Omniscient
(An International Multidisciplinary Peer Reviewed Journal)
Vol 2 Issue 4 Oct-Dec 2024 EISSN: 2583-7575

A Study of Mobile Phone Usage Pattern Among College Students and Its Relationship with Academic Achievement

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Available at https://omniscientmjprujournal.com

Abstract

Smartphone ownership among young adults, especially college-going students, has been consistently elevated. They use their cell phones as a persistent communication technology. In recent years, smartphones have become more powerful by including amazing features. Today's smartphones are providing their users a one-step solution to all their basic needs. Many devices such as watches, cameras, GPS, calculators, diaries, recorders, music players, etc. have been replaced by smartphones. Students use their smartphones as a tool of entertainment, health guide, knowledge hub, social lifeline, and much more. The impact of smartphones on the world is immense as they create another business arena—mobile commerce or m-commerce. Cell phones are an integral part of college life and culture. Even a casual observation of today's college students will reveal cell phones being used, both overtly and covertly, in every possible campus setting, including the classroom. As cell phone technology continues its rapid envelopment, the device appears capable of contributing to student learning and improved academic performance. For example, modern "smartphones" provide students with immediate, portable access to many of the same education-enhancing capabilities as an Internet-connected

Keywords: *Mobile Phone Usage Pattern, Academic Performance, College Students.*

Introduction

With the emergence of the fourth industrial revolution, educational reform utilizing information and communication technology devices has attracted more attention. The smartphone has arisen as one of the most prevalent devices. As smartphone technologies offer powerful functions that can be applied to diverse domains, they have been rapidly assimilated into daily life, including communication and learning.

The use of mobile or cell phones witnessed a quantum surge during the last decade. This was attributed not only to their ease of use and wide outreach, but also to the advanced technology continually adding to their versatile functions and applications. Now the mobile phone applications exceed the basic functions of communication by voice or texting, to a variety of added functions including educational as well as medical purposes.

Nowadays, cell phones have become an integral part of our daily life as well as school life and culture. Even a casual observation of today's school students will reveal the usage of cell phones

both overtly and covertly, in every possible campus setting including the classroom.

Senior Secondary school students frequently use their cell phones during class time despite rules against doing so. As cell phone technology continues its rapid development, the device appears capable of contributing to student learning and immediate, portable access to many of the same education enhancing capabilities as an internet connected computer, such as online information retrieval, file sharing and interacting with professors and fellow students.

Conversely, research suggests that many Senior secondary school students perceive the cell phone primarily as a leisure device and most commonly use cell phones for social networking, surfing the internet, watching videos and playing games in academic settings. (Levine, et al.; 2007. Thus, the potential relationship between cell phone use and academic performance is not clear.

Review of Related Literature

The GSM Association stated that 65% of the world's population uses a smartphone, with North America being in the lead (82%), followed by China (72%) and Europe (70%). Moreover, about 85% of the world's population will use smartphones by 2025 (GSMA, 2022). According to Harris et al. (2020) this scale is internationally used and is one of the most reliable scales regarding consistency (Harris et al., 2020).

Etxebarria et al. (2021) [5] carried out a study on the psychological state of teachers during the covid-19 crisis:the challenge of returning to face-to-face teaching

Statement of the Problem

The proposed investigation is titled as ***"A Study of mobile phone usage pattern among senior secondary students and its relationship with academic performance."***

Operational Definitions

Mobile Phone Usage Pattern: It may be defined as the activities involving using mobile services and includes surfing the Web, making voice calls, sending messages, emails, various downloads, or using mobile phones for gaming etc.

Academic Performance: It refers to the annual scores of the senior secondary students in their school examinations in the previous academic session.

Senior secondary students: It refers to all the students' pursuing arts and science courses at

undergraduate level in regular mode in school affiliated to CBSE BOARD and UP BOARD.

Objectives of the Study

- To compare the mobile phone usage pattern among male and female senior secondary students of arts and science courses.
- To compare the mobile phone usage pattern among English medium and Hindi medium senior secondary male and female students.
- To compare the academic performance of arts and science senior secondary English and Hindi medium students.
- To study the relationship between mobile phone usage pattern, academic performance of senior secondary CBSE board and UP board students.

Hypotheses of the Study

- There is no significant difference between the mobile phone usage pattern among male and female senior secondary arts and science students.
- There is no significant difference between the mobile phone usage pattern among male and female English medium and Hindi medium senior secondary students.
- There is no significant difference between academic performance arts and science senior secondary CBSE board and UP board students.
- There is no significant relationship between mobile phone pattern usage and academic performance of senior secondary students.

