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RESEARCH ARTICLE

RELATIONSHIP OF USE OF SMARTPHONE WITH ACADEMIC PERFORMANCE OF HIGHER SECONDARY STUDENTS

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Smartphone is a great invention. At present time, smartphone has become an integral and important part of every individual's daily life. The purpose of the study is to find out the relationship between smartphone usage and academic performance of higher secondary students. Descriptive survey method was adopted for the present study. 200 higher secondary students were selected as sample from four schools by applying Purposive sampling technique. Data was collected by administering a structured questionnaire developed by Mukhdoomiet.al.. Data were analyzed by applying Mean, SD, Correlation and Independent Sample t-test with the help of SPSS. On the basis of analysis of data, it was found that there is no significant correlation between smartphone usage and academic performance of higher secondary students. Furthermore, result showed that there is no significant difference of smartphone usage among the students in relation to their gender and locality. The results of this study may help the administrators and policy makers to understand the effect of smartphone usage on students' academic life and may also help them to encourage students to use smartphone towards educative use rather than non-educative use.

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INTRODUCTION

In 21st century cellular phone which is popularly known as smartphone has become an essential part of people's daily life. India ranked second after china in terms of smartphone users in the world. According to Ministry of Information and Broadcasting secretary, India has over 1.2 billion mobile phone users and 600 million smartphone users as on 16th November, 2022. Smartphone provides too many facilities to its users in their daily life. Smartphone has brought the whole world into our finger tip. Young generations are more likely to embrace new technology first. People use smartphone for various purposes like communication, accessing information, education, shopping, healthcare, navigation, gaming, entertainment, business and so on. Students are expected to use smartphone for academic purposes besides calling and texting but there are ample services available in smartphones which lead them to distractions from learning, by engaging them in social media, gaming, chatting, entertainment etc. Lot of researches have been done to see the effect of smartphone usage on students' academic performance. The possible influence of smartphone on education and their effect on learning is still not clear and is a burning field of study (Kukulskahulme, 2007). The possible effects of smartphone use received increasing interest from researchers of different disciplines (Amez and Baert, 2020). Smartphone does not only affect people's personal life, it may also affect individual's academic life. In Indian context, majority of the students starts to own personal smartphone after class X, as there is parental control over the use of smartphone at lower ages.

At present time, majority of students after class X use smartphone, just not only to get in touch with school or teachers, but also they access lots of information through Google and also for different educational purposes. A number of studies have been done to investigate students willingness to incorporate learning with smartphones and majority of the student welcomed the integration of learning with smartphones (Abas, Peng and Mansor, 2009; Hussain, Manap and Krish 2012; Hamar, Embi and Hassan 2013). Norries, Hossain and Soloway (2011) in their research found that when students use smartphone or mobile learning devices during learning, their achievement increases significantly. Woodcock et al. (2012) in their study revealed that smartphones help students to improve their productivity and their learning performance. Kumar (2011) stated that students' learning was improved with the help of smartphone by downloading online lectures and reading from e-books. Aladham and Awad (2017) revealed that mobile phone's use was prevalent among school children and had a positive impact on their school performance. Sumathi et al. (2018) found in their study that academic performance was improved by the proper use of smartphone and also found that addiction to social media is the biggest issue in smartphone usage. Mastrodicasa and Metellus (2013) found that use of social media is not the problem for college students; the problem is the specific use and purpose of social media activities that make difference. Though the above studies found positive impact of smartphone use on students' academic performance but majority of the studies found negative impact. Auckerman (2001) in his research showed that, in Japan 68% of students earned poor grades academically who owned a cell phone.

Lepp, Barkley and Karpinski (2015) identified that, students who daily used cell phone more were likely to get lower GPA than those who used cell phone less. Rajesh and Santhi (2020) in their research reported that overuse of smartphone leads to students' poor academic achievement. Joshua and Ifeani (2018) in their study revealed that smartphone distracts students from their studies. Kibona and Magya (2015) found that smartphone brings negative progression on students' academic performance. Khan et al. (2019) in their research identified that smartphone addiction and students' academic performance has a significant negative relationship. No doubt smartphone brought enormous conveniences in our daily life but from the above researches it can be understood that its improper or overuse may lead to negative consequences, particularly in the students' life, as we know that student life is the proper time to shape the future of any individual. With this background, this study aimed to find out the relationship between smartphone usage and academic performance of higher secondary students.

STATEMENT OF THE PROBLEM

Relationship of Use of Smartphone with Academic Performance of Higher Secondary Students

OBJECTIVES

- To find out the relationship between smartphone usage and academic performance of higher secondary students.
- To find out the difference of smartphone usage between male and female higher secondary students.
- To find out the difference of smartphone usage between rural and urban higher secondary students.

HYPOTHESES

- There is no significant correlation between smartphone usage and academic performance of higher secondary students.
- There is no significant difference of smartphone usage between male and female higher Secondary students.
- There is no significant difference of smartphone usage between rural and urban higher secondary students.

DELIMITATIONS

- The study is confined to only higher secondary students.
- Only 200 samples are taken for the study.
- The study is delimited to Murshidabad district of West Bengal.

