

## **Effect of Smartphone Addiction on the Depression and Anxiety in the Students of Thal university Bhakkar**

Shoaib Raza Khan<sup>1</sup>, Muhammad Asif<sup>2</sup>, Ansar Abbas<sup>3</sup>

### **Abstract**

A smartphone is a device that has colorful display, internet connectivity and other fascinating features. The purpose of current study was to evaluate depression, anxiety and smartphone addiction in Thal University Bhakkar students. The need to study smartphone addiction was strongly required because of the associated factors like anxiety and depression. This research study examined the university students' physical, mental, and social behavior in addition to the incidence of smartphone addiction. In this respect, anxiety and smartphone addiction scales and depression was measured by using analytical tool Beck Depression Inventory (BDI) during study. The current study was carried out by using quantitative research method. Data was collected from 100 students of Thal University Bhakkar by using simple random sampling technique. It was found that excessive use of smartphone can lead to depression and anxiety due to the issues of sleep deprivation and sadness. It was recommended that the students who have the symptoms of depression and anxiety should be aware of the vulnerability to developing a smartphone addiction.

**Keywords:** Smartphone Addiction, Depression, Anxiety, Internet, Bhakkar, Regression analysis.

### **1. Introduction**

A smartphone is a gadget with a colorful display, internet connectivity and other fascinating features which are providing easiness to human beings. In this modern world, nobody is unaware of smartphone. It is impossible for someone to imagine their life without a smartphone. A smartphone is defined as "a device that performs many of the operations of a computer, usually with a touch screen interface, internet service, and an operating system capable of executing downloaded programs" (Oxford Dictionaries, 2016). Smartphone not only allow individuals to utilize applications, but they also keep them engaged and connected by incorporating social media or a functional application (Abbas et al., 2020). It enables us to communicate with someone hundreds of miles away via email, instant messaging, and voice over the Internet. We may use our smartphone to make phone calls and conduct other searches.(Boumosleh & Jaalouk, 2018)

A smart phone's ability to engage its user is astounding. Particularly young people have no idea how much of the day time they spend on their phones. These overuse-related outcomes include anxiety and sadness thus need to examine smartphone addiction (Alhassan & Alqadhib et al., 2018).

---

<sup>1</sup>MPhil Scholar, Department of Sociology, Thal University, Bhakkar

<sup>2</sup>MPhil Scholar, Department of Sociology, Thal University, Bhakkar

<sup>3</sup>MPhil Scholar, Department of Sociology, Thal University, Bhakkar

Recently, it is found that the mobile phone addiction has effects similar to the drug use has on the mind of drug users. If a person is spending more time in using smartphone, there is a higher possibility for him to fall into a behavioral addiction. Actually, the usage of mobile is purposeful at first, but as time passes, a person develops a strong desire for it. Younger generations of age group of 17 to 22 are especially susceptible to mobile addiction. Various studies are being undertaken in different places throughout the world to examine addiction behavior in various age groups. Recently, many studies were done among university students in Pakistan to determine how smartphone addiction causes to sadness and anxiety (Ashfaq & Abbas, 2018; Kim & Lee et al., 2014). Similar to drug addiction, there is persistent evidence of co morbidity between excessive smartphone usage and other mental diseases such as depression, anxiety, OCD, and ADHD. Furthermore, excessive smartphone use has been linked to feelings of loneliness, tension, and other undesirable emotions. To elaborate the leading factors that contribute to this behavioral addiction, the outcomes of the research were surprising. It was found that there is a strong relationship between the use of smartphone with depression and anxiety. Extreme usage was negatively affecting the student's mental and physical health as well as their studies (Abbas, Nasreen & Asiq, 2020; Boumosleh & Jaalouk, 2017).

In Pakistan, a survey was conducted by Global System for Mobile communication (GSMA) to get an idea about the use smartphone among males and females. One of the outcomes of the report was that 38 percent of the women are less likely to use mobile in comparison with males. This gap was even higher than before regarding the use of internet on smartphone (Aranda-Jan & Afia et al., 2020).

