

Problematic Mobile Phone Use, Academic Procrastination and Academic Performance of College Students

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Abstract

The article examined the relationship among Problematic Mobile Phone (PMP) usage, academic procrastination and academic performance among college students. The terms PMP and academic procrastination both are defined as an excessive usage of mobile phone by ignoring time and all other assignments, and delay in educational assignments and all other academic activities till the deadline respectively. Cross-sectional correlational research design was used for sampling of college students (N= 200) of age 17 to 25 years. PMP questionnaire (Billieux, 2008) and General Procrastination Scale (Lay, 1986) were adopted to collect the data from students. Pearson Product Moment correlation and hierarchical regression analysis was used to analyze data through SPSS. The results revealed that excessive usage of mobile phone is associated with a poorer performance of students in academics. It was found that academic performance is high among male students as compare to female college students. Another finding revealed that academic procrastination and PMP was significantly high among college students studying in annual system and academic performance was significantly high studying in semester system. Moreover, PMP use and academic procrastination in their combined effects did not emerge as significant predictors of academic performance among college students.

Keywords: Problematic-mobile-phone use, Academic procrastination, Academic performance, College students, Technology Usage and academia

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Introduction

The purpose of the study was to explore the effects of excessive usage of mobile phones on academic procrastination and academic performance among college students. Generally, it is observed that students look crazy in using mobiles, ignoring its worst effects on their academic record. Problematic mobile phone utilization has been defined as the deviant usage of mobile phone in terms of time duration and also for the type of content that is consumed through mobile phone. This behavior has been construed as the compulsion which leads its users to feel bound and impulsively consume it, mimicking the effects of addiction. Thus, the time duration as well as the nature of content used through mobile phones somehow, makes it problematic (Beranuy, Oberst, Carbonell, & Chamarro, 2009).

Problematic-mobile-phone use is to be held with painstaking concerns by academicians and parents since this leads to wide array of psychological issues of grave nature. There have been some western empirical studies elaborating that compulsive usage of mobile phones cause significant worry, distress, demotivation patterns, low self-esteem, depression, and unhealthy lifestyle practices. These unhealthy practices are further elaborated as disordered eating, irregular and unhealthy sleep patterns, meal-skipping, innumerable intriguing sexual neurotic accomplices, poorer relaxation propensities, smoking, and illegitimate drug utilization (Ezoe, Toda, Yoshimura, Naritomi, Den, & Morimoto, 2009).

There have been some significant studies on problematic mobile-phone use. One such study by Jumoke, Oloruntoba and Blessing (2015) explored that mobile phone use was significantly and negatively related to academic performance of the students. Their findings highlighted that academic performance of the students usually gets impaired due to excessive internet usage through mobile phones.

With advent of technological enrichment, the compulsion of using Wi-Fi/ internet-equipped mobile phone has become one of the pivotal behavioral addiction among people and somehow looms large as significant non-drug addictions pattern. Compulsive Mobile phone usage involves behavioral urges to use the mobile at the cost of one's ease, comfort and these hankering patterns of usage are compulsive in nature, demanding from its user to habitually and frequently indulge into them. Compulsive mobile-phone sufferers have to face alienation, confused and deluded status of reality, social isolation/ asocial patterns and financial and time losses (Ahmed, Qazi, & Perji, 2011) yet the fact stays eminent that behavior addiction of these sorts have so far not been made a part of any behavior disorders' classification system (Choliz, 2010).

Mobile phone dependent internet usage has become much more indispensable among youth as there are various applications introduced, which are needed to function in daily life such as educational, commutation and health apps (Nurullah, 2009). There are newer avenues of socialization that have been introduced due to this. Majority of the

undergraduate students like to correspond with their friends through Social Networking Sites (SNS) based apps. No doubt, mobile phone utilization is a preferred means of communication among college students; though this has been commonly being observed that this has taken the form of nuisance when its usage start turning into an impediment in their functional lives. Most of college students get distracted and their studies adversely get affected. They start indulging into tardiness, diversion, report lack of concentration and are found to have poor physical and psychological functioning due to lack of sleep (Massimini & Peterson, 2009). A study by Lepp, Barkley, and Karpinski (2015) exposed the association between compulsive mobile phone usage and academic performance among college students. They found that compulsive mobile phone use was significantly and negatively related to academic performance of the college students.

Milgram, Tal, and Levinson (1998) define procrastination as when students intentionally or unintentionally postpone their academic tasks till the last minute without bothering any distress or inconvenience they may face in return. Steel (2007) revealed that procrastination is the unnecessary delay of any decided task or assignment by the students without considering the multifacet negative consequences of their acts. Tan, Ang, Yeo, Wong, Huan, and Chong, (2008) intended to investigate the relationship between academic procrastination of the students and grade goals that they attain. Their findings revealed that grade goals were significantly and negatively related to academic procrastination of the students.