Delimitations of the Study

The present investigation will be delimited to the following areas due to constraints of time, manpower and resources:

- The study was delimited to only college students studying in government aided and private colleges of Bareilly district affiliated to M.J.P.Rohilkhand University.
- The study was delimited to only college students pursuing professional and non-professional courses at undergraduate level in regular mode in colleges.
- The study was delimited to around 120 college students (52 male, 68 Female) from government aided 48 (28 Male, 20Female) and private colleges 72 (30 male, 42 female) of Bareilly district affiliated to M.J.P. Rohilkhand University.

Research Method

The present study was based upon individual survey which is a part of the descriptive research method. Descriptive studies are designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible, to draw valid general conclusions from the facts discovered they are restricted not only to fact finding but many often result in the formulation of important principles of knowledge are solution of significant problems concerning local, state, national and international issues the survey method carried out by researcher gathered data from a relatively large number of cases at a particular time. A sample group was carefully selected from the total population.

Research Design

The present investigation adopted the quantitative research design. Quantitative methods emphasize objective measurements and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques. Quantitative research focuses on gathering numerical data and generalizing it across groups of people or to explain a particular phenomenon.

A sampling technique was adopted to collect a sample of college students for the purpose of the present study. In the present study, gender and type of college (government and private) were the independent variables and mobile phone usage pattern college students were the dependent variable. For collecting requisite data, a self-developed questionnaire Mobile phone usage pattern scale was developed by the researcher under the guidance of the research guide, Dr.Sarah Basu. The data was analyzed using various statistical measures variables in MS –EXCEL.

Population

The population refers to any collection of specified groups of human beings or of non-human entities such as objects, educational institutions, time units and geographical areas; prices of wheat or salaries drown individuals. In the present study the population consists of male and female college students studying in colleges of Bareilly district, affiliated to M.J.P.Rohilkhand University.

Sample and Sampling techniques

The selection of suitable sampling technique is vital to the successful completion of a research investigation though no perfect or universally adequate sampling design has yet been desired yet considering limitations of time, and resources, the researcher decided to opt for **stratified random sampling technique**.

Sample Selection

Details of sampling have been provided in Table 3.1

DETAILS	NUMBER OF STUDENTS	PERCENTAGE
MALE	52	45.33
FEMALE	68	56.67
GOVERNMENT	48	40.00
PRIVATE	72	60.00
B.A.	46	38.30
B.SC	33	27.50
BCA	05	04.16
BBA	07	05.83
B.COM	29	24.10

Procedure

The present study was based upon an individual survey carried out by the investigator. The purpose of the study was to assess the ***mobile phone usage pattern among college students and its relationship with academic achievement".***

Since the COVID 19 pandemic has been prevalent across the country since March 2020, the researcher decided to opt for online mode of data collection using GOOGLE FORMS APP. The researcher carried out a digital survey and created the survey using Google Forms App and shared it with all concerned students through WhatsApp to collect their response. The response collected from the students was analysed to complete the survey.

Tool Used

For the present study the researcher decided to utilize the online SNS platform of Whatsapp by

floating the online Google Form in various WhatsApp groups of graduate students. The researcher asked for personal details (name, gender, type of college, and type of course) in addition to various items pertaining to mobile phone usage pattern among college students. The tool Mobile Phone Usage Pattern Questionnaire (MPUPQ) consists of 10 items with multiple options for each item and the respondents have to select any one option.

Data Collection

The researcher used a digital platform to carry out the survey. Survey was created on the Google Forms app and shared to target students through WhatsApp. The survey was opened for response from 25 Feb 2021 to 02 Mar 2021. A total of 128 responses were collected, out of which 8 responses were validated out due to some reason or the other. 120 responses were used for completing the survey. The carefully chosen data response sheets (as received in online mode) were then utilized to fulfill the study objectives.

Interpretation of Data

After collection of data the researcher has to present the collected and statistically treated data in an orderly fashion. In the current chapter, the researcher has presented the findings of the present study in a tabulated form along with the relevant explanations and graphical representation.

