has become an integral part of their life. Even when they go for sleep, it is in their bed side.

Smartphone may be considered as a common communication medium in today's world. In 2014, 21.6 percent of the global population used them and the trend is growing very first all over the world. By 2020, around 37 percent of the world's population is projected to own a Smartphone (Statista, 2017). This communication channel is also used by the terrorists to lure someone to join them for jihad or anti-state activities. Narendra

Modi, the prime minister of India in Global conference on Cyber Space warned that “Nations must take responsibility to ensure that the internet does not become a play ground for the dark forces of terrorism and radicalization” (Bureau Report, 2017).

Review of Literature

The history of Smartphone is not so old. It came to the market in 1993. Initially, it was predominated by corporate users and used as enterprise devices. This era began with the ‘Simon’ from IBM in 1993. ‘Blackberry’ is considered as the revolutionary device of this era. It introduced many features like e-mail, internet, fax, web browsing and camera. Apple brought its first Smartphone in 2007 aiming to reach general consumer market. Google unveiled its Android operating system at the end of the year 2007 with the intention to approach consumer Smartphone market. The influence of Android technology has been tremendous in this period as it provided a great opportunity to all vendors to build their devices to meet the different consumer needs. To have Smartphone by the students depends on the family income and parent’s attitudes towards the Smartphone. Pearson student mobile device survey (2015) on college students reported that “85 percent of college students in USA own Smartphone compared

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to 72 percent in 2013”. In India, the number of Smartphone users grew to 239 million by the end of 2015. It is expected to be 702 million by 2020. Around 64 million people in India use face book daily through their mobile devices (Nath, 2017). A very recent report from UNICEF (Times News Network, 2017) reveals that internet users in rural India have increased by 22 percent between October 2015 and October 2016. In urban areas it has increased by 7 percent during the same period of time. It has now 157 million users in rural areas and 263 million in urban areas.

Today the significant number of young generation use internet for communication and socialization. It is becoming a part of life for communication throughout the world. A person may receive ‘breaking news’ from anywhere in the world in a minute which was unthinkable a few years before. People work, sleep, walk and drive with their cell phones. According to National Safety Council (NSC, 2015), 1.6 million car crashes occur each year due to use of cell phone during drive in USA. There is no specific record of car crashes in India due to mobile phone uses during drive. Around 44 percent of cell phone owners sleep with it next to their bed wishing not to miss any calls, text messages and other updates during the night (Smith, 2012). A large number of students use their cellphone during class hour when a teacher turn back towards the blackboard. They do not concentrate towards the content of teaching. They distract the attention of the teacher as well as other students. It is observed that student who uses their

mobile phones during class lectures tend to write down less information, recall less information and perform poorly than those students who abstain from using their mobile phones during classes.

Use of Smartphone and accessing social networking sites by college students are leading to a new concern for parents, academicians and politicians of the country. Students face many challenges while using social networking sites. They are not sure to trust the information they find from the different sources of information. Generally, people build a social network based on the strength of relationships and trust between members. Islamic State of Iraq and Syria (ISIS) recruited people from all over the world through this social media. A large number of Indian youth from all walks of life were brain washed through social media and were encouraged to join them.

Objectives of the Study

Every day, we see young students with bags on their shoulders going to the schools, colleges and universities with their phones in hand. They may be on the road walking or commuting by train or bus or any other mode of transport. But one thing is common i.e. their Smartphone is on and their eyes are on it. Cell phone has become a great companion to the young generation all over

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the world. In this context, the present research aims to investigate:

- I. Influence of Smartphone on student's life
- II. Relationship, if any, between the factors/components derived from factor analysis and biographical variables of the respondents
- III. Patterns of using cell phone between boys and girls

Methodology

The data was randomly collected from graduate and post-graduate students of a private Engineering and Management College in West Bengal. Students were chosen randomly from the courses of Management, Hospitality Management and Engineering Studies. The sample consisted of 104 boys and 98 girls. All of them remain within the age group of twenty five. Socio-demographic variables such as gender, age, family income and residential area of the students were considered in the present study to investigate whether these demographic variables have any impact on uses of Smartphone by the students. The data for the socio-demographic variables were collected directly from the first part of the questionnaire. The second part of the questionnaire contained eighteen questions which were used to find out the use of Smartphone as a means of communication and its influence on the life of students. Five point Likert scale was used with an anchor using strongly agree, fairly agree, not sure, fairly disagree and strongly disagree. To find out which fac-

tors influence them more, factor analysis (version 17) was carried out. The form of factor analysis used was principal component analysis with varimax rotation. To justify the factor analysis, Kaiser-Meyer-Olkin (KMO) test for sampling adequacy and Bartlett's test of sphericity were used. To find out the time spend on cell phone by boys and girls each day, a specific question was asked and average time was calculated. A series of analysis of variance (ANOVA) were performed to investigate the relationship between demographic variables and the factors/components derived from the factor analysis.

