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Impact of Mobile Phone Usage on Academic Performance

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ABSTRACT

As cell phone technology continues its rapid development, the device appears capable of contributing to student learning and improved academic performance. The recent rapid increase in cell phones has influenced multiple aspects of our daily lives, particularly those of Students. Therefore, the aims of the current study is to determine the influence of the mobile phone usage on academic performance among male and female students of Jahangirnagar University, Bangladesh. A face to face survey was conducted among 274 students which include 159 male students and 115 female students ranging from second year to fourth year from different departments of Jahangirnagar University, Bangladesh. Results depicts that gender, age and relationship with opposite sex have the significant positive effect on students' academic performance. However, marital status, spending time on mobile phone, negative effect of mobile phone and application usage while studying has the negative effect on students' academic performance. Cell phones are undeniably convenient, helpful tools for study and can be a hurtful source of distraction depending on the attitude and use pattern of a student. The author, however, suggests that the mobile phone designers must take into account how young people use cell phones for educational purposes.

Keywords: Smartphones, Education, CGPA, phone technology, Bangladesh

1. INTRODUCTION

Now-a-days, Cell phones is going to be an integral part of our daily life as well as university life and culture. Even a casual observation of today's university students will reveal cell phones being used, both overtly and covertly, in every possible campus setting, including the classroom. Tindell and Bohlander, (2012) suggests that university students frequently use the cell phone 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 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 computer, such as online information retrieval, file sharing, and interacting with professors and fellow students (Bull and McCormick, 2012; Tao and Yeh, 2013). Conversely, recent research suggests that many university 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 (Lepp, *et al.*, 2013; Lepp, *et al.*, 2015). If typically utilized for leisure rather than education, then cell phones may disrupt learning within academic settings (Levine, *et al.*, 2007). Thus, the potential relationship between cell phone use and academic performance is not clear.

In support of the "cell phone as disrupter" hypothesis, a recent study by Lepp, *et al.*, (2013) found that cell phone use was negatively associated with an objective measure of cardiorespiratory fitness in a sample of typical U.S. university students. However, modern cell phones enable users to access a variety of electronic media at almost any time and any place. Popular activities such as playing video games, surfing the Internet, and monitoring social media sites are now all easily accomplished with most cell phones. Although the cell phone is likely to be on hand while university students are in class and studying, research investigating its relationship to academic performance is limited. Intensive cell phone use was related to school failure as well as other negative behaviors such as smoking and excessive alcohol use. Thus, it is necessary to link each of these activities, independent of cell phone use, to academic performance. Both theoretical perspectives and previous empirical studies suggest that the recent rapid increase in cell phones has influenced multiple aspects of our daily lives, particularly those of Students. Thus, the aims of the current study is to determine the influence of the mobile phone usage on academic performance among male and female students of Jahangirnagar University, Bangladesh.

2. LITERATURE REVIEW

Although the cell phone is likely to be on hand while college students are in class and studying, research investigating its relationship to academic performance is limited. In an early study of the phenomenon, Sánchez-Martínez and Otero (2009) used a combination of self-reported monthly cell phone expenses and frequency of use data to identify intensive cell phone users in a large sample of Spanish high school students. In the study, intensive cell phone use was related to school failure as well as other negative behaviors such as smoking and excessive alcohol use. More recent studies operationalize cell phone use as calling and texting while utilizing a variety of measures for academic performance. For example, Jacobsen and Forste (2011) identified a negative relationship between calling, texting, and self-reported grade point

average (GPA) among university students in the United States. Similarly, Hong, et al., (2012) found that calling and texting were positively correlated with a self-reported measure of academic difficulty among a sample of female, Taiwanese university students. While these studies provide a starting point for understanding the relationship between cell phone use and academic performance, they neither use objective measures of academic performance nor do they take into account the cell phone's expanding capabilities beyond calling and texting.