Table 4.1

DEMOGRAPHIC PROFILE OF MOBILE USING PATTERNAMONG COLLEGE STUDENTS

DETAILS	NUMBER OF STUDENTS	PERCENTAGE
MALE	52	45.33
FEMALE	68	56.67
GOVERNMENT	48	40.00
PRIVATE	72	60.00
B.A.	46	38.30
B.SC	33	27.50
BCA	05	04.16

BBA	07	05.83
B.COM	29	24.10

Graphically the data presented in Table 4.1 may be depicted as:

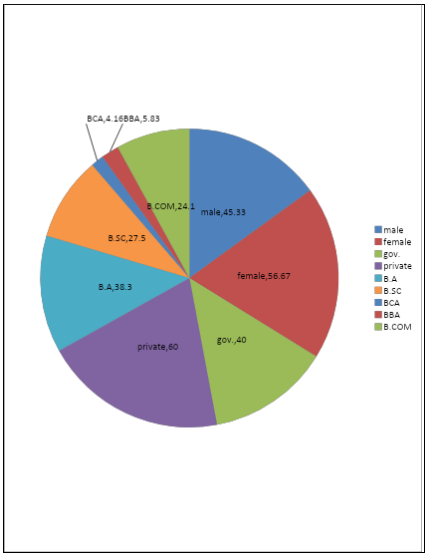

Figure 4.1: Level of mobile phone usage college students

Table 4.2

BUYING PATTERN OF MOBILE PHONE (PURPOSE)

DETAILS	ENTERTAINMENT	STUDY	CONNECTING WITH OTHERS
MALE	21	09	16
FEMALE	17	34	24
GOVERNMENT	02	18	16
PRIVATE	02	26	25
B.A.	01	17	19
B.SC	01	16	08
BCA	01	03	01
BBA	01	07	03
B.COM	03	06	10

The Data presented in Table 4.2 shows that on the question related to **-BUYING PATTERN OF MOBILE PHONE (PURPOSE)**

Graphically the data presented in Table 4.2 may be depicted as:

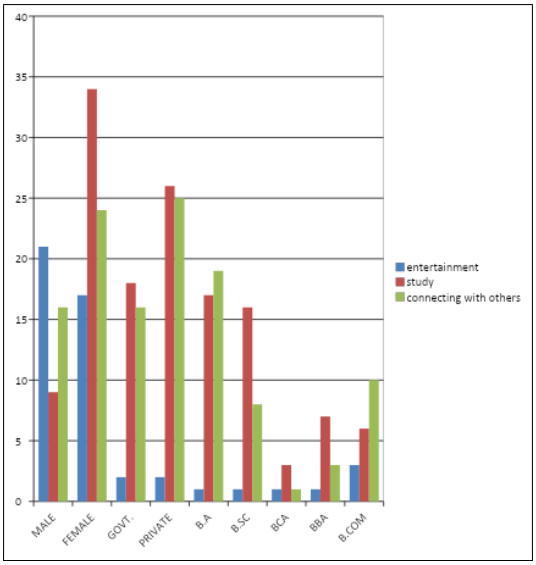

Table 4.3

KEY USAGE PATTERN OF MOBILE PHONE

DETAILS	CONNECTING WITH FRIENDS	ONLINE STUDIES	ENTERTAINMENT
MALE	09	10	05
FEMALE	17	29	09
GOVERNMENT	08	18	05
PRIVATE	18	21	09
B.A.	13	14	06
B.SC	05	11	03
BCA	01	03	00
BBA	02	01	01
B.COM	05	09	04

The Data presented in Table 4.3 shows that on the question related to **KEY USAGE PATTERN OF MOBILE PHONE.**

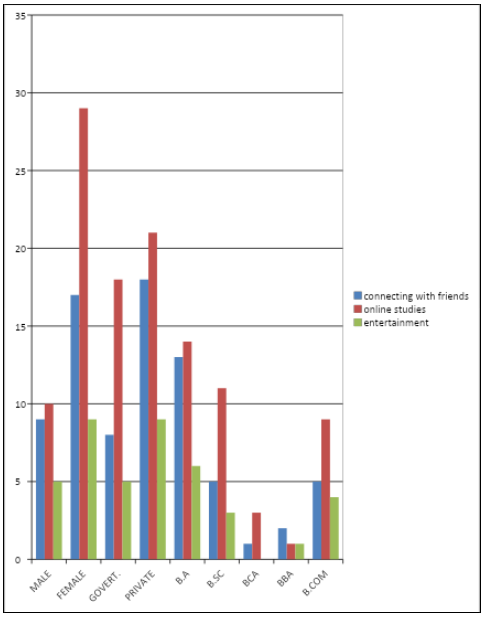

Figure 4.3: Key usage pattern of mobile phone

Table 4.4

DIFFERENT USAGE PATTERN OF MOBILE PHONE

DETAILS	ONLINE SHOPPING	CHECKING BANK ACCOUNTS	FINANCIAL TRANSACTION	PAYING BILLS
MALE	04	05	06	13
FEMALE	28	10	08	14
GOVERNMENT	12	07	03	02
PRIVATE	20	08	11	12
B.A.	14	07	06	05
B.SC	10	03	07	05
BCA	00	00	03	00
BBA	00	00	01	02
B.COM	08	05	01	02