Socio-demographic Characteristics

The percentages of male and female students are 51.485 and 48.515 respectively (Table 1). The enrolment of female students in different fields of studies has increased steadily which was unthinkable few years before. Awareness of education and nuclear family structure has

substantial effects on parent's attitudes towards their girl child's education and well-being. They are now treating their girl child as per boys. Certainly, these changes have not taken place uniformly across the whole society in India. It is not easy to overcome the century old tradition of preference of boys in the family overnight from the society. The majority of the students (54.187%) remain at the age group of less than twenty years and 39.90 percent of them belong to the age group of twenty to twenty four years. Only 5.91 percent of the students are more than twenty four years old. Family income of the majority of the students (52.47%) is less than Rs. 35,000. per month. Around one fourth of the student's (27.72%) family income is between Rs. 35,000 and Rs. 45,000.0 per month. Only, 8.42 percent of students' family income is over Rs.55, 000. per month. Majority of the students (73.267%) have come from urban areas and about one third of the students (26.733%) have come from rural backgrounds.

Table1 Socio-demographic Characteristics of the Respondents

Respondent	Frequency	Percentage
Boys	104	51.485
Girls	98	48.515
Age:		
Less than 20	110	54.187
20-24	81	39.901
More than 24	12	5.911
Family Income:		
Less than Rs.35,000.0	106	52.475
Rs.35,000.0-45,000.0	56	27.723
Rs. 45,000.0-55,000.0	23	11.386
More than Rs. 55,000.0	17	8.416
Residence:		
Urban	148	73.267
Rural	54	26.733

Results & Discussions

Influences of Smartphone on students' life are manifold. To find out the factors (components) which influence them more, factor analysis was conducted. Bartlett's test of sphericity was significant (Chi-square=580.346, $p < 0.00$) and Kaiser-Meyer-Olkin (KMO) test was 0.599, which justify the factor analysis (Malhotra, 2007). Factor analysis produced seven components from eighteen variables which are capable of explaining the observed variance. The Eigen values of all the components, the variance explained by each component and the cumulative variance were calculated by SPSS (Table 2). To decide how many components to retain, several procedures have been suggested such as Scree plot, Eigen value and Percentage of variance (Malhotra, 2007). The Eigen value approach suggests that only components with greater than one are retained. The present study suggests that only seven components have Eigen values greater than one. The first component accounts for 13.463 percent of variance while the second, third, fourth, fifth, sixth and seventh components explain 9.538 percent, 9.037 percent, 8.357 percent, 7.709 percent, 7.114 percent and 6.853 percent respectively. They together contribute 62.071 percent of the total variance. All the other remaining components are not found significant.

In the present study, variables six, seven, eleven, thirteen, fifteen and sixteen correlate and combine with component one after rotation because of

their common nature. The component may be named as 'Smartphone has given me certain personality and status among my peers'. Young people are extremely self conscious and pay significant attention to what peers think of them. Smartphone gives them a higher sense of self-esteem (Ling & Yttri, 2005) and dimension of confidence that adds value to their identity. Peer group is a fundamental institution to young generation (Ling, 2007). During this time they are engaged to establish their own identity.

Component two is associated with variables three, four and five and may be labeled as 'use of phone at late night affects me psychologically and physically'. It is a general phenomenon that those who use a media device right before bed are more likely to sleep less and be sleepy during the day. People are prone to depression and anxiety due to lack of enough sleep at night. A very recent research reported in Times of India (Griffin, 2017) reveals that people who are addicted to their cell-phone and internet may have chemical imbalances in their brain which could cause severe anxiety and tiredness.

