

A comparative study of addiction of simple phone and smart phone and its effect on mental health: the dark side of technology

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Abstract

Having phone has become an essential need of people in present time. Using phone excessively produces several psychological and physical problems in users which have been investigated by psychologists and physical health specialists. Therefore, we conducted the present study to compare the addiction of simple phone and smart phone in youths and find out the effect of phone addiction on users' mental health. Sample of 300 post graduate students was selected through purposive random sampling technique from colleges of Aligarh. The sample was categorized into two groups – smart phone users and simple phone users. Data was collected by administering Smart Phone Addiction Scale-SV, Mobile Phone Problem Use Scale and Mental Health Checklist. Results indicated that smart phone users have higher addiction than simple phone users. Excessive phone addiction was also found associated with poor mental health.

Keywords: smartphone, simple phone, addiction, mental health

1. Introduction

Present era is the time of information and communication where access to information is just a deal of few seconds through technology. By using advanced information technology, exchange of information and connecting with people, sitting thousands miles away have become faster and easier than before. From the last decade smart phone has emerged as an essential device for youths. As from the last 20 years, mobile phone subscriptions have grown from 12.4 million to over 5.6 billion all over the world, penetrating about 70% of the global population (Wikipedia). The number of telephone subscribers in India increased from 1,006.96 million at the end of June 2015 to 1,022.61 million at the end of September 2015 that shows a growth of 1.55% over the previous quarter (TRA 2015). The term "smart phone" is basically used for those phone that provide integrated services of communication, computing, messaging, management of applications and wireless communication competency. Modern Smartphone's currently include all the features of a laptop i.e. web browsing, Wi-Fi, various applications, games etc. Smart phone with advanced features assists people not only to communicate with others but also to entertain themselves as well as getting education. All over, The Smartphone is changing the ways in which people communicate, find information, have fun, and manages their everyday life (Park *et al* 2013). Therefore popularity of smartphone is increasing day by day. That is why; smartphone has become a vital part of people's life and mostly youths are using smart phone as a permanent acquaintance. Hong *et al* (2012) ^[14] explored that mobile phones are popular among university students because they increase their social

communication and expand their opportunities for establishing social relationships.

Smart phone was invented for the ease and welfare of people but its excess use changed people's mental and social health. In this way, a new kind of health disorder among adolescents named as "smart phone's addiction" is invented which is emerging rapidly. Addiction is considered by World Health Organization (WHO Expert Committee 1964) "as dependence, as the continuous use of something for the sake of relief, comfort, or stimulation, which often causes cravings when it is absent. There may be seen two types of addictions in this context one is "drugs or alcohol addiction" and other one is "behavioral addiction such as internet, game and mobile phone addiction." Unfortunately, internet addiction is resistant to treatment, entails significant risks and has high relapse rates (Block, 2008) ^[5]. Smart phone addiction involves behavioral addiction that destructs social life apart from the imagined world on smart phone.

Smart phone addiction involves abuse, misuse or compulsive use of a smart phone by users.

Indian adolescents are also affected by high smart phone addiction (Davey *et al* 2014) ^[8]. Smartphones can lead to many problems; one of the prominent problems among them is being addicted (Hassanzadeh *et al* 2011) ^[13]. Interactive characteristics of smartphones contain inducing and reinforcing features that promote excessive usage behaviors (Greenfield, 2011) ^[10]. Oulasvirta *et al* (2012) ^[23] have demonstrated that frequently checking dynamic content on mobile devices weakens self-regulation, which is the consequence of smartphone overuse. Smart phone users report some more common health related issues as headache,

anxiety, irritation, eye strain and lack of concentration (Acharya *et al* 2013) ^[1, 2]. Overuse of mobile phones will also cause Glioma, Acoustic Neuroma, and some Salivary Gland tumors (Environmental Working Group 2009) ^[9]. In addition, researchers have found close relationship between smart phone overuse and poor mental health e.g. sleeps deprivation (Acharya *et al* 2013) ^[1, 2] and attention deficits (Murdock 2013) ^[22]. Overall, it has been explored that excessive use of smartphone leads to various psychological and physical health problems in users. Therefore, through this study, we attempted to compare the users of smartphone and simple phone on mental health and phone addiction.

2. Aims of the study

The aim of the present study was to assess some of the self-perceived impacts of increasing smart phone and simple phone usage on mental health of college going post graduate students.