Academic procrastination has affective component. In accordance to this perspective, procrastination in academia pertains to specific behaviors which result in unpleasant emotional reactions (Solomon & Rothblum, 1984). In another context, the academic procrastination is basically a gap between intention and action (Steel, 2007; Eerde, 2003). On contrary to this, academic procrastination is considered to be the purposeful delay of the academic tasks, that have been adopted by the students and which are considered as beneficial to be performed for the student (Chu & Choi, 2005). According to this perspective, academic procrastination is considered as maladaptive only when this tends to interfere with the work ability and when this seems to hamper the performance of the college students (Schraw, Wadkins, & Olafson, 2007).

The study of Lakshminarayan, Potdar and Reddy (2012) also established the association of academic procrastination and academic performance among a group of undergraduate dental students. The findings from their empirical work divulged that a significant negative relationship between procrastination and academic performance of the students exist. This implied that higher the scores on procrastination the lower the scores on academic performance was attained by their students.

Knaus (2000) has discussed that not all types of postponement or delays have negative consequences such as the times of delay which enables an individual to gain more comprehensive data and that help in planning the wok with more utility orientated

detailed information. Chu and Choi (2005) have distinguished between two types of procrastination, illustrated as active procrastination and passive procrastination. In active procrastination, an individual is capable of acting upon his decisions within the appropriate time but they delay their work intentionally to complete other important tasks, while, passive procrastination is a kind of conventional and negative procrastination, in which, the procrastinators do not delay their work deliberately but they are unable to make decisions or to work quickly and usually complete their tasks with postponement (Chu & Choi, 2005).

Steel (2007) has categorized task characteristics, individual differences, outcomes and demographic characteristics as four major reasons and correlates of procrastination. Task characteristics include environmental factors that may cause procrastination, individual differences deal with personality traits, outcomes include proximal effects and demographics deal with physical mediators (Steel, 2007). Academic performance is learning level of any student in a subject, which can be assessed by exams, tests, on the basis of information, skills, logic and reasoning of a student have. It can be measured in the terms of marks, percentage and GPA. Tuckman (1975) has described that academic performance can be defined as “the observable manifestation of knowledge, concepts and understanding of ideas” (Bourne, 2005).

The attainment of specific evaluations on examination also demonstrates the student’s capacity, mastery over knowledge and aptitudes in applying obtained information to specific circumstances. A student's prosperity is for most of the time, evaluated and judged on the basis of one’s examination performance. Students’ achievement on examination is a conclusive marker in establishing whether a student has earned benefit from a course of study or has just made the futile efforts in gaining its benefits. The researchers accept that real academic execution ought to include an examination of the overall aggregate that implies that the examination should include a person’s academic capacity and aptitudes in carrying out practical implications (Bourne, 2005).

Performance cannot be explained by a single model that will be applicable to all, at all stages of education. In all places, this may become pertinent to develop models that are subject-specific, locale specific and even the client-specific (Wani, 2013). In this convention, the practical implications of knowledge may be known as performance (Shahid, 2008). Moreover, the learner’ characteristics are very important in showing good performance (Pungello, Kuprsmi, Burchinal, & Patterson, 1996).

In the light of above cross examination, this research aims to examine the compulsive mobile-phone usage, academic procrastination and academic performance of college students. This rigorous empirical and theoretical review leads to derive the targeted objectives of the current investigation. The core objective of the study was to examine; how does Problematic-mobile-phone use, academic procrastination, Academic

stress and academic performance of College Students are interrelated? Another purpose was to shed light on the intricate and intriguing effects of an increased use of mobile phones in college students and to establish whether this causes higher academic stress and poorer academic performance in college.

Hypotheses of the Study

Following hypotheses were condensed from these objectives.

1. There is likely to be a significant relationship between problematic-mobile-phone use, academic procrastination and academic performance among college students.
2. Problematic-mobile-phone use and academic procrastination are likely to predict academic performance among college students.
3. There is likely to be a significant gender difference among problematic-mobile-phone use, academic procrastination and academic performance among college students.
4. There is likely to be a significant difference among problematic-mobile-phone use, academic procrastination and academic performance among college students studying in annual as compared to those studying in semester system.

Methodology

Research Design

This research was designed through cross sectional, correlational research design.