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Component three is related with variables seventeen and eighteen and may be named as 'Smartphone has given me

Table 2 Influence of Smartphone on Students' Life (Rotated Component Matrix)

Variables	Com-1	Com-2	Com-3	Com-4	Com-5	Com-6	Com-7
1. Smart phone has helped me a quite lot to improve my quality of education					0.625		
2. I use my phone to contact my parents & classmates about my studies from time to time							0.667
3. Sometimes, I use my phone late at night which is affecting me psychologically and physically		0.769					
4. My parents restrict me from using phone late at night		0.638					
5. It is difficult to bear expenses of smart phones, the way I use them		0.624					
6. My expensive smart phone gives me higher status among my peers	0.685						
7. I feel proud of my phone, because it has given me a certain personality	0.696						
8. There is no disagreement between me and my parents regarding the use of my phone						0.737	
9. Smart phone has connected me with the world				0.774			0.628
10. Very often, I use my phone during my studies							
11. I am using my phone all the time—while walking on the street, dinner time, in class & in bed	0.552						
12. Terrorists have been using Smart phones & social media for gathering information, recruitment, fund raising and propaganda schemes							-0.658
13. I forget my surroundings while I use my smart phone	0.506			0.830			
14. Starting a relationship with someone through social media may be dangerous							
15. I do not bother about the radiation effect of my phone on my health	0.575						
16. I enjoy taking selfies very much, upload and share them on social media and open it from time to time to see how many people have liked it	0.681						
17. I feel, I cannot go on without it			0.828				
18. It has given me great companionship			0.827				
Eigen value%	2.423	1.717	1.627	1.504	1.388	1.280	1.234
VarianceCumulative %	13.463	9.538	9.037	8.357	7.709	7.114	6.853
	13.463	23.001	32.038	40.395	48.104	55.218	62.071
Component-1: Smartphone has given me certain personality & status among my peers							
Component-2: Use of phone at late night affects me psychologically & physically							
Component -3: Smartphone has given me great companionship & I feel I cannot go on without it							
Component-4: Developing relationship with someone through social media may be dangerous							
Component-5: It has connected me with the world							
Component-6: No disagreement regarding the use of phone between me and my parents							
Component-7: It helps me to keep in touch with my parents & classmates about studies							

a great companionship and I feel, I cannot go without it'. College students generally view their cell-phone as an integral part of their life or as an important extension of themselves (Belk, 1988). Around 36 percent of Smartphone owners in USA think they 'cannot imagine life without it' (Smith, 2012). Media use has become a significant part of their life and they do not realize their level of dependence to their cell-phone. In another study, Geser (2006) found that females twenty years or more agreed with the statement 'I cannot imagine life without the mobile'.

Component four is associated with variables fourteen only and may be labeled as 'developing relationship with someone through social media may be dangerous'. Social networking sites have both positive and negative effects on college students. The positive effect may be sharing information, getting academic assistance and support from fellow students. They may also release their stresses and anxieties discussing with parents and close friends. Parents as well as social scientists are very concerned about accessing social networking sites. Religious radicalization and luring is spreading in India through social networking sites. Around 100 radicalized Indians have joined with ISIS (Islamic State of Iraq & Syria) and travelled to Syria, Iraq and Afghanistan (Bharti, 2017). They have also recruited young men and women from Europe and America using different forms of social media. Girls are generally emotional. They put their heart above their head, so at times they become over emotional (Saha &

Chakrabarty, 2012). They communicate in a more emotional manner over cell-phone than boys do. As a result, sometimes they become the easy victim of these evil forces in the society.

Component five is related with variable nine only and it can be named as 'it has connected me with the world'. Cell phone play very critical role in keeping family, friends and relatives connected irrespective of their living in different parts of the world. After globalization, significant numbers of Indian youth are working in USA, Europe and Middle East. Parents keep in touch with their beloved ones through Skype, Messenger, WhatsApp, Face time and Hangouts. In a sense, it creates a feeling in parent's mind that their loved one is living with them and they are not far away from them. In recent times, American president Donald Trump and Indian Prime Minister, Narendra Modi have been using their twitter very successfully to reach their people. As politicians they are communicating with their vote bank very effectively.

Component six is associated with variables eight and twelve and may be named as 'no disagreement regarding the use of phone at late night between me and my parents'. Significant number of students lives in hostels or in private accommodations for their college education. They are advised by parents to keep their phone with them all the time. Though ragging in the campus has reduced dramatically, but still we read in newspapers some incidents of ragging by fellow students. Parents remain worried

all the time while they are away from home. Parents, especially the mother take care of their child through phone, sometimes Skype and Messenger.

87% of students are in favor of using their mobile device to support their learning either in class or at a distance.

Component seven is related with variable two and ten and may be named as 'it helps me to keep in touch with my parents and classmates about studies'. Cell-phone as a communication device is very often used by students to their study purposes. The use of internet for educational purposes among Indian students has been increased manifolds due to lack of quality teachers and proper library facilities. Nowadays, online video lectures and e-books are the emerging trends among the students. Smartphone along with high internet facilities has opened several new avenues for learning in the country. A survey conducted in Australia, revealed that 87% of students are in favor of using their mobile device to support their learning either in class or at a distance (Farley et.al. 2015).