Modern cell phones enable users to access a variety of electronic media at almost any time and any place. Popular activities such as playing video games, surfing the Internet, and monitoring social media sites are now all easily accomplished with most cell phones. Researchers have linked each of these activities, independent of cell phone use, to academic performance. For example, heavy video game playing has been associated with lower GPAs (Jackson, et al., 2011; Jackson, et al., 2011). Also, low levels of Internet use have been associated with improved academic performance (Chen and Peng, 2008). Chen and Tzeng (2010) found that among heavy Internet users information seeking was associated with better academic performance, while video game playing was associated with lower levels of academic performance. Several recent studies have identified a negative relationship between social-networking site use (e.g., Facebook, MySpace, Twitter) and academic performance (e.g., Rosen, et al., 2013; Stollak, et al., 2011). In particular, Kirschner and Karpinski (2010) demonstrated that Facebook users have a lower self-reported GPA and spend fewer hours per week studying than nonusers. Likewise, Junco (2012a, 2012b) found a strong, negative relationship between time spent on Facebook and actual cumulative GPA. These negative relationships have been found in populations across the world, including North America, Europe, and Asia (e.g., Chen and Tzeng, 2010; Karpinski, et al., 2013).

Recently, multitasking has emerged as a possible explanation for the negative relationship between electronic media use (including cell phone use) and academic performance (Jacobsen and Forste, 2011; Junco and Cotton, 2011; 2012; Karpinski, et al., 2013; Kirschner and Karpinski, 2010; Rosen et al., 2013; Wood, et al., 2012). Indeed, several studies reveal that students frequently report using a variety of electronic media including cell phones while in class, studying, and doing homework (Jacobsen and Forste, 2011; Junco and Cotton, 2012; Sánchez-Martínez and Otero, 2009; Tindell and Bohlander, 2012). Several recent studies, using a variety of methods, identify a negative relationship between multitasking and academic performance. First, Wood et al. (2012) measured the influence of multitasking with an array of electronic media on students' ability to learn from typical, university classroom lectures. Emailing, MSN messaging, and Facebook use via computer were all investigated as was cell phone texting. Results showed that multitasking with any of the technologies was associated with lower scores on follow-up tests compared with students who did not multitask. Second, Junco and Cotton (2012) used a hierarchical regression to determine the power of multitasking to predict actual cumulative college GPA. Results showed that Facebook-multitasking and texting-multitasking were significantly and negatively related to college GPA after controlling for sex, actual high school GPA, time preparing for class, and a student's Internet skills. Finally, Rosen et al. (2013) observed the study behaviors as well as study settings of a sample of middle school, high school, and university students. Participants were observed for 15 min with on-task and off-task behavior recorded every minute. Results showed that participants typically became distracted by media such as Facebook and texting after less than 6 min of studying. Furthermore, measurements of daily Facebook use and daily texting behavior predicted off-task behavior during study periods as well as self-reported GPA.

In review, emerging research suggests that texting, Internet use, email, and social-networking sites such as Facebook can potentially increase multitasking and task-switching during academic activities and decrease academic performance. Notably, all of these previously investigated activities can now be accomplished with a single, Internet-connected cell phone. Therefore, measurements of cell phone use should not be limited to only texting and calling but should take this wide array of activities into account. Furthermore, and in consideration of the ubiquity of the cell phone, the relationship between this expanded definition of cell phone use and academic performance warrants investigation.

3. METHODOLOGY

A face to face survey was conducted in Jahangirnagar University students of second year to fourth year from different departments. The survey was administered among 274 students which include 159 male students and 115 female students. The nonprobability sampling (Convenience sampling) technique has been used to select the respondents from different departments at Jahangirnagar University. The departments are heterogeneous in nature in terms of infrastructure, teaching, student strength and other amenities.

4. RESULTS AND DISCUSSION

This following Table 1 illustrates the frequency distribution of the demographic characteristics of the respondents. Among the 274 respondents, there are 58% were male and most of the students are unmarried (91.2%). However, approximately half of the single students having relationships with opposite sex.

Table 1. Frequency Distribution of the Demographic Variables of the Respondents.

Sex of respondent	Frequency	Percent	Name of department	Frequency	Percent
Male	159	58.0	Statistics	21	7.7
Female	115	42.0	Environmental Science	17	6.2
Total	274	100.0	Mathematics	19	6.9
Marital Status			Computer Science & Engineering	19	6.9
Single	250	91.2	Geological Science	21	7.7
Married	24	8.8	Chemistry	17	6.2
Total	274	100.0	Physics	16	5.8
If single, have you any relationship			Marketing	11	4.0
Yes	128	46.7	Accounting	9	3.3
No	146	53.3	International Relation	8	2.9

