Smartphone Addiction Factors Effecting University Student Performance

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Abstract

Smartphone addiction is a growing social issue globally, especially among young consumers. Few studies have examined the role of smartphone addiction and student performance in Pakistan. However, how daily life disturbance, positive anticipation, withdrawal, cyberspace orientation, overuse, tolerance, and student academic performance has not been examined in the literature in Pakistan. The purpose of the study is to examine the effect of daily life disturbance, positive anticipation, withdrawal, cyberspace orientation, overuse, and tolerance on student academic performance. The study has adopted a self-administered survey-based approach. A total of 375 responses were gathered from the university students in Pakistan. The study has used SPSS 25.0 version to analyse the data and report the findings. The findings indicate that 'overuse' has the most indirect effect on students' performance, followed by Cyberspace and oriented relationship, tolerance, positive anticipation, and daily life disturbance. The study demands a particular intervention by the students to self-regulate their behaviour. Parents and teachers play their role in controlling mobile addiction. Policymakers may introduce policy-related interventions to control the excessive use of mobile phones. The study lays down future directions and discusses the limitations towards the end.

*Keywords***:** Smartphone addiction, Academic performance, Young Consumers.

Introduction

Mobile phone addiction is a unique kind of a challenge to individuals that is unheard of in the human history. Mobile phone usage has many social, economic, legal and ethical dimensions, however, its impact on individual's performance a growing concern. The immense popularity of mobile phones among youth and its excessive usage has posed

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many challenges to their performance. Smart phones have equipped users with many distinctive features however, this development has a darker side that cannot ignored and is generally termed as smart phone addiction (Kim, 2013). Smart phone usage on the basis of economic ability and age bracket is mostly found in university students (Head & Ziolkowski, 2012). Few studies indicate that smart phone addiction sometimes help reducing the negative mood swings and results in positive consequences as well (Griffiths, 1999; Shaffer, 1996). However, a plethora of studies report negative consequences of smart phone addiction especially on academic performance of students. Studies indicate that major activities carried out on smart phones that consumes most of the time of the consumers are texting, watching movies, listening music (Javid et al., 2011) and time spent on social media like Facebook, WhatsApp, Instagram etc.

A smart phone addict consumer depends so heavily on phone usage that he feel he cannot live without it. The over usage of smart phone effects the consumer's academic and social life and it transforms his way of life drastically (Arshad & Nikooghadam, 2014).Young consumers are spending most of their waking time on smart phone while engaging in social and emotional activities that are additive in nature. University students consider it provides them relief from the academic stress and parental supervision (Turel & Serenko, 2012). Studies have shown that an excessive use of smart phone causes severe academic and health issues (Thomée et al., 2011). It is also found to have a negative association with students' academic performance i.e. negatively associated with GPA (Karpinski et al., 2013).

Smartphone technology has changed the communication between consumers, behaviour seeking knowledge, lifestyle etc. Continuous participation in smart phone technology is now-a-days becoming part of life that shows reliance on technology as staring point (Pagani & Mirabello, 2011). Studies have shown that impulsive buying behaviour is also closely linked with consumer's mobile phone usage (James & Drennan, 2005).The excessive use and most of the time spent on smart phone becomes problematic in relations. Some studies have reported the boredom and feeling of loneliness associated with lack of mobile phone usage (Wang, 2017). The existing literature calls for further examining the antecedents of mobile phone addiction among young consumers especially students in order to better understand the phenomena (Karpinski et al., 2013).

The existing literature on Smartphone addiction in Pakistan is limited in scope and does not provide a complete understanding of the matter. Like the study of Khan, Khalid & Iqbal (2019) is limited to the students in private schools and Raza, Yousufi, Rafi, & Javaid (2020) examined only one institute. The study of Khalily, Saleem, Bhatti, Ahmad & Hussain (2019) provides the Urdu scale for Smartphone addiction and the study of Soomro, Zai, & Hina (2019) examined addiction with student satisfaction. Moreover, the

existing literature fails to provide a complete picture of the smart phone addiction as it merely examined few dimensions. There is a need to examine the full range of antecedents of mobile phone addiction on student performance like effects of daily life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse and tolerance. Hence there is a need to further examine the issue in a broader dimension and with a large sample. The study is empirical in nature that has adopted a self-administered survey-based approach. The target population of the respondents were the university students. The flow of the paper includes literature review, methodology, results, findings and conclusion.