3. Hypotheses

The present study aimed to test the following hypotheses

- Smartphone users have higher addiction for phone
- Simple phone users have low addiction for phone
- Higher addicted participants have poor mental health
- Simple phone users and smart phone users differ significantly on phone addiction and mental health

4. Materials and Methodology

4.1. Sample

Present study was conducted to assess the impact of phone addiction on mental health. Thus a sample of 300 post graduate students was selected through purposive random sampling technique from colleges of Aligarh. The whole sample was categorized into two groups- smart phone user group and simple phone user group.

4.2 Tools used in study

4.2.1 Smart Phone Addiction Scale-Short Version

Smart Phone Addiction Scale- Short version (SAS-SV) was used to assess the addiction of smartphone developed by Kwon *et al* (2013). This scale contains of 10 statements measures responses on 6 point scale from strongly disagree (1) to strongly agree (6). Score of this scale ranges from 10 to 60. The internal consistency and concurrent validity of SAS were verified with a Cronbach's alpha of 0.911. Higher the score respondents get on this scale, more they are dependent on their smartphone and higher they are addicted of smartphone.

4.2.2 Mobile Phone Problem Use Scale

This scale devised by Bianchi and Phillips (2005) ^[4] was used to assess the addiction of simple phone. This is a self-reported scale that contains 27 items assess the responses on five point Likert scale. It involves mobile phone related tolerance, withdrawal, escapism, and life consequences. The responses on this scale ranged from "not true at all" to "extremely true" with the score 27 to 135. Higher the score respondent gets, higher dependent he/ she is on mobile phone. A chronbach alpha of 0.93 was found for this scale.

4.2.3 Mental Health Checklist

Mental health checklist developed by Promod Kumar (1992) was used to assess mental health. It contains of 11 items in

which six statements measure mental health and five for somatic health. This check measures responses on four point scale. The test -retest and split half reliability of the check-list was estimated 0.81 and 0.83 respectively. The content validity of the mental health check list adequately assured and found satisfactory. Score of the checklist ranges from 11 to 44 which means highest score will lead to poorest mental health.

4.2.4 Performance Method

The data were collected individually in the college campus of Aligarh. Participants were taken into confidence and understood the goal of the study. After that, questionnaires were given to both the groups. They were requested to give responses for each statement. Thereafter, questionnaires were collected from each subject for statistical treatment.

5. Results and discussion

Result of the present study was obtained by using SPSS 17.0. To find out the addiction of smart phone between both the groups, the findings were extracted by using t-test. Whereas, degree of addiction was found by mean scores on addiction scale. Pearson product moment coefficient of correlation was used to correlate phone addiction with mental health. The present study demonstrated that smart phone users had higher addiction in comparison to simple phone users. Additionally, it was also found that higher addiction for smart phone leads to poorer mental health. Smart phone has numerous kinds of applications, games and advanced feature that amuse its users and reinforce them to indulge with it excessively (Greenfield, 2011) ^[10]. Therefore smartphone users have an urge of frequently checking of dynamic content of smart phone that makes them addicted of it. On the other hand, simple phone does not include such features through which people can amuse themselves. Moreover, college students are considered to be vulnerable to technology overuse because of their developmental dynamics and relative individuality from social roles and expectations (Kandell, 1998) ^[18]. They use smart phone for seeking information, communication, online transactions, and managing personal information that leads to the development of frequent checking habit (Cui and Roto, 2008). Hence, it was found in our study that students who use smartphone are highly addicted in comparison to those who use simple phone. Researchers have also found close relationship between excessive use of smartphone and poor mental health e.g. decrease sleep (Rosen *et al*, 2016) ^[25] and attention deficits (Murdock 2013) ^[22]. The reason may be the awakening of late night due to using smartphone that disturbs sleep pattern. Consequently decreased sleep was more commonly found in smart phone users. Acharya *et al* (2013) ^[1, 2] explored in their Study that excessive use of smart phone develop headache (51.47%), irritability (50.79%) and anxiety (38.5%) in users. They found headache (51.47%) as the most common symptom of overuse of smart phone. Attractive features of smartphone reinforce people to involve with it that promote some physical problems such as thumb pain, body aches and eye strain (Acharya *et al* 2013) ^[1, 2]. Addiction of smart phone also indorses lack of communication with the people around them. Such people are less connected with their surroundings and do not respect others (Corbett 2009) ^[7]. This is also a negative impact of excessive use of smartphone. In our study it was also found that excessive use of smart phone effect our mental health. Smart phone produces headache,

sleep deprivation, irritation, anxiety and aggression. Thus our study is supported by previous studies done by Rosen *et al* (2016) [25] and Acharya *et al* (2013) [1, 2].