Time Spent on Cell-phone

Social networking is very popular among young generation. To know how many hours they spend on it, students were asked one specific question i.e. 'how many hours did you spend on your cell-phone yesterday'. Average time was calculated for boys and girls separately. Boys spend around five hours per day

on their cell-phone whereas girls spend seven hours on it. Researchers at Baylor University in USA (reported by Goodrich, 2014) found that women college students spend an average of ten hours per day on their cell phone while men students spend nearly eight hours.

ANOVA Analysis

A series of one way ANOVA analysis was conducted to find out the relationship between socio-demographic variables and the components derived from the factor analysis. The results are presented in Table 3. Socio-demographic variables such as gender, parent's income and residential area were considered in the analysis. The age was not considered in the analysis, because the age differences of the students were generally five years. A one-way ANOVA analysis allows us to test whether several means are equal across one variable and this is done by analyzing the variance. In the present study, all the male and female respondents agree on all the factors derived from the factor analysis. Students with their different family income backgrounds and different residential status differ significantly regarding the component two and three i.e. on

- (i) Use of phone at late night affects me psychologically & physically
- (ii) Smartphone has given me great companionship & I feel, I cannot go on without it

When the young adults were under age, parents used to take care of their use of cell-phone at night. Too much

exposure of blue screen at late night deprives sleep. Continuous deprivation of sleep may cause stress on everybody. Parent's controls over using cell phone at night reduces when they are adult and have entered into colleges of higher learning. It seems that some of the students are unable to control the use of their cell-phone at late night. They suffer psychologically and physically. Significant number of students especially girls students use their cell-phone more frequently.

It is their great companion and nowadays, they are giving less and less time for social relationship. In adolescence period, girls become more emotional than boys. They are guided by their emotion rather than brain. Again, family income of the students differ significantly in relation with component five i.e. 'it has connected me with the world'. Some of the students who do not need to use Skype, Hangout, WhatsApp to communicate with their parents and relatives are not exposed with these modern

Table 3 Components & Its Relationships with Gender, Income & Residence (ANOVA Analysis)

Component One	Gender		Income		Residence	
	F value	Significance	F value	Significance	F value	Significance
Smartphone has given me certain personality & status among my peers	0.715	0.399	1.651	0.179	0.094	0.760
Component Two						
Use of phone at late night affecting me psychologically & physically	3.70	0.056	3.197	0.025*	10.517	0.001**
Component Three						
Smartphone has given me great companionship & cannot go without it	1.462	0.228	2.619	0.052*	13.697	0.000**
Component Four						
Developing relationship with someone through social media may be dangerous	1.955	0.164	0.850	0.468	0.030	0.862
Component Five						
It has connected me with the world	1.237	0.267	3.449	0.018*	0.504	0.479
Component Six						
No disagreement regarding the use of phone at late night between me & my parents	0.805	0.371	0.305	0.822	0.000	0.986
Component Seven						
It helps me to keep in touch with my parents & classmate about studies	0.527	0.469	0.826	0.481	0.953	0.330

*Significant at 0.05 levels & **Significant at 0.01 levels

communication devices. On the contrary, those who are living away from home for their study or work purposes are acquainted with these communication devices.

Conclusion

Smartphone has become part and parcel of college going students. It is their great companion and it is with them all the time and they think they cannot go without it. It helps their academic persuasions tremendously and it gives them certain personality and status among their peers. Smartphone has connected people especially the young generation with the world. Student's social needs are significantly met through this communication channel. Political leaders as well as religious leaders are reaching their subjects within a few minutes using different suitable communication Apps. Terrorists and miscreants are also using it for their propaganda purposes. Smartphone as a big communication media has positive as well as negative effect on student's life and society at large.

Smartphone has become part and parcel of college going students.

ANOVA analysis suggests that both male and female students agree on all seven factors derived from the factor analysis. Students with their different economic and residential backgrounds differ in their opinion regarding component two (use of phone at late night affects them psychologically and physically) and three (smart phone has given

me great companionship and I feel, I cannot go without it) respectively. It is also observed that male and female students with their different economic backgrounds differ in their opinions about 'it has connected me with the world'.

There are so many distractions in internet and our young human resources should be protected from all harmful provocations. Parents, political leaders and social scientists have a very big role to play to protect these potential human resources from any source of harmful provocation.

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