Sex of respondent	Frequency	Percent	Name of department	Frequency	Percent
Total	274	100.0	Archaeology	6	2.2
Academic year			Journalism and media studies	9	3.3
First Year	10	3.6	Economics	12	4.4
Second Year	133	48.5	Drama and dramatics	5	1.8
Third Year	45	16.4	Management	12	4.4
Fourth Year	70	25.5	Finance and banking	8	2.9
Masters	16	5.8	IBA	7	2.6
Total	274	100.0	IIT	7	2.6
Age			Pharmacy	6	2.2
Average	21.8		Anthropology	6	2.2
Standard deviation	1.505		URP	7	2.6
Minimum	18		Law & Justice	8	2.9
Maximum	26		Microbiology	7	2.6
			English	6	2.2
			Public health and informatics	10	3.6
			Total	274	100.0

The average age of the students are approximately 22 years with standard deviation 1.5 years and having minimum age 18 years and maximum 26 years. About half of the students from second year and close to 5% students from master’s program. Among the existing departments we are able to collect data from twenty five departments.

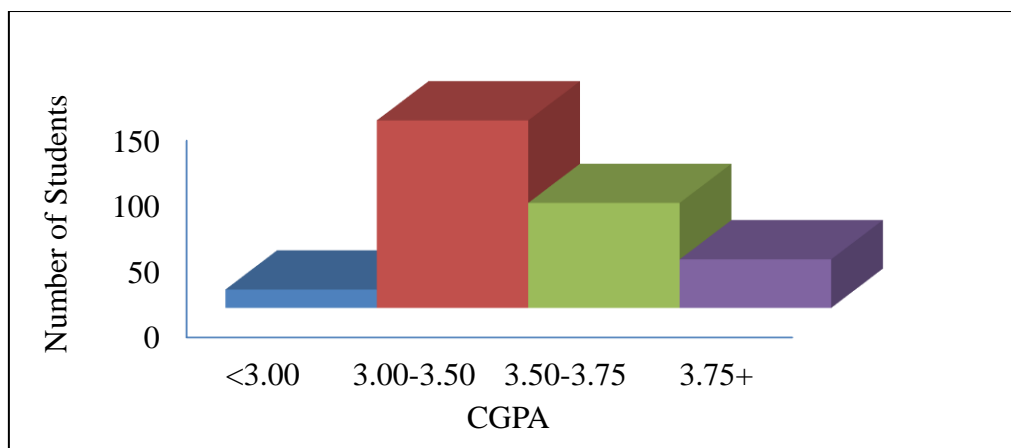


Figure 1. Histogram of results of the Respondents

It can be seen that, the highest number of student's results lies between 3.00 and 3.50 (52.2%). Only, 5 percent students having Cumulative Grade Point Average (CGPA) below 3.00. However, the second highest respondent's results are within the range 3.50 to 3.75.

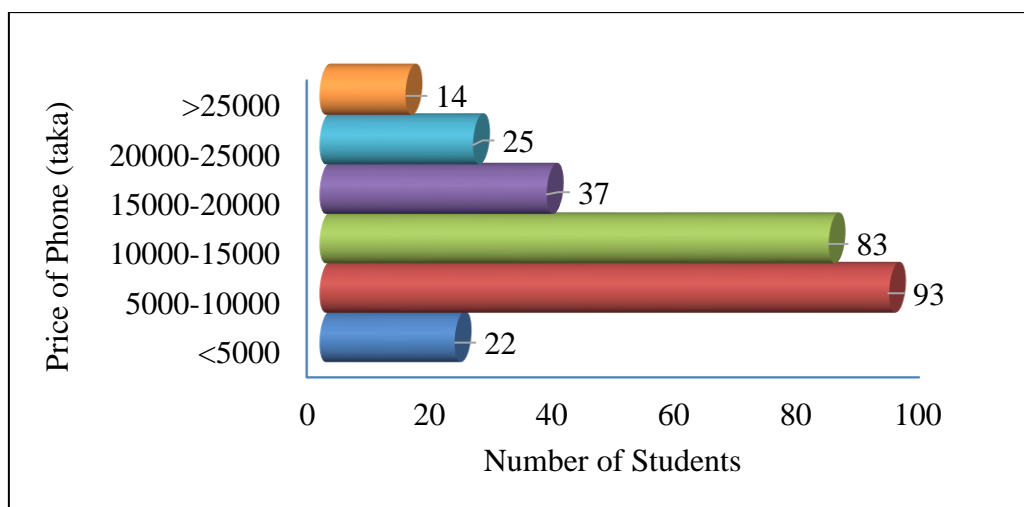


Figure 2. Histogram of price of phone used by the Respondents

Figure 2 depicts that approximately 65 percent phone's price used by the student's lies between five to fifteen thousand taka (Taka is the currency of Bangladesh). Only a few students use phone whose price are less than five thousand and more than twenty five thousand taka.