Internet facility was first time introduced to Pakistan in 1990's. Pakistan ranked among top 10 countries with highest internet users in the world. In this research study, we clearly elaborate that depression and anxiety are consequences of over usage of technology such as mobile phones. More than 4 hours usage of mobiles phones per day was found to be the leading cause of depression among 23 peers, who were examined with systematically. Extensive use of smartphone can cause to visual impairment, hand pain, back pain and similar physical problems. Using a smartphone for long hours can often lead to mental health problems. It also affects a person's personal life like mood swings and can interfere with work, and overuse can lead to relationship breakdown. People who use smart phones excessively have more problems than those one's who use less, such as anxiety, depression and state anxiety (Demirci & Akgonul, 2015). Addiction to smartphone can change lives and behavior. Man's habits change and those who consume too much of it do not get enough sleep and they do not eat food on proper time and do not go for exercise and eat such things that increase their weight as a result the they cannot properly digest their food and these factors are directly linked to depression and anxiety. An Arabic researcher's study has confirmed the extreme use of mobile phones is linked to a variety of factors, including sleep deprivation, health problems and diet. Based to these features, smartphone are become a common social phenomena. According to a recent survey by an opinion research organization (IPSOS-STAT), smartphone penetration across the entire population in Lebanon increased significantly from 36% in 2012 to 70% in 2014. Lebanon had the second highest growth rate (+34% points) among five Arab countries with available data (Kuwait: +37% points, UAE: +30% points, Saudi Arabia: +16% points, Egypt: +7% points), with Kuwait having the highest growth rate (+37% points, UAE: +30% points, Saudi Arabia: +16% points. Additionally, Lebanon had the second-highest growth among the five Arab nations (UAE: +19% points, Saudi Arabia: +16% points, Kuwait: +12% points, Egypt: -4% points) in terms of the percentage of smartphone owners with internet connection on their device (74% in 2012 to 90% in 2014). (Alhassan & Alqadhib et al., 2018).

Mostly, people in developed societies suffer from health problems such as, sleep deprivation. Students were aimed to learn about the use of smartphone to compete the world in technology and adopt the latest invention to cope with modern problems however, students misused this technology and thus caused depression, anxiety and decreased sleep quality in them.(Abbas, Ashiq & Abbas, 2020; Ayandele & Popoola et al., 2020) A research study in USA suggested that more than 1.5 billion people worldwide were using smart phones and then expected that more than one billion smart phones would be sell worldwide, and this was done in 2016. As a result, the use of smart phones has a profound effect on people's social, physical and psychological factors (Park, 2021).

Smartphone have changed modern day human life. People prefer usage of smartphone over other healthy activities like playing games and doing exercise. The use of smart phones in leisure time is the main cause of human laziness and anxiety/depression. We can say that our youth is becoming addict of smartphone. Smartphone have many advantages if used properly, such as increasing productivity, communication in easiest way, being aware of all kinds of information we needed. Overuse can lead to negative problems such as accidents, neck pain, anxiety, restlessness, sleep disturbances, and poor academic performance. (Kalyani & Reddi et al., 2019).

Study was not only focused on the prevalence of smartphone addiction but also the physical, mental health and social behavior among different groups of university students.

## **2. Research Objectives**

Following were the research objectives of the study;

1. To assess the prevalence of smartphone addiction among university students.
2. To examine the relationship between depression, anxiety and smartphone addiction among university students.

## **3. Methodology**

The research process involves different methods including assumptions, data collection tools, sampling size, sampling techniques, application of statistical techniques and various analyzes. The research was conducted under the supervision of head of department and assistant professor of department on Thal University, Bhakkar (Punjab, Pakistan) students who looked at depression, anxiety and smartphone addiction. The targeted population of study was the students of Thal university, Bhakkar. The students of age group of 17 to 22 years were selected as the data samples. Researchers collected data from Thal University Bhakkar students through simple questions. The questionnaire was constructed on Five Point Likert-Scales. The questions in the questionnaire consist of different questions containing information about the daily and average usage of smart phones and its impacts on the mental and physical health. To collect the authentic data about the research under the supervision of our supervisor, which consisted of 34 items, 30 questions which were purely about the study and four questions were about demographic information. Necessary safety measures like positive anticipation and cyberspace-oriented relationship are taken while formulating the questionnaires which increase the research rigor.

**Table 1***Frequencies and percentages of the variables*

Variable	Category	Frequency	Percentage
Age	18-20	58	58.0
	21-22	36	36.0
	23-24	3	3.0
	25 or elder	3	3.0
Gender	Male	32	32.0
	Female	67	67.0
Marital status	Single	1	1.0
	In a relationship	86	86.0
	Married	10	10.0
	Married	3	3.0
	Separated	1	1.0
Living status	Rural	57	57.0
	Urban	43	43.0

In the above table 1 it is shown that the age of the major category of respondent's was between 18 to 20 years. In the second variable 'gender' the major category of the respondents were females (n=67.67%). In the third variable 'marital status' the major category of respondents was single and the 4th variable is 'living status' the major category of the respondents are belonging to the rural areas (56%).

**Table 2***Correlation of smart phone use with Depression and Anxiety level*

Variables	1	2	3
1. Depression	1		
2. Anxiety	.648***	1	
3. Smartphone	.506***	.626***	1

\*\*\* p &lt; .001

In the above table 2 predicts that there is a strong and positive relationship present between Depression/anxiety and smartphone. The Pearson correlation test is applied in which the value of Pearson correlation is .506 which depicts that there is a strong and positive relationship between the dependent and independent variables. Moreover the value of Sig (2-tailed) is .000 which is less than the standard significance value i.e.0.05.