The Data presented in Table 4.4 shows that on the question related to **-DIFFERENT USAGE PATTERN OF MOBILE PHONE.**

Graphically the data presented in Table 4.4 may be depicted as

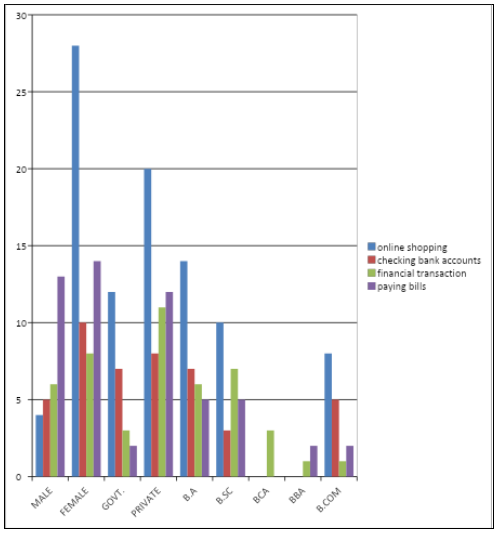

Figure 4.4: Different usage pattern of mobile phone

Table 4.5 STUDENT FEEL MOBILE PHONE USE HAS LED TO ACADEMIC PERFORMANCE

DETAILS	BETTER ACADEMIC PERFORMANCE	POOR ACADEMIC PERFORMANCE
MALE	38	9
FEMALE	64	11
GOVERNMENT	46	6
PRIVATE	56	14
B.A	43	5
B.SC	34	4
BCA	3	1
BBA	4	3
B.COM	17	7

The Data presented in Table 4.5 shows that on the question related to **STUDENT FEEL MOBILE PHONE USE HAS LED TO ACADEMIC PERFORMANCE.**

Graphically the data presented in Table 4.5 may be depicted as

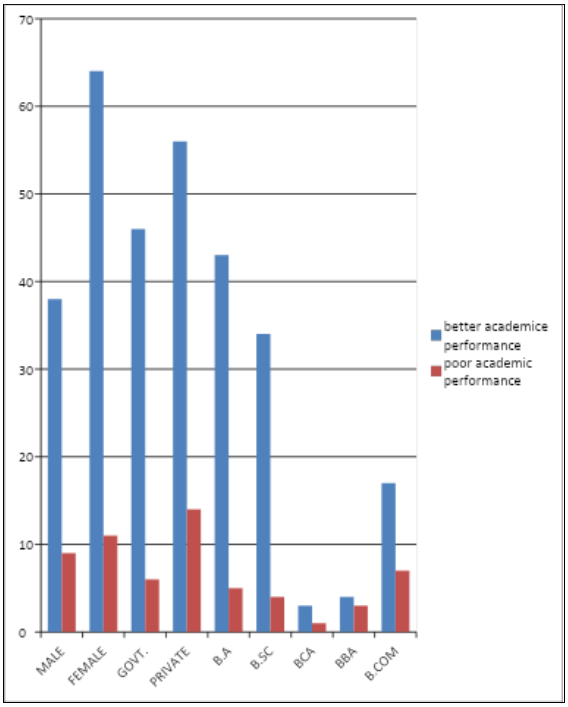

Figure 4.5: Students feel mobile phone use has led to academic performance

Discussion of Findings

We find that the present study has yielded some interesting and educationally significant results regarding the mobile phone usage pattern among college students. The findings of the present investigation may be summarized as follows:

- The majority of college students have above average levels of mobile phone usage (in hours). This indicates that most of the college students, irrespective of the type of college or course, are good in academics.
- There exists a majority difference between the Mobile Phone Usage Pattern considerably higher levels of Mobile Phone Usage Pattern. Hence the first null hypothesis is rejected. The higher mobile phone usage pattern of female high college students could possibly be due to the hard-working and diligent nature of girls as compared to boys.
- There exists no majority difference between the Mobile Phone Usage Pattern of

college students studying in government-aided and private colleges. Hence the second null hypothesis is accepted. One possible reason for this could be that these days, irrespective of the type of college and courses, most college students are opting for mobile phone usage and extra learning for better performance in Mobile Phone Usage since it is considered to be a high scoring subject.