Table 2. Frequency distribution of the time and amount spend on mobile phone

Spend on mobile phone (Taka)	Frequency	Percent	Time spend of phone in a week (hours)	Frequency	Percent
<200	53	19.3	<10	22	8.0
200-300	60	21.9	10-20	77	28.1
300-400	44	16.1	20-30	91	33.2
400-500	53	19.3	30-40	49	17.9
500+	64	23.4	40-50	20	7.3
Total	274	100.0	50+	15	5.5
			Total	274	100.0

The frequency distribution given in Table 2 shows the expenditure pattern and time spend on mobile phone in a week of the respondents. The lowest and highest expenditure are 50 and

2000 taka respectively. However, for all categories the percentage is almost same. While most of the students spend more than ten but less than forty hours in a weeks on mobile phone. Only a few students spend more than forty hours on phone in a week.

The impact of mobile phone on student learning is examined in a 5 point Likert scale. Majority (32.5%) of respondents says that the frequent use of mobile phone sometimes interferes their learning whereas 36.5% are of the agreement that it also assists them in learning sometimes. However, about 75% of the respondents are of the opinion that the calls/messages received just before class impact on their ability to concentrate and 5.8% said it happens to them always. Also, 36.9% said that the uses of mobile during their study time distract them sometimes and approximately 83% said it also assists them in learning. The results revealed that a small portion of the respondents give a opinion against the use of mobile phone on learning and their study.

Table 3. Impact of mobile phone use on learning.

Variables		Never	Seldom	Sometimes	Often	Always	Total
How often does the use of Mobile Phone in class interfere your learning?	n	51	62	89	48	24	274
	%	18.6	22.6	32.5	17.5	8.8	100.0
How often does the use of Mobile Phone in class assist your learning?	n	21	49	100	84	20	274
	%	7.7	17.9	36.5	30.7	7.3	100.0
How often do the calls/messages received just before class impact on your ability to concentrate?	n	65	71	80	42	16	274
	%	23.7	25.9	29.2	15.3	5.8	100.0
How often does the use of Mobile Phone during your study time distract you?	n	31	56	101	59	27	274
	%	11.3	20.4	36.9	21.5	9.9	100.0
How often does the use of Mobile Phone during your study time assist you in learning?	n	18	34	85	82	55	274
	%	6.6	12.4	31.0	29.9	20.1	100.0

N.B. Second row of each variable indicate percentage.

Mobile phone is also helpful for the students for exchanging of useful information with their classmates about their studies. Students use this fascinating magic device also in a very better way. Some of the studies proved that this technology has increased the academic performance. In this context the study tried to find out the positive effects on learning achievements of youth. A majority (60%) agreed that they can easily contact the teachers for study purposes and 10.2% strongly agreed that they contact the teachers for this purpose. Also, more than 80% of respondents agreed that they can easily contact their classmates for help in studies. However, about 66% agreed that their academic performance has been increased due

to mobile technology whereas about a quarter of the respondent disagreed. Moreover, more than 60% agreed that mobile phone has helped to increase the level of quality of education whereas 28.1% disagreed. Majority (more than 80%) of the students use it as dictionary/thesaurus/calculator in Classrooms and about 15% disagreed with this statement.

Table 4. Positive effects of mobile phone on learning achievements.

Variables		Can't say	Strongly Disagree	Disagree	Strongly Agree	Agree	Total
I can easily contact the teachers for study purposes	n	42	31	37	28	136	274
	%	15.3	11.3	13.5	10.2	49.6	100
I can easily contact classmates to get help in studies	n	1	13	32	124	104	274
	%	.4	4.7	11.7	45.3	38.0	100
My academic performance has been increased due to mobile technology	n	24	21	49	53	127	274
	%	8.8	7.7	17.9	19.3	46.4	100
The Mobile Phone has helped to improve the level of the quality of education	n	22	17	60	56	119	274
	%	8.0	6.2	21.9	20.4	43.4	100
The teacher uses mobile phone in the Classroom	n	24	38	85	44	83	274
	%	8.8	13.9	31.0	16.1	30.3	100
Students use dictionary/thesaurus/calculator of mobile phone in classes	n	9	10	32	87	136	274
	%	3.3	3.6	11.7	31.8	49.6	100