Literature Review

The existing literature indicates a growing concern towards smart phone addiction and performance, especially among university students. Olson, Sandra, Colucci, Al Bikaii, Chmoulevitch, Nahas, & Veissière (2022) in their latest study on 24 countries have revealed that Smartphone addiction is alarmingly increasing among consumers around the world. According to this study mobile addiction is highest among consumers of China, Saudi Arabia and Malaysian and lowest consumer living in Germany and France. It is well established that the distinctive features and applications being offered by smart phones lays a foundation to such addiction (Parasuraman, Sam, Yee, Chuon, & Ren, 2017). Shen, Wang, Sun., & Liu (2022) reported a positive relationship between smart phone addiction and study related stress. Similarly, Serdar, Demirel, & Demirel (2022) found that university students when face boredom, they become dissatisfied and ultimately start using the smart phones immensely which results in Smartphone addiction. Studies show that smart phone addiction has a profound impact on individual's personality traits and problem-solving ability among university students (Ran, 2022). Studies also indicate that it also negatively affects university students' sleep quality and perceived stress (Sanusi, Al-Batayneh, Khader & Saddki, 2022). The studies also reveal that there is a close nexus between smartphone addiction and mental health issues among university students (Lee et al., 2014).

Young consumers are traditionally subject to combined stresses such as significant stress from their academic and daily lives. Most studies showed the negative impacts of addiction to the smart phones on students at universities. The excessive use of smart phone addiction has negative effects on the mental health of the students' academic performance and subjective to the wellbeing or happiness(Yang et al., 2019).The majority of students in universities use the smart phones in the class time and the study revealed negative relation with the smart phone and academic performance, positive relationship with anxiety and smart phone use (Olufadi, 2015).

The use of smart phone has the detrimental effects of texting and calling on a self-reported grade point average(GPA) for academic success of students(Jacobsen & Forste, 2011).Similarly, a study on Taiwan's female university students reveals that students spend most time on calling and texting that adversely affect their academic performance (Lepp et al., 2014).

A study shows that use of smart phone and students performance are negatively correlated(Junco, 2012). According to the statistics 60% of Pakistani young consumers are heavy users of smart phone. The study focuses primarily on university students. The importance of the study undertaken in this scenario has more realistic implications in the context of students' academic success in Pakistani universities(Ahmed et al., 2019). The study reveals that there are many problems caused due to student use of smart phones. student tend to use WhatsApp, Facebook, twitter or other social networking sites very frequently and spend so much time on them that conventional communication is replaced. The overuse of social media can also have a negative impacts on the academic performance (Cheon et al., 2012).

H1 (a): Daily life disturbance has negative relationship with student's academic performance.

Consumers are feeling more excited and enthusiasm when they are using their smart phones they feel get rid from stress and anxiety(Hong et al., 2012). The excessive usage of smart phone produces negative impact on youth in the form of academics and psychological damages (Kumari & Hooda, 2018).

H2(b): Positive anticipation has negative impact on student's academic performance

Smart phone consumers cannot leave their smart phone when they think about the separation from their smart phone they feel isolation and loneliness. They check their smart phone repeatedly (Uddin et al., 2018).The prevalence of smart phone addiction results in depression and anxiety which in turn affects the academic performance and life styles. Excessive usage of smart phone results negative effect on academic performance (Matar Boumosleh & Jaalouk, 2017).

H3(c): Withdrawal has negative impact on smart phone addiction.

The literature has showed that students spend most of their time on (OSN) online social networking and it becomes an essential part of their lives. They spend most of their time on developing cyberspace relationship as compared to their studies which causes negative impact on their academics (Busalim et al., 2019). Smart phones excessive usage

has been reported to negatively related with peer level relationship and bad academic performance (Jenaro et al., 2007).

H4 (d): Cyberspace oriented relationship has negative impact on student's academic performance.

The study shows that students using smart phone more than five or six hours in a day suffer from problems in their academics and family relationship and they cannot concentrate on their studies. An overage of smartphone in daily life is found to negatively impacting on students study routine and their other daily routine (Kim et al., 2019).

H5 (e): Overuse of mobile phone has negative impact on student's academic performance.

Students know that smart phone addiction is not good for them but they cannot resist the over-usage of smart phone. The excessive usage of smart phone has negative impact on their academic performance and mind but they are so addicted that they cannot give up their smart phone (Soyemi et al., 2015). Tolerance is the desire of an individuals to decrease his/her mobile phone usage that he/she fails to abide by. Hence it reflects a deep desire in the consumers to shun the bad habit of excessive usage of smartphones in their daily lives.