Sample of the Study

A sample of 200 college students (males= 100, females=100) was selected conveniently from different government colleges of Lahore, age ranges between 17 to 25 years ($M= 20.98$, $SD= 1.76$). None of them belonged to sound income group, termed as middle-class income group and had been using mobile phones at least from past two years or so. Another prerequisite criterion was to keep into consideration that they had regular Wi-Fi/internet usage through their smart phone. The sample was using Wi-Fi for different purposes such as for academics (74%), for socialization (88%), for playing games (65%), for information and current affairs (25%), for music and movies (82%) and for general purpose usage such as for following the news streams etc. (73%). This was ascertained from the sample before their inclusion into final target sample set that the average usage time for mobile phone based internet was at least three hours or more on daily basis for each of the students.

Instruments of the Study

The following assessment tools were used in the present study:

Demographic information questionnaire. Demographic Information Questionnaire (DIQ) comprised of different questions. It included information about gender, age, education, education system, possession of mobile phone, etc.

Problematic-mobile-phone use questionnaire (PMPUQ; Billieux, 2008). PMPUQ consists of 30 items out of which 19 items i.e. item no. 3, 4, 6, 9, 10, 13, 14, 15, 16, 17, 18, 20, 23, 24, 26, 27, 28, 29, and 30 are reverse coded. Each statement is a 4-point Likert scale, ranging from strongly disagree to strongly agree. PMPUQ measures four factors that are:

1. Dangerous use: It is defined as “the tendency to use the mobile phone while driving”. It consists of five items i.e., item no. 4, 11, 16, 23 and 29.
2. Prohibited use: It is defined as “the tendency to use the mobile phone in banned places”. It consists of five items i.e., item no. 1, 7, 13, 19 and 25.
3. Dependence symptoms: It is based on features of addictive behaviors (e.g., loss of control, occurrence of negative affect in situations or contexts in which the use of the mobile phone is not possible or allowed). It consists of seven items i.e., item no. 2, 6, 8, 10, 17, 22 and 27.
4. Financial problems: It reflects “the extent to which mobile phone use resulted in tangible financial problems”. It consists of thirteen items i.e., item no. 3, 5, 9, 12, 14, 15, 18, 20, 21, 24, 26, 28 and 30.

General procrastination scale (Lay, 1986). General procrastination scale is a self-report measure of procrastination tendencies of students. It is a five-point Likert-type scale ranging from 1-5, where 1 indicates extremely uncharacteristic and 5 indicates extremely characteristic. It has been developed for the student population. On this scale, students indicate their behavioral tendencies to procrastinate regarding beginning and completing the task (Lay, 1986).

It gives a sense of tendency to procrastinate by adding the scores on items 1, 2, 5, 7, 9, 10, 12, 16, 17 and 19 and then adding reverse coded items 3, 4, 6, 8, 11, 13, 14, 15, 18 and 20. If the total score comes between 66-91 procrastination may be limiting success and happiness. In literature, the scale has the reliability of 0.70 and in current study it has the reliability of 0.57.

Academic Performance. The academic performance was analyzed through aggregate Percentage/ CGPA of the students from previous two exams.

Data Collection Procedure

The permission for the use of the instruments was taken from the authors through e-mail. Institutional permission was obtained prior contacted to the sample. The consent

was taken from the students regarding their willingness to participate in the research, after explaining them the instructions as well as the nature and purpose of the research. The students were assured of the anonymity and confidentiality of the information they provided. After obtaining written consent, one by one all of the questionnaires were administered on the students. All tools were administered in English language. Total time spent in data collection was two months. The data was analyzed through SPSS. The results were discussed in the light of empirical evidences. The limitations and applications of the study were discussed.

Results

The analysis involved performing descriptive and inferential analysis.

Reliability Analysis

The reliability analysis was carried out for each assessment measure using Cronbach's Alpha. The Problematic-mobile-phone use Questionnaire (PMPUQ) had the reliability 0.97 and General Procrastination Scale had reliability 0.57. The reliability values of the scales were good to carry out further analysis.

Table 1

Descriptive Statistics of Problematic-Mobile-Phone Use Questionnaire and General Procrastination Scale (N=200)

Variables	(k)	M	SD	α	Actual Range		Potential Range	
					Min	Max	Min	Max
PMPUQ	30	84.47	22.82	.91	40	123	30	150
PUF1	5	13.86	4.01	.83	4	20	5	20
PUF2	5	12.96	4.27	.87	5	20	5	20
PUF3	7	20.23	5.52	.90	7	28	7	28
PUF4	13	35.43	10.20	.93	19	54	13	54
GPS	20	61.34	8.01	.57	40	100	20	100

Note: M= Mean, SD= Standard Deviation, PMPUQ= Problematic-mobile-phone use Questionnaire, PUF1= Problematic-mobile-phone use (Dangerous Use), PUF2= Problematic-mobile-phone use (Prohibity Use), PUF3= Problematic-mobile-phone use (Dependence Use), PUF4= Problematic-mobile-phone use (Financial Problems), GPS= General Procrastination Scale.