METHODS

Descriptive survey method was employed for the present study. Population of the present study was consisted of all the higher secondary students of Murshidabad district of West Bengal. 200 higher secondary students were taken as sample from four different schools by applying purposive sampling technique. Out of 200 students, 82 male, 118 female and 98 students from urban and 102 students were from rural locality. For data collection, researcher used a structured questionnaire developed by Mukhdoomi et.al, 2020. The Questionnaire was based on four dimensions: 1) Interaction Competency 2) Smartphone Self-efficacy 3) Behavioural intention to use Smartphone and 4) Academic performance. The Questionnaire consisted of total 30 questions related to the topic and variables. The items were designed in a five-point liker scale from 1) Strongly Disagree 2) Disagree 3) Neutral to 4) Agree and 5) strongly Agree. There were 25 positive statements and 5 negative statements. For positive statement, score was given as 1 to 5 for the five options, namely, Strongly Disagree, Disagree, Neutral, Agree and strongly Agree and vice-versa for negative statements. So the total range of score lied between 30 and 150. The researcher visited four different higher secondary schools and took permission from principals. At first the researcher took consent from every participant and then explained the procedure to all the respondents on how to fill the

questionnaire and answer the questions. Then the students were asked to submit the filled questionnaire. Thus data were collected from the students of class XI with the help of the above mentioned questionnaire.

RESULTS

Data were analyzed with the help of Mean, Standard deviation, Correlation and t-test with the help of SPSS. Hypotheses were tested by analyzing the data and conclusions were drawn subsequently.

Hypothesis 1: There is no significant correlation between smartphone usage and academic performance of higher secondary students.

Table 1. Showing correlation between smartphone usage and academic performance of higher secondary students

Category	Mean	r	p
Smartphone usage	101.94	.088	.216
Academic performance	75.92		

Note. $p > .05$

From the above table, it is seen that Pearson correlation of smartphone usage and academic achievements was found to be very positively weak and statistically insignificant ($r = .088$, $p > 0.05$). Hence, the null hypothesis is accepted. Therefore, it reveals that smartphone usage has no correlation with academic performance of higher secondary students.

Hypothesis 2: There is no significant difference of smartphone usage between male and female higher Secondary students.

Table2. Showing Mean, SD and t-value of difference of smartphone usage between male and female higher secondary students

Group	N	Mean	SD	t-value	Remarks
Male	82	102.78	9.55	.937	Insignificant
Female	118	101.36	11.23		

An independent sample t-test was employed to compare the difference of smartphone usage between male and female higher secondary students. The above table reveals that the obtained t-value is .937 whereas the tabulated value is 1.96 and 2.58 at 0.05 and 0.01 level of significance respectively. As we can see here that the calculated value is smaller than the table value, hence the framed null hypothesis i.e. "there is no significant difference of smartphone usage between male and female higher Secondary students" is accepted.

Hypothesis 3: There is no significant difference of smartphone usage between rural and urban higher secondary students.

Table 3. Showing Mean, SD and t-value of difference of smartphone usage between rural and urban higher secondary students

Group	N	Mean	SD	t-value	Remarks
Rural	102	101.30	11.67	.871	Insignificant
Urban	98	102.60	9.30		

An independent sample t-test was employed to compare the difference of smartphone usage between rural and urban higher secondary students. The above table reveals that the obtained t-value is .871 whereas the tabulated value is 1.96 and 2.58 at both 0.05 and 0.01 level of significance respectively. As we can see here that the calculated value is smaller than the table value, hence the framed null hypothesis i.e. "there is no significant difference of smartphone usage between rural and urban higher Secondary students" is accepted.

DISCUSSION

Many researches have examined the relation of smartphone use with students' academic performance or achievement and they found both type of results, i.e. positive and negative effect.

In this study, it is found that there is no correlation of smartphone usage with academic performance of higher secondary students. This result is similar with the results of the studies conducted by Raza et al. (2020) and Balalle (2018) who found that there is no relationship between social media and student's achievement. This finding may also be compared with the finding of Celestine and Nonyelum (2018) who said that students' social media activities in their smartphone doesn't have any significant relation with their academic performance. Where some researches revealed that usage of smartphone has positive effect on academic achievement supported by Ifeanyi and Joshua (2018), Norries, Hossain and Soloway (2011), Kumar (2011), Woodcock et al. (2012). On the other hand, some studies found that usage of smartphone has negative effect on academic performance of students. It was supported by the studies of Kour (2018), Gladden (2018), Barkley and Karpinski (2015), and Kibona and Magya (2015).

CONCLUSION

Smartphone is a great and helpful invention. In this present era of technology, we can see smartphone as an important electronic device. Though smartphones have some issues yet they are of great utility. In this 21st century, we can't imagine our life without smartphones. If the students use smartphones properly and with great care for educational purposes, then it will help them to do lot of improvements in their academic performance otherwise it may ruin their future. This study may help the parents, teachers and stakeholders to know about the relationship of smartphone usage with students' academic achievement. Parents and teachers may encourage students for educative use of smartphone instead of non-educative use.

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