**Table 3***Explained variance of the model*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.506 <sup>a</sup>	.256	.249	6.89292

a. Predictors: (Constant), Depression

In the above table 3, the coefficient of determination value is shown by R. The value of R square shows that in the frame of independent variable when a unit changes then it would also change the same independent variable by the same unit. The value of R square shown by this table is .256. So an independent variable of smartphone is explained by the variance of .506 which also shows the dependent variable depression and anxiety.

The modified R square value also indicates the sample findings of the implications of the population. So there is a slight difference between the R-square and the adjusted R square value which shows that the results of the population sampled has a strong and highly positive effect on the population.

The use of the ANOVAs table is to determine whether or not the model fits the data well. Here the value of F ( $F(1, 98) = 33.746$ ,  $p = .000$ ) shows significant threshold is less than 0.05. Hence the model is considered to be well fitted and there is a strong and significant relationship between the dependent and independent variable.

**Table 4**

*Simple linear Regression Analysis for Depression value and Smartphone Addiction*

	<b>Unstandardized Coefficients (B)</b>	<b>Std. Error</b>	<b>Standardized Coefficients (Beta)</b>	<b>t</b>	<b>Sig.</b>
(Constant)	12.054	2.561		4.707	.000
Depression	.584	.101	.506	5.809	.000

a. Dependent Variable: Depression

This table 4 was used to determine the effect of dependent variable on independent variable i.e. to check the effect of anxiety and depression on the smartphone. The independent variable of smartphone use shows a positive and statistically increased level of depression ( $b = .506^{***}$ ,  $p < .001$ ).

Similarly, for the level of anxiety, a significant F value showed that the model is considered to be well fitted and there is a strong and significant relationship between the dependent and independent variable ( $F(1, 98) = 38.828$ ,  $p = .000$ ).

**Table 5**

*Simple linear Regression Analysis for anxiety level and Smartphone Addiction*

	<b>Unstandardized Coefficients (B)</b>	<b>Std. Error</b>	<b>Standardized Coefficients (Beta)</b>	<b>t</b>	<b>Sig.</b>
(Constant)	8.601	2.321		7.951	.000
Anxiety	.663	.083	.626	3.705	.000

a. Dependent Variable: Anxiety

This table 5 is used to determine the effect of dependent variable on independent variable i.e. to check the effect of anxiety and depression on the smartphone. The independent variable of smartphone addiction significantly increase the anxiety level among the university students ( $b = .626^{***}$ ,  $p < .001$ ).

#### 4. Conclusion

The end results showed that the anxiety and depression that leads to stress, sadness and poor quality of life were caused by the overuse of smartphone. Excessive use of it can lead to depression and anxiety in people. Its use can cause sleep problems. It was concluded that the 70% of the university students were smartphone addicted. University students use it in chatting, watching movies and in social activities and wasting much more of their precious time. Excessive use of smartphone can cause many problems like lack of physical interaction, always being in imaginative world and have no active participation in daily life things and these things can greatly affect a person's personality. These things can lead to problems such as depression, anxiety and lack of social contact with loved ones. People who use it a lot suffer from high stress which has a negative effect on human health and it reduces the positive attitude of human beings.

## 5. Discussion

Irrational behaviors related to smartphone use, tolerance and frequency of withdrawal symptoms were prominent. The data we collected from people showed that 70% people use their smart phones late at night and then feel tired during the day. The research was conducted at Thal University, Bhakkar, and collected data from 100 students on the prevalence of smartphone addiction and ratings of depression and anxiety among students who use smart phones frequently. 70% of the students looked depressed and stressed because of low performance in studies. They spent 3 to 4 hours of day time and 3 to 4 hours of night time on mobile phones. The purpose of using a smartphone (using it to call family, having fun and calling friends, listening to and watching news on it, texting and reading in it) shows a positive relationship with them. Used for recreational purposes, they increase anxiety. These findings suggest that overuse of smart phones may be linked to stress and relaxation standards. Overuse can lead to depression, anxiety and stress, and can lead to sleep problems. University students with high levels of depression and anxiety should be carefully monitored for smartphone addiction (Matar Boumosleh & Jaalouk, 2017).

Recent research suggests that overuse of smartphone can lead to depression and anxiety. Smartphone are having a huge impact on our personal lifestyle. Smartphone addicts are avoiding social activities, skipping meals, eating unhealthy foods and gaining weight (Kalyani & Reddi et al., 2018). The development and popularity of smartphone has radically changed our lives, affecting our entertainment, our social identity and this situation can be caused by excessive use of smartphone. People feel that using a smartphone is a part of their body. Excessive use of smartphone causes people to suffer from stress and anxiety and has been affected by their thinking (Kurniawan, Aryani et al. 2021).