A majority (33.2%) is disagree that they keep their mobile phones on and the ring tone disturbs the class whereas around 30% of the students agree with the statement. Also, more than 70% students disagreed to the statement that they purchased their mobile phone without the permission of their parents, but only a quarter of the respondent agreed it. More than 20% respondents agreed that they send missed calls to class fellows to disturb classes. Again more than 60% students disagreed that they waste their time sending/writing SMS during class work. However, about half of the respondent disagreed that mobile phone has put negative impact on students' moral values. Approximately, 50% of the students agreed that mobile phone is a waste of time for them. Moreover, around 50% students disagreed to use mobile phone in examination hall as a source of unfair means while 40% agreed and 10% of the students say they don't know. More than 35% students agreed to the statement that students tease fellow mates by sending missed calls through unknown members. Furthermore, about 60% students disagree that Mobile phone is responsible for my low academic performance. Given the pervasiveness of cell phones

and the acceptability of their use almost anywhere these days, it's difficult to imagine successfully enforcing almost any policy in the classroom and still having time left to teach.

Table 5. Negative effects of mobile phone on learning achievements.

Variables		Can't say	Strongly Disagree	Disagree	Strongly Agree	Agree	Total
I keep my mobile phone on and the ring tone disturbs the class	n	15	83	91	16	69	274
	%	5.5	30.3	33.2	5.8	25.2	100.0
I purchased the mobile phone without the permission of the parents	n	11	94	101	31	37	274
	%	4.0	34.3	36.9	11.3	13.5	100.0
I send missed calls to class fellows to disturb the classes	n	12	102	99	24	37	274
	%	4.4	37.2	36.1	8.8	13.5	100.0
I waste my time sending/writing SMS during class work	n	18	62	108	40	46	274
	%	6.6	22.6	39.4	14.6	16.8	100.0
The Mobile Phone has put negative impact on students moral values	n	20	51	85	41	77	274
	%	7.3	18.6	31.0	15.0	28.1	100.0
The mobile phone is a waste of time for students	n	17	43	84	47	83	274
	%	6.2	15.7	30.7	17.2	30.3	100.0
The students use mobile phone in examination hall as a source of unfair means	n	29	53	84	40	68	274
	%	10.6	19.3	30.7	14.6	24.8	100.0
Students tease the fellow mates by sending missed calls through unknown members	n	31	46	95	42	60	274
	%	11.3	16.8	34.7	15.3	21.9	100.0
Mobile phone is responsible for my low academic performance	n	23	53	116	37	45	274
	%	8.4	19.3	42.3	13.5	16.4	100.0

The majority of the phones (75%) were internet enabled. The majority of respondents with internet enabled cell phones indicated that they visit internet sites during study time. Most of the respondents indicated that they mainly access Google and other text or search engines during study time thereby turning their cell phones into research tools. Some of the sights visited included the dictionary and encyclopedia. Most of the time the respondents who used Google and other search engines for non-educational purposes. Actually, majority of respondents

admitted to accessing social network sites or file sharing sites such as, Facebook, YouTube, etc. during study from time to time or even more frequently. If used correctly, social network sites can be productive and enhance learning. Facebook accounts can allow students and lecturers to share links and ideas, regular blogging which allow students to read and comment on each other's posts making students to become content creators. As noted by Northrup (2001) the rise in students' level of interaction corresponds with high levels of learning leading to improved academic performance. Internet search engines have been accused of conditioning students to expect to be able to find information quickly and easily and hence making them lazy. Young (1996) indicated that college students who use the internet 'excessively' experienced a decline in study habits as they are often distracted. Whilst on the internet students can bump into pornographic sites.