The results of Pearson Product Moment Correlation analysis are shown in the Table 2.

Table 2

Correlation between Problematic-Mobile-Phone Use, Academic Procrastination and Academic Performance among College Students (N=200)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age		.47**													
2. Edu			.38**												
3. Per				-.51**											
4.AP					.61**										
5.PU						.81**									
6.PUF1							.84**								
7.PUF2								.84**							
8.PUF3									.82**						
9.PUF4										.42**					

Note: *p<.05, **p<.01, AP= Academic Procrastination, PU= Problematic-mobile-phone use, PUF1= Problematic-mobile-phone use (Dangerous Use), PUF2= Problematic-mobile-phone use (Prohibity Use), PUF3= Problematic-mobile-phone use (Dependence Use), PUF4= Problematic-mobile-phone use (Financial Problems), Per= Academic Performance.

Table 2 indicated that there was a significant negative relationship between problematic-mobile-phone use and academic performance of college students. Academic procrastination was significantly negatively related to academic performance of the college students. Furthermore, the table indicated that there was a significant positive relationship between problematic-mobile-phone use and academic procrastination of the college students. Level of education of the college students was significantly positively related with academic performance while it was significantly negatively related with problematic-mobile-phone use.

Table 3

Summary of Hierarchical Regression: Effect of Problematic-Mobile-Phone Use and Academic Procrastination on Academic Performance among College Students (N=200)

Predictors	Academic Performance	
	ΔR^2	B
Step 1	.09	
Age		-.02
Edu		.31***
Step 2	.42	
AP		-.13
PU		-.10
PUF1		.02
PUF2		-.10
PUF3		-.26*
PUF4		-.12
Total R ²	.51	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, AP= Academic Procrastination, PU= Problematic-mobile-phone use PUF1= Problematic-mobile-phone use (Dangerous Use), PUF2= Problematic-mobile-phone use (Prohibity Use), PUF3= Problematic-mobile-phone use (Dependence Use), PUF4= Problematic-mobile-phone use (Financial Problems).

Table 3 showed that level of education of the college students was a significant positive predictor while problematic-mobile-phone dependence use was significant negative predictor of the academic performance of college students.

Table 4

Comparison of Problematic-Mobile-Phone Use, Academic Procrastination and Academic Performance among College Students with Gender

Variables	Males (n=100)		Females (n=100)		T	P	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Per	67.85	8.13	64.00	8.01	3.37	.00	1.59	5.10	0.47
AP	65.11	11.41	64.65	17.65	.219	.82	-3.68	4.60	0.03
PU	71.56	19.41	81.32	24.57	3.11	.00	15.93	-3.58	24.57
PUF1	8.61	4.63	10.13	5.84	-2.01	.04	-2.97	-.02	0.28
PUF2	8.61	4.24	10.13	5.76	-2.14	.03	-2.93	-.10	0.30
PUF3	15.24	4.73	17.33	6.46	-2.60	.01	-3.67	-.50	0.36
PUF4	31.28	8.19	34.09	11.38	-2.00	.04	-5.57	-.04	0.28

Note: LL= Lower Limit, UL= Upper Limit, CI= Class Interval, M= Mean, SD= Standard Deviation, Per= Academic Performance, AP= Academic Procrastination, PU= Problematic-mobile-phone use, PUF1= Problematic-mobile-phone use (Dangerous Use), PUF2= Problematic-mobile-phone use (Prohibity Use), PUF3= Problematic-mobile-phone use (Dependence Use), PUF4= Problematic-mobile-phone use (Financial Problems).

Table 4 showed that there were significant differences in Problematic-mobile-phone use and Academic Performance among male and female College Students. Academic Performance is significantly different among male and female students and is high among male students. The table also showed that the problematic-mobile-phone use was significantly high among female college students.

