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## Relationship among smartphone usage, addiction, academic performance and the moderating role of gender: A study of higher education students in India

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### ABSTRACT

Smartphones have penetrated into people's lives at a faster pace in the recent times in India. They are being used for several purposes besides talking and messaging such as live chatting, searching for information, mobile banking and entertainment, etc. The discussions over the smartphone has taken over personal discussions and one to one interactions among people. The usage has become so high that it has turned into addiction in many cases. In this study smartphones's addiction on students academic performance has been measured and the effect of gender and relationship status on smartphone usage and addiction has also been checked. Smartphone usage has been measured with the help of amount of time spent on the phone and monthly bill. A questionnaire was constructed and administered to 429 higher education students in India to check addiction, effect on performance and smartphone usage, along with the main utilities of a smartphone and the demographic profile of the respondents. Results show that the usage is more in the case of females than male students. However the effect on performance is found to be severe in the case of the male students. Apart from behavioural changes female students were found to have hardly any effect of Smartphone addiction on them, unlike the male students who were found to neglect work, feel anxious and lose control of themselves.

### 1. Introduction

Smartphone's have permeated into the lives of Indians at a faster pace in the recent years. India has become the second biggest market surpassing the United States of America(U.S) with more than 220 million users in terms of active users (Pathak, 2015). Irrespective of age, income, gender and place of living, the smartphone has become an important part of an Indian's life. In many cases they are being used as an alternative for computers and in some cases radio and television too (news watching and sports highlights etc.). Some people even prefer smartphone over laptop and personal computers for entertainment, search information, chatting, shopping, online banking, agenda tracking, preparing homework and learning. Smartphone offer people a unique experience and enable them to be online anytime and anywhere (Alan & Eyuboglu, 2012). But there also have been lot of accusations against smartphone, such as student's wasting time and missing studies, avoiding exercises, being unmindful on roads while walking and driving, watching adult contents etc. The later part of the accusations have been linked with people of various age groups and especially the students in the secondary education group who are mostly adolescents. There are accusations that there is a shift from smartphone usage towards smartphone addiction especially among the youth. In fact the communication over the devices has increased to such an extent that it has made an impact on people's personal lives. Meeting personally with people and interacting has been taken over by the virtual mode severely.

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One can understand the vulnerability of the Indian Smartphone users from the fact that over fifty percent of Smartphone users check their devices within 5 min of waking up and Instant messaging (IM) apps and social networks are the first things consumers check on their Smartphone in the morning (Deloitte, 2015). In such a case it becomes necessary to study the impact of Smartphone on the young children and the youth which not only comprise the largest part of the Indian population (almost 40%) but is a highly vulnerable section too.

The concept of addiction is commonly associated with drugs. It is perhaps unsurprising that most official definitions concentrate on drug ingestion. Despite such definitions, there is now a growing movement that views a number of other behaviours as potentially addictive. These include activities as diverse as gambling, overeating, sex, exercise and computer game playing etc. Such diversity has led to new all-encompassing definitions of what constitutes addictive behaviour (Griffiths, 1998). Coventry and Brown (1993) have argued that concept of addiction must not be limited to the ingestion of substances and classified the activity as addiction, if it leads to characteristics such as 1)Saliency: Domination of a person's life by the activity 2)Euphoria: A 'buzz' or a 'high' is derived from the activity 3)Tolerance: The activity has to be undertaken to a progressively greater extent to achieve the same 'buzz' 4)Withdrawal Symptoms: Cessation of the activity leads to the occurrence of unpleasant emotions or physical effects 5)Conflict: The activity leads to conflict with others or self-conflict 6)Relapse and Reinstatement: Resumption of the activity with the same vigour subsequent to attempts to abstain, negative life consequences, and negligence of job, educational or career opportunities (Alavi et al., 2012; Griffiths, 1996).