H6 (f): Tolerance has negative impact on smart phone addiction.

Figure 1: Conceptual Framework
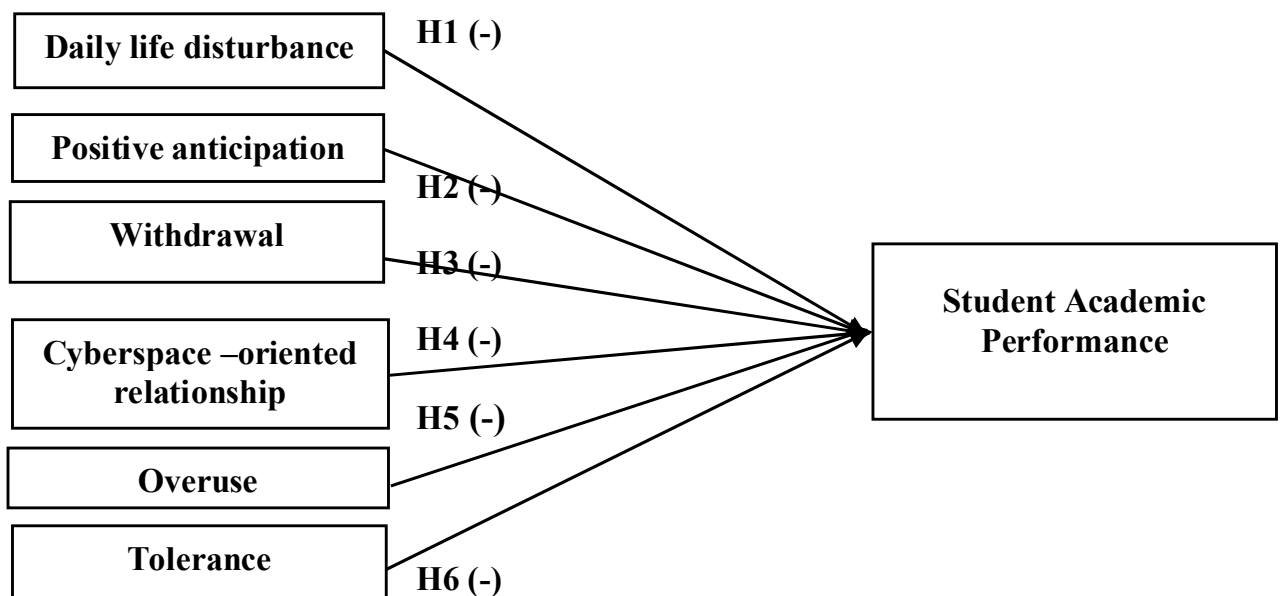
Methodology

The study adopted a self-administered survey-based approach. The target population of the study were the university students in Pakistan. The study used a convenience sampling procedure and the data was collected from the Hazara University, AUST University, Haripur University and COMSATS University Islamabad – Abbottabad Campus. A total of 375 responses were received out of which 352 were used in the final analysis. The study adopted a structured questionnaire from Al-Barashdi et al. (2015). The study has used a five-point Likert scale strongly disagree (1) to strongly agree (5) was used that is verified from literature. To analyse the data, the study has used the multiple regression analysis using SPSS Statistics 25.0.

Results

The data indicates that 62% male and 38% female responded to the survey questionnaire. Around 70% of them were of 20-25 years of age, 28% were between 25-30 years and only around 2% from 30-35 years of age. Only 37% admitted that they were addicted to smart phones whereas 63% denied. However, more than 63% students had less than 3.0 GPA. Table 1 provides a complete detail of the demographic factors. The descriptive analysis reveals that respondents showed agreement to smart phone causing daily life disturbance, positive anticipation, withdrawal, cyber oriented relationship, overuse and tolerance. Table 2 provides a complete picture of the descriptive analysis.

Table 1: Demographics

Demographic Factors	Group	Percentage
Gender	Male	62%
	Female	38%
Age	20-25	70.2%
	26-30	28.1%
	31-35	1.7%
Typical Use	Addicts	37.2%
	None addicts	62.8%
GPA	>3	63%
	3-3.5	31%
	3.5-4	6%

Table 2: Descriptive Analysis

		Mean	SD
1	Daily Life Disturbance.	3.53	1.164
2	Positive Anticipation.	3.66	1.006
3	Withdrawal.	3.38	1.313
4	Cyberspace Oriented relationship.	3.27	1.079
5	Overuse.	3.05	1.182
6	Tolerance.	3.14	1.215

Table 3 provides the values of the correlation analysis. The results indicate that there are significant relationships between different variables, however most of the relationship are moderate and there are no serious issues of multicollinearity.