Table 5

Comparison of Problematic-Mobile-Phone Use, Academic Procrastination and Academic Performance with Education System (Annual, Semester) among College Students

Variables	Annual (n=100)		Semester (n=100)		T	P	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
Per	53.53	7.83	68.32	8.05	-4.26	.00	-7.00	-2.57	1.86
Total AP	65.64	17.49	64.12	11.60	.72	.47	-2.62	5.66	0.10
PU	82.55	23.31	70.33	20.24	3.95	.00	6.13	18.30	0.55
PUF1	10.40	5.86	8.84	4.59	2.09	.03	.09	3.02	0.29
PUF2	10.11	5.77	8.63	4.22	2.06	.04	.06	2.89	0.29
PUF3	17.39	6.43	15.18	4.75	2.76	.00	.63	3.78	0.39
PUF4	34.37	11.00	31.00	8.59	2.41	.01	.61	6.12	0.34

Note: LL= Lower Limit, UL= Upper Limit, CI= Class Interval, M= Mean, SD= Standard Deviation, Per= Academic Performance, AP= Academic Procrastination, PU= Problematic-mobile-phone use, PUF1= Problematic-mobile-phone use (Dangerous Use), PUF2= Problematic-mobile-phone use (Prohibity Use), PUF3= Problematic-mobile-phone use (Dependence Use), PUF4= Problematic-mobile-phone use (Financial Problems).

Table 5 showed that problematic-mobile-phone use, academic procrastination and academic performance was significantly different among college students studying in annual and semester system. The results showed that academic procrastination and problematic mobile phone was significantly high among those college students studying in annual system. On the other hand, academic performance was significantly high among college students studying in semester system.

Discussion

The present study investigated the relationship among Problematic-mobile-phone use, Academic Procrastination and Academic Performance among College Students.

The first finding of the study revealed that Problematic-mobile-phone use had a significant negative relationship with academic performance of the college students which means that as the mobile phone use among college students increases, their academic performance decreases. This finding is consistent with many other researches (Lepp, Barkley, & Karpinski, 2013; Lepp, Barkley, & Karpinski, 2015; Olufadi, 2014;

Jumoke, Oloruntoba, & Blessing, 2015; Menayes, 2014; Beranuy, Oberst, Carbonell, & Chamarro, 2009). All these researches explored the relationship between mobile phone use and academic performance of the students and revealed that mobile phone use was significantly and negatively related to academic performance among students. Mobile phone has become an indispensable part of the people's life. More than a source of communication, it is a source of pleasure for people. On the other hand, it is becoming a cause of several problems for the students as well as other people. It can be said that mobile phone has a double-edged nature i.e. sometimes it is used as a performance enhancer device or sometimes as performance destroyer device. Apart from its pleasures and uses, the destroying effects of mobile phones especially for the students are too many.

The present study revealed that academic procrastination is significantly negatively related to academic performance of the college students. It shows that the more the students procrastinate, the less would be their academic performance. Our results are in line with the results of the study conducted by Tan, Ang, Yeo, Wong, Huan, and Chong (2008) investigating the relationship of Academic Procrastination and students' grade goals, which showed that procrastination was significantly and negatively related with academic success and grade goals of the students. Our finding is also consistent with many other researches (Kader, 2014; Lakshminarayan, Potdar, & Reddy, 2012 and Jiao, Voseles, Collins, & Onwuegbuzie, 2011). The academic procrastination in academic work may incorporate different academic matters, for example, final exam preparation, semester exam preparation, administrative works related to educational institutes, attendance in classes, assignments etc. Such matters may cause a few upsetting academic practices such as the one revealed in the present study i.e. low academic performance of the students.

Other finding of the present study revealed that there were significant gender differences in problematic-mobile-phone use among college students and female college students scored high on problematic-mobile-phone use than male students. The results were supported by the study of Beranuy, Oberst, Carbonell & Chamarro, (2009) who explored that there was a significant gender difference in maladaptive use of mobile phone.

The other finding of the present study revealed that there were significant differences in Problematic-mobile-phone use and academic performance among college students who study in different educational systems i.e. semester and annual system. Our findings revealed that academic performance of the students studying in semester system was high. The results are consistent with study of Yousaf and Hashim (2012) who explored the difference in annual and semester systems. The results showed that semester system provides better grading criteria, students obtain better marks, good job opportunities, thorough understanding of the concept in semester system. Thus, the study

highlighted the role of educational system in academic performance of the college students.

Conclusion

The results of the present study showed a significant negative relationship between problematic-mobile-phone use and academic performance of the college students and significant negative relationship between academic procrastination and academic performance of the college students. The findings of the study highlight the adverse effects of mobile phone use among students as it is related to academic procrastination and low grades. So, it recommends the college administration and higher education authorities to make policies regarding mobile phone use among students during classes, laboratories and other places where learning occurs. It will encourage the teachers, college administrators and the students too, to find out the ways in which mobile phones can be used to enhance the academic performance rather than worsening it. Findings of the study support for developing interventions for reducing academic procrastination among college students to help them enhance their academic performance. The present study also recommends students to put some limitations on frequent use of smart phone and quit such activities which cause a decline in their academic performance.

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