The Study confirmed that the most popular feature used was text messaging. The above table show that more than 80% of the respondents confirmed sending or receiving text messaging during study time. Of the texts messages sent or received, a small proportion of the respondents pointed out that the text messages were for educational purposes, whilst most of them use for non-educational purposes. Multimedia messaging service (MMS) was one of the least used applications with 45.6% respondents indicating that they never used the application. The respondents indicated that education related SMS messages were mainly on asking for titles of texts, definitions, information on missed lectures and for seeking clarification on concepts. Most of the messages sent or received are written in short hand or abbreviated form. The use of short hand has been related to negatively affecting spelling and grammar proficiency as evidenced from the use of abbreviated words, incorrect subject-verb agreement and misspellings in assignments and examinations. Geertsema, *et al.*, (2011) however disagrees with the negative effects of text messaging by pointing out that there is a stronger causal relationship between the abbreviations and literacy skills meaning that text messaging gives exposure to the written words which relates to higher literary attainment. Short text messages can be written easily even with 'predictive text' providing timely reminders and students can also use SMS innovative games, pop quizzes to become aware of current events for classroom discussion. Students can also learn languages, literature and writing through language games such as crosswords and Tetris like word puzzles. Cell phones also provide an incentive for university students to use their literacy skills in their native languages whilst educators dismiss cell phone's instant messaging as distracting during study because of non-educational texting and compulsive checking of the cell phone for messages, even a window could be a distraction to an unmotivated student. Texting provides inventive methods that facilitates collaborative learning and continued conversation despite the physical location thereby creating common interpretations and shared understanding. The results show that not all texting has a negative effect.

The results show that students receive and make calls during study since all respondents pointed out that they do not switch off their cell phones when studying. Over 70% indicated that they at some point during study make or receive calls. Most of the time of the calls made or received during study were non-educational purposes, pointing out at how cell phones can be distracting whilst studying. The results also confirmed Junco, *et al.*, (2010) findings. The results show that respondents were less likely to make a call than to send a message. The students also indicated that they checked their cell phones several times when studying more than three times in an hour anticipating a call, message or email even if the cell phone is on vibrate and in a case of network inaccessibility or phone malfunction, most of them said they

would be very upset and stressed. The results indicate that voice calls can be used to share educational information but there is need to promote cell phone etiquette as students should understand some simple etiquette of when to turn off cell phones and when not to answer cell phones.

Table 6. Respondents cell phone application usage while studying.

Applications		Never	Rarely	Often	Always	No response	Total
Internet	n	9	27	62	146	30	274
	%	3.3	9.9	22.6	53.3	10.9	100.0
Text messaging (SMS)	n	22	49	83	102	18	274
	%	8.0	17.9	30.3	37.2	6.6	100.0
Voice calls	n	50	56	49	101	18	274
	%	18.2	20.4	17.9	36.9	6.6	100.0
Multi Media Messaging (MMS)	n	125	53	41	34	21	274
	%	45.6	19.3	15.0	12.4	7.7	100.0
Camera	n	48	72	57	79	18	274
	%	17.5	26.3	20.8	28.8	6.6	100.0
Video recording	n	99	69	42	42	22	274
	%	36.1	25.2	15.3	15.3	8.0	100.0
Calendar	n	32	69	67	78	28	274
	%	11.7	25.2	24.5	28.5	10.2	100.0
Calculator	n	17	45	69	105	38	274
	%	6.2	16.4	25.2	38.3	13.9	100.0
Clock	n	19	32	54	133	36	274
	%	6.9	11.7	19.7	48.5	13.1	100.0
Games	n	58	57	66	69	24	274
	%	21.2	20.8	24.1	25.2	8.8	100.0
Organizer	n	87	75	51	39	22	274
	%	31.8	27.4	18.6	14.2	8.0	100.0

Applications		Never	Rarely	Often	Always	No response	Total
Radio	n	113	65	45	32	19	274
	%	41.2	23.7	16.4	11.7	6.9	100.0
Audio Recording	n	125	64	36	31	18	274
	%	45.6	23.4	13.1	11.3	6.6	100.0

Generally a few respondents indicated using the camera and video recording application on their cell phones for educational purposes. However, the students use camera just to take a photo of assignment, class lectures, etc. for educational purpose. Despite the educational benefits of cameras and video recording, some of the respondents indicated using the camera for sending lewd photographs which can be distracting during study. Camera and video recording applications can become tools for data collection and documentation. For example, the camera and video recording application can be used to take appropriate pictures say in economic history, archaeology which can then be published on the internet whilst creative photos can inspire students' creative writing. Although a cell phone is a sound based technical device, 60% of the respondents rarely or never use this application and it was actually surprising that the respondents use the camera more than voice recording. The few respondents that use this application to record lectures for their friends who would have missed classes and to record important topics they feel are important or central such as examination revision classes.