Table 3: Correlation Analysis

|	1	2	3	4	5	6
Daily life disturbance.	-.322**					
Positive anticipation.	-.362**	.206**				
Withdrawal.	-.439**	.217**	.242**			
Cyberspace oriented relationship.	-.375**	.117*	.205**	.383**		
Overuse.	-.585**	.271**	.288**	.404**	.289**	
Tolerance	-4.67**	.243**	.207**	.506**	.326*	.483**

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

In order to perform a multiple regression Pallant (2007) recommends fulfilment of certain assumption which includes sample size, Multicollinearity and singularity, outliers, Normality, linearity, homoscedasticity, independence of residuals. The results indicate that the data is suitable to conduct multiple regression. The results of the regression indicate that daily life disturbance significant negatively impact the student's academic performance (B=-0.122, p<0.01) as hypothesized in H1. Similarly, positive anticipation of Smartphone usage is also found negatively impacting student's academic performance (B=-0.151, p<0.01) as hypothesized in H2. Withdrawal is also found negatively impacting the student's academic performance (B=-0.110, p<0.05) as hypothesized in H3. As

hypothesized cyberspace-orientation relationship is negatively impacting the student's academic performance (B=-0.141, p<0.05) in H4. Overuse is found strongly negatively impacting the student's academic performance (B=-0.360, p<0.01) as hypothesized in H5. Further, tolerance is not found associated with student's academic performance (B=-0.130, p>0.10) as hypothesized in H6.

Figure 2: Regression Model
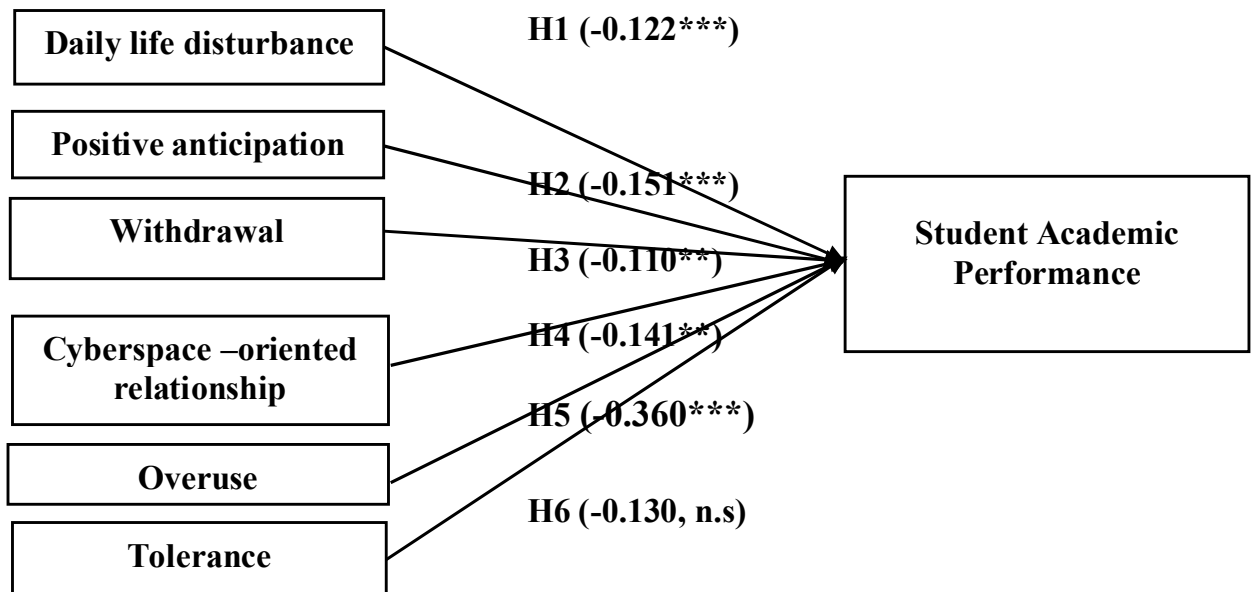
Note: R=0.646, R²=0.466, Adj R²=0.416, F-Statistics=250.530.
***=p <0.01, **=p<0.05, *=p<0.1, n.s=not significant

Discussion

The study attempted to examine the impact of Smartphone addiction i.e. daily life disturbance, positive anticipation, withdrawal, cyberspace orientation, overuse, tolerance on student's academic performance in Pakistan. The study adopted an empirical approach following self-administered survey methodology to gather the data. The results of the study indicate that smart phone addiction is adversely affecting the students' performance among university students in Pakistan. Which is in line with existing literature where similar results are reported (Khan et al., 2019).The literature indicates that smart phones divert the students attention from their studies which cause the lack of academic performance (Kamran, 2010).