6. Analysis of data

Table 1: relationship between smart phone addiction and mental health

Variables	N	Mean	S.D.	r-value	p-value
Smart phone addiction	150	47.29	7.262	.201*	.013<0.05
Mental health		21.57	6.435		

*correlation is significant at the 0.05 level (2tailed)

Table 1 is an effort to find out the relationship between addiction of smart phone and mental health. The mean value for both the variables has been found 47.29 and 21.57 respectively. The mean score of smart phone addiction showed the higher addiction of smart phone and mean value of mental health indicates poor mental health. The r- value between both the variables was found to be .201 that significantly correlates. It means as the dependence of smart phone increases, the people will lead to have poorer mental health.

Table 2: relationship between simple phone addiction and mental health

Variables	N	Mean	S.D.	r-value	p-value
Simple phone addiction	150	45.27	11.337	.117	.153> 0.05
Mental health		18.20	4.665		

Table 2 shows relationship between addiction of simple phone and mental health. The mean value of addiction of simple phone was obtained 45.27 while 18.20 was obtained for mental health evident on the above table. The mean value on simple phone addiction showed that simple phone users have low addiction of phone. On the other hand, obtained low mean score on mental health indicates simple phone users have good mental health. Relationship between both the variable has been found .117 that is insignificantly negative. In a comprehensive way, we can state that less addiction of phone leads the people to have good mental health.

Table 3: Difference between the smart phone users and simple phone users on mental health

Groups	Variable	N	Mean	S.D.	t-value	df	p-value
Smart phone users	Mental health	150q	21.57	6.435	6.432	149	.000<0.05
Simple phone users		150	18.20	4.665			

In table -3 comparison was done between smart phone users and simple phone users. In smart phone users and simple phone users mean score was found to be 21.57 and 18.20 respectively. It demonstrates that smart phone users scored higher in comparison to simple phone users. Comprehensively we can state that smart phone users have poorer mental health than simple phone users with the t-value 6.432 that is significant at 0.05 level of critical ratio. It means both the groups of phone users are significantly differ on mental health.

9. Conclusion

Through the present study, it can be concluded that, simple phone users are less addicted of phone in comparison to the smart phone users. Smart phone users feel themselves more dependent on the smart phone. There was found a negative relationship between the addiction of phone and mental health. The study also revealed that higher addiction of smart phone leads to poor mental health. The notable point in this study is that the simple phone addiction is not higher in users as was found in the smart phone users.

10. Limitations

Obvious limitation of the present study was small sample size. Therefore the result of the study can't be generalized on the whole population. Besides, physical health related issues, family problems and psychosocial problems were not controlled by researcher that is also an important factor to influence one's physical and mental health. Therefore the researchers' plea is for further investigations on the effects of smartphone and simple phone usage on mental health in future so that the more significant results could be obtained in Indian context.

11. Implications

The present study has important implication for the welfare of smartphone users. Smart phone is important for the people of all age group whereas it has some dark sides. One of the most important features is its effects on mental health and physical health as well. From this study we wanted to explore some important negative aspects of smart phone which directly affects its users. Yet it is better to involve smartphone in daily life to fulfil various needs, it has some dark aspects in itself. As earlier studies have found the negative impact on mental health, our study suggests people for limiting the usage of the smart phones. Apart from the poor mental health, smart phones have many obscure short term effects like thumb pain by using smart phone and other generalized aches and pains, electromagnetic radiations emanating from the phones are the cause of various cancers of the human body. Eye strain and any subsequent damage could also be avoided by restricted use. Hence, it was emphasized through the present study that the excessive use of smartphone could be prevented in totality. After knowing this dark side, users may reduce its excessive use and save their mental and physical health.

12. Acknowledgments

We are thankful to Mr. Ajay Dixit, additional district judge U.P. who pointed out the problems of excessive smartphone use and suggested us to conduct the current study.

13. References

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