The results show that more than half of the respondent play games on their cell phones during class time. Of the few respondents who play games during class the majority were male students. While literature is replete with the distracting effects of games, various features in games can help students to develop problem solving and critical thinking skills. The rules of the games notify contestants presenting the ways to play in order to win thereby instilling structural expertise. Playing to win demonstrates to students the need to continuously strive to come out on top.

The respondents indicated that they rarely use calculators and this might be attributed to the fact that as Arts students they rarely make any calculations. About 60% who use calculators may use them to calculate coursework marks and more than 50% of the respondents at least use the calendar to check on assignment due dates and tutorials dates. Scheduling and calendar applications are useful to the respondents as they can increase an individual's organizational skills and regulative or self-directed learning ability.

All the respondents confirmed using the clock application when studying to regulate their study time. The highest positive correlation (0.219) is observed between time spend of phone and amount of expenditure on phone.

The negative correlation (-0.259) is observed between age and spending time on mobile phone. It is observed that the correlation between spending time on phone and the students having relation is positive which indicates those students are in relation spend more time on phone to communicate each other. Some of the correlation are statistically significant at 5% and 10% level of significant.

Table 7. Correlation among different variables.

	Sex	Age (in years)	Marital status	Having relationship	Result (CGPA)	Time spend on phone (In week)	Amount spend on phone (in month)	Positive effect	Negative effect
Sex	1								
Age (in years)	-.113	1							
Marital status	.207**	.016	1						
Having relationship	.040	-.057	.187**	1					
Result (CGPA)	.051	-.040	.017	-.020	1				
Time spend on phone (In week)	.144*	-.259*	.037	-.003	.035	1			
Amount spend on phone (in month)	.047	-.002	.131*	-.134*	.056	.219**	1		
Positive effect	-.144*	-.048	-.022	.103	-.025	-.004	.011	1	
Negative effect	.044	-.067	-.014	.060	.066	-.038	-.138*	.207**	1
** . Correlation is significant at the 0.01 level (2-tailed), * . Correlation is significant at the 0.05 level (2-tailed).									

The results of multiple regression are given in Table 8. Here, results considered as the dependent variable and different demographic and variables related to mobile phone as independent variables. From the Table 8, it is observed that the value of R^2 is 0.60996 which indicates that 60.99% of the variation in results can be expressed by the independent variables considered in this study.

From the results presented in Table 8, it can be seen that, all variables except marital status are statistically significant at 5% level of significance. It may be conclude that gender, age and relationship with opposite sex have the positive effect on students' academic performance. However, marital status, spending time on mobile phone, negative effect of mobile phone and application usage when studying has the negative effect on students' academic performance.

Table 8. Results of Multiple Regressions

Variables	Coefficients	Std. Error	t	p-value	Summary Results
(Constant)	2.49	0.446	5.582	0.000	R Square: 0.60996; Adjusted R Square = 0.57718; Durbin-Watson = 1.622
Gender	0.058	0.015	3.946	0.000	
Age (in years)	0.039	0.018	2.167	0.032	
Marital status	-0.012	0.011	-1.101	0.273	
Relationship	0.029	0.008	3.452	0.001	
Spending time of mobile phone (in week)	-0.021	0.008	-2.598	0.010	
Positive effect of mobile phone	0.025	0.004	6.944	0.000	
Negative effect of mobile phone	-0.024	0.008	-3.077	0.003	
Application usage when studying	-0.022	0.010	-2.268	0.025	

5. CONCLUSIONS

Cell phones are an integral part of our daily life as well as university life and culture. Even a casual observation of today’s university 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 development, 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 computer, such as online information retrieval, file sharing, and interacting with professors and fellow students. The results show that a cell phone is a very important tool for study as most of the respondents used their phones for study purposes. Cell phones are increasingly one of the most popular information access devices and what stands out from the study is the high use of interactive, multiuser functions which can at times be disruptive or beneficial during study. In essence, the study revealed that cell phones are beneficial for learning but learners have a tendency to abuse them. Higher institutions can take advantage of the potential and capitalize on the cell phone for educational purposes because of the intrinsic motivation of university students in wanting to communicate amongst themselves. Findings of the study also show that mobile phone designers must take into account how young people use cell phones for educational purposes. The presence of cell phones presents a host of options and challenges for today’s students. Cell phones are undeniably convenient, helpful tools for study and can be a hurtful source of distraction depending on the attitude and use pattern of a student.

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