The results of the regression indicate that daily life disturbance cause significantly negatively impact on student's academic performance. The findings align with the studies

of Hong et al., (2012) and Kumari & Hooda (2018). Hence students who frequently use smart phones get so much distracted that it adversely affects their academic performance. Mobile phone addiction causes a mismanagement of tasks especially those related to academics. Students get so much engaged that they fail to plan for their assignments and quizzes well in time. Similarly, positive anticipation of smart phone usage is also found negatively impacting student's academic performance. The finding indicates the phenomena in a better way that while students are convinced that smart phone has a positive impact on their lives however it leaves detrimental effects on their academic performance. It is true that smart phone and its distinctive features have changed the whole canvas and has brought ease in life. However, it's so engaging and addictive that it has adversely affected the average concentration time especially among students. The major findings of the study are supported with existing literature in the field. Uddin et al., (2018) identified smart phone addiction as they check their mobiles repeatedly. Hence the over engagement in smart phone results in less focus on studies and hence students' academic performance gets low (Matar Boumosleh & Jaalouk, 2017).

Withdrawal is also found negatively impacting the student's academic performance. It is quite natural that if someone is not fully prepared for a certain situation, he/she withdraws from such situations. Hence students have reported a withdrawal that ultimately negatively affected their academic performance. As hypothesized cyberspace-orientation relationship is negatively impacting the student's academic performance. The Overuse of mobile phone is found strongly negatively impacting the student's academic performance. It is often said that "excess of everything is bad", hence an overuse of smart phone usage is causing harm. The finding of the study also supports that it adversely affects the academic performance of the students. Kim et al., (2019) also reported that cyberspace oriented relationship is bad for academic performance. Besides The excessive usage of smart phone makes students addicts and they cannot leave their smart phone (Soyemi et al., 2015). However, tolerance is not found associated with students' academic performance. There is a need to further explore the possible reasons for tolerance not being associated with students' academic performance.

Conclusions, implications, limitations and future research

Smartphone addiction and dependency on the consumers is mostly affecting the young generation. Smartphone addiction is a serious phenomenon and is increasing rapidly with advancement in technology. It is very difficult for students to balance between their academics and over usage of smart phones(Junco et al., 2011).This study provides some practical implications based on the research that smart phone selling industries should make some policies that minimize and control the problematic use of smart phone.

Smartphone's excessive usage is hazardous to student's academic performance and their normal life. Universities should make some policies that incorporate the control on smart phone addiction(Paul et al., 2012).

Smartphone is omnipresent communication devices, with the passage of time and advancement smart phone devices are becoming problematic in the life of consumers because of. Consumer's behaviour is changing, their preference towards smart phone are becoming addiction which has negatively impact on their health and academics. The study reports that smart phone addiction among young consumer in Pakistan is increasing. This is adversely affecting the student's academic performance.

The study provides a foundation for further academic investigation in the matter through more in-depth analysis. Future studies may adopt a more qualitative approach to further understand the issue. The finding of the study is just the tip of the iceberg. Future studies may also examine its possible linkage with social issues like social relationships including family relationship between husband and wife, parent and child, student and teacher etc. Future studies may also include other sectors like corporate sector and the impact of excessive use of smart phones on employee's performance can be examined.

The findings of the study may be useful for the mobile phone service providers in Pakistan. The companies may devise their marketing campaigns around the findings of this study. As a corporate social responsibility, the service providers may provide time-bound packages to students, hence restricting students to overuse the smart phones especially during study hours. The government may also introduce certain policy interventions to discourage young students for overuse of the smart phones. The Government may introduce certain rules and regulations to instruct service providers regarding the provision of service packages to students like imposing "a limit on data usage" or "time-based restriction" for service usage etc. This study is first of its kind that has examined a range of different dimensions of the smart phone addiction in a single study. It is also among few studies that have examined the smartphone addiction among young consumers especially students in Pakistan.

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