Smartphone usage has been on the rise for the past decade. There is also a focus on how people are being affected by smartphone, the reasons why people are getting addicted to smartphone; the use of smartphone is associated with loneliness, self-confidence and excitement. There is a positive link between depression, anxiety and smartphone (Korkmazer & Yurdakul et al., 2021).

## 6. Recommendation

Smartphone, if it is used for beneficial purposes it can play a vital role in human life. On the other side we cannot ignore its negative effects. Beside the social life it also affects the personal life of users. This study contributes in highlighting the misuse of mobile phones among University students of age group 17 to 22 and how it causes the depression and anxiety in them and how its excessive use can addict the students. The study highlights and highly recommends the University students to keep themselves on schedule. Stay focused on the studies. Learn new skills to enhance themselves. Avoid socialization and keep themselves busy in healthy activities. The government should initiate such program that gives awareness about its negative aspects. The parents and teacher should keep an eye on the children and limit them from excessive use of Smartphone.

Our research is based on a quantitative method. The data was gathered from a limited number of respondents, that is, specifically in Thal University Bhakkar thus cannot be generalized it on all the people of Bhakkar. Therefore, to generalize the findings, other groups of the society and other groups of age may be investigated to analyse this situation in a broader spectrum. Further, it is recommended to study this problem through the lense of qualitative method as well.

## 7. References

- Abbas, N., Ashiq, U., & Abbas, A. (2020a). Mediating Effect of IT Tools Usage on the Relationship between Academic Self-Efficacy, Learning Attitude and Academic Performance. *Review of Applied Management and Social Sciences*, 3(3), 377-389. <https://doi.org/https://doi.org/10.47067/ramss.v3i3.72>
- Abbas, N., Ashiq, U., Hassan, S. M., & Alam, M. (2020). An Empirical Approach to Study Smartphones' Usage in Academic Performance of University Students. *Review of Applied Management and Social Sciences*, 6(2), 279-286. <https://doi.org/https://doi.org/10.47067/ramss.v3i2.61>
- Abbas, N., Nasreen, S., & Ashiq, U. (2020). Substantial Impact of Cognitive Interpretation, Organization and Social Factors on the Effective Information Technology Usage. *Review of Education, Administration and Law*, 3(3), 383-394. <https://doi.org/10.47067/real.v3i3.83>
- Alhassan, A. A et al., (2018). The relationship between addiction to smartphone usage and depression among adults: a cross sectional study. *BMC psychiatry*, 18(1), 1-8.
- Ashfaq, M. S., & Abbas, N. (2018). Uses of Mobile for Teaching and Learning, Effects and Influence Among Secondary Level Schools in Pakistan. *International Journal of Distance Education and E-Learning*, 4(1), 57-64
- Ayandele, O., Popoola, O. A., Oladiji, T. O. (2020). Addictive use of smartphone, depression and anxiety among female undergraduates in Nigeria: a cross-sectional study. *Journal of Health Research*, 34(5), 443-453.
- Boumosleh, J., & D. Jaalouk. (2018). Smartphone addiction among university students and its relationship with academic performance. *Global Journal of Health Science*, 10(1): 48-59.
- Demirci, K., Akgonul, M., & Akpinar, A. (2015). Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *J Behav Addict*. 2015; 4(2): p.85–92. pmid:26132913
- Kalyani, B., et al. (2019). Depression, anxiety and smartphone addiction among medical students. *IOSR Journal of Dental and Medical Sciences* 18(2): 33-37.
- Korkmazer, B. et al., A Cross-Sectional Study on the Relationship between Smartphone Addiction and Depression, Anxiety and Social Appearance Anxiety in Young Adults. *Journal of Istanbul Faculty of Medicine* 85(1): 91-97.
- Kurniawan, I. G. Y., et al. (2021). Correlation of depression and anxiety with smartphone addiction among medical clerkship. *Journal of Clinical and Cultural Psychiatry* 2(1): 11-14.
- Kim, D., Lee, Y., Lee, J., Nam, J., & Chung, Y. Development of Korean Smartphone addiction proneness scale for youth. *PLoS One*. 2014 May 21; 9(5): p. e97920. pmid:24848006
- Matar Boumosleh, J., & Jaalouk, D. (2017). Depression, anxiety, and smartphone addiction in university students- A cross sectional study. *PloS one*, 12(8), e0182239. <https://doi.org/10.1371/journal.pone.0182239>
- Park, E.-Y. (2021). Relation Between the Degree of Use of Smartphones and Negative Emotions in People With Visual Impairment. *Frontiers in Psychology* 12: 1704.