In some studies Smartphone addiction has been compared with smoking as the latter one offers adult style to adolescents, individuality, sociability, rebellion, peer group bonding and adult aspiration (Charlton & Bates, 2000). In fact according to them both the industries promote their products through self-image and identity. Young smokers as well as mobile phone addicts are risk takers, rule breakers and non-conformist in nature (Cassidy, 2006).

The primary focus of this research study is to study the consequences of Smartphone addiction on the academic performance of higher education school/University students in India. As a part of this study an attempt has been made to study the effect of gender and relationship status on the Smartphone usage. Finally the moderating effect of gender has been studied on the academic performance. The paper can be divided into five major sections starting with the 1)introduction of the study, 2) literature review, 3) survey design methodology and development, 4) data collection and analysis, 5) discussion of the findings, conclusion, limitations and scope for future research.

## 2. Literature review & hypothesis development

The term addiction has been mostly associated with drugs, alcohol, gambling etc. Technology addiction has been recognized since the mid-1990s as a new kind of social problem as the media started paying increasing attention to the idea of computer or internet addiction (Shaw & Black, 2008). Accessed by computer, the Internet provides users with the opportunity to escape from one state of consciousness and visit different worlds of information with all the euphoric mind-bending properties associated with new adventures and problem solving (Shaffer, 1996). With the onset of mobile phones a new kind of addiction was found to be emerging. However, the mobile phone addiction was mostly confined to internet addiction. But in the recent times with the development of scales such as mobile phone problem use scale(MPPUS) by Bianchi and Phillips (2005) and Smartphone addiction scale(SAS) by Kwon et al., (2013), Smart phone addiction scale(SPAS) by Bian and Leung (2014) etc. it was found that mobile phone addicts exhibited similar characteristics as other established addictions. They found that addicts of mobile phones hide their actual use from family and friends; face financial crises because of excessive use of mobile phones; feel preoccupied, anxious, or depressed when out of reception range for some time; continuously fail to control or cut back mobile phone use; and use mobile phones to escape from problems and emergencies(Bian & Leung, 2014).

Javid, Malik, and Gujjar (2011) stated that despite being used extensively for communication, gaining knowledge etc. Smart phones had multiple drawbacks such as, wastage of precious time and money in talking and gossiping on meaningless topics. Researchers, James and Drenn (2005) have reported that university students spend about 1.5–5 h on their smart phones per day. A study on students in Pretoria suggests that mobile phone usage is dependency forming, compulsive and habitual and the researcher suggest that it may be the biggest non-drug addiction the 21st century may be facing (Shambare, Rugimbana, & Zhoua, 2012). In another research Roberts, Yaya, and Manolis (2014) suggest that addiction to one's cell-phone is ultimately an attempt to escape another, more significant problem, such as boredom, low self-esteem, relationship trouble, etc. The common observation of these studies being that Smartphone usage has reached to such levels where people end up neglecting their work, another significant observation of this study.

A study in China showed that the higher one scored on loneliness and shyness counts, the higher the likelihood one would be addicted (Casey, 2012). The effect of change in behaviour due to Smartphone usage was further observed by Hassanzadeh and Rezaei (2011), gave the idea of text-messaging-related compulsive behaviour that causes psychological or behavioural symptoms resulting in negative social outcomes. This was also found true in another study which concluded that, instant Messaging (IM) use among students on a highly Internet connected campus in the US was not only popular among students but led to loss of control over its use (Perry & Lee, 2007). Similar observations were also seen in this study and classified as a major factor of Smartphone addiction namely behavioural changes.

A study in Turkey showed that cyber loafing, which is an act of using internet at work places had a positive effect on Smartphone addiction. Based on the result, the study asserted that students' level of having cyber loafing activities in class environment will increase their tendency to have Smartphone addiction (Gökçearsan, Kuşkaya Mumcu, Haşlaman, & DemiraslanÇevik, 2016). Junco (2012) carried out a study with a big working group, it was found that social network usage and cyber loafing in the form of texting affected academic success (GPA) negatively.

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