- There exists no majority difference between the Mobile Phone Usage Pattern of College students. Hence the second null hypothesis is accepted. Nowadays, the Mobile Phone Usage Pattern of government college students and private college students is not very different, and this, along with the adoption of Mobile Phone Usage Pattern, could be a factor in almost similar performance of government college students and private college students in Mobile Phone Usage Pattern Scale.
    - There exists a majority difference between the Mobile Phone Usage Pattern of college students from types of courses (B.A, B.SC, BCA, B.COM, and BBA) college students exhibiting considerably higher levels of Mobile Phone Usage Pattern as compared to the type of courses college students. Hence the fourth null hypothesis is rejected. This kind of disparity in the performance of college students from type courses(B.A, B.SC, BCA, B.COM, and BBA) in Mobile Phone Usage Pattern could be due to better learning of college students
    - The Mobile Phone Usage College students are above average. The college students exhibit high levels of fear of the various courses, Mobile Pattern Usage as indicated by scores on the concerned aspect of the Mobile Phone Usage Pattern Questionnaire (MPUPQ), with their performance anxiety a far second.
    - The Mobile Phone Usage Pattern of college school female students is significantly more than that of their male counterparts. The female as well as male college students exhibit high levels of fear of the various courses of college students, Mobile Phone Usage Pattern as indicated by scores on the concerned aspect of the Mobile Phone Usage Pattern questionnaire (MPUPQ), with their anxiety a far second.
    - The Mobile Phone Usage Patterns of College students studying in government-aided and private college students do not differ significantly. The college students perform almost

similarly on both the aspects of the Mobile Phone Usage Pattern questionnaire. (MPUPQ),

- The Mobile Phone Usage Pattern of college students studying in government colleges and private college students does not differ significantly. The college students perform almost similarly on both the aspects of the Mobile Phone Usage Pattern questionnaire (MPUPQ)
- The Mobile Phone Usage Pattern of college students from types of courses is significantly higher than that of the college students from various courses.
- There exists a significant negative correlation between the levels of Mobile Phone Usage Pattern Mobile Phone Usage Pattern Questionnaire. (MPUPQ) among college students.,.

Educational Implications

The rationale for the study was to fill a gap in current knowledge concerning the way that students use smartphones to participate in online courses and to interact with the LMS. Because of the gap in knowledge, which is explained more in Chapter 2, colleges and universities do not have sufficient information to inform the development of approaches to improve accessibility to online courses with smartphones. Consequently, this study may help instructors and information technology staff at colleges and universities by providing information about smartphone use that can lead to improvements or usability changes in the LMS. The findings of the study may also have significance for a more general understanding of the technological factors as well as the specific devices that affect student concentration and commitment to learning. The information may be useful for expanding the role of the smartphone as well as other mobile technologies in online education.

College students are especially heavy users of cell phones and this has implications for learning outcomes at the tertiary level. Institutions will have to place greater importance on using mobile technology resources efficiently to support learning. Research cites a number of common recurring themes regarding students' positive perception of their devices' capabilities in their educational pursuits. They offer more appeal to students with respect to the ease of access to search for information.

Internet connection enables students to use mobile phones as modern tools to collect and acquire

knowledge, which creates further opportunities for learning while attending lectures. Primary benefits are enhanced communication and collaboration, along with greater interaction and increased learning irrespective of time or location.

The rationale for the study was to fill a gap in current knowledge concerning the way that students use smartphones to participate in online courses and to interact with the LMS. Because of the gap in knowledge, which is explained more in, colleges and universities do not have sufficient information to inform the development of approaches to improve accessibility to online courses with smartphones. Consequently, this study may help instructors and information technology staff at colleges and universities by providing information about smartphone use that can lead to improvements or usability changes in the LMS. The findings of the study may also have significance for a more general understanding of the technological factors as well as the specific devices that affect student concentration and commitment to learning. The information may be useful for expanding the role of the smartphone as well as other mobile technologies in online education.

The smartphone has the potential to provide a variety of benefits for learners taking courses online, such as the ability to engage in independent and collaborative learning experiences, the ability to obtain rapid feedback from instructors, and the ability to engage in informal learning at any time.

Moreover, the mere presence of a smartphone (turned off) has been found to have a negative impact on working memory capacity, fluid intelligence, and attentional processes. It has been proposed that this “cognitive interference effect” impairs the ability to voluntarily inhibit high-priority yet task-irrelevant habits such as checking a smartphone.

The present study aimed to contribute to the emerging field of personality characteristics by testing whether individual differences in emotion-related impulsivity traits (positive urgency and negative urgency) moderate the cognitive interference effect of smartphone availability.

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