



## Study Of Smartphone Addiction Proneness and Neuroticism Among School-Going Teenagers

**Tejaswani Gaur**

Research Scholar, CT University

**Dr. Tehseen Saleem**

Supervisor, Department of Psychology, CT University

### Abstract

Due to its many uses as a gadget, the smartphone plays a crucial part in higher education. There have been reports of an increase in smartphone obsession among college and university students. Their scholastic achievement and mental health may suffer as a result of the addiction. The neurotic personality characteristic is one element that reliably correlates with smartphone addiction. In this research, neuroticism and smartphone obsession among adolescent students were investigated. Using a questionnaire, a sample of 125 school-going adolescents was obtained. The relationship between neuroticism and the propensity for smartphone obsession was investigated using the Spearman correlation. Chi-square and t-test analysis was done to look into the impact of smartphone obsession. According to this research, smartphone addiction is very common among adolescents who attend school. Given the relationship between the two was found to be substantial, smartphone addiction may result in neurotic personality characteristics.

**Keywords:** Smartphone addiction; Neuroticism; Personality Trait



## Introduction

Smartphones have the potential to enhance educational learning tasks for undergraduate and doctoral students [1]. Smartphones are used, for instance, to improve ongoing education and connect with professional partners via social media in the search for solutions [2]. Since smartphones have been invented, it is now necessary to look into their uses in higher education to understand the impacts of their use. Smartphones are portable electronics with cutting-edge connecting and processing skills that were created as mobile computing systems. It incorporates the functionality of mobile media players, pocket-sized digital cameras, compact cameras, and GPS navigation systems [3]. In addition, cellphone usage extends beyond just placing and getting conversations. Additionally, they are utilized for messaging, tracking, social networking, web surfing, and entertainment [4]. Researchers and producers are interested in the health-related applications of smartphones, which are growing more and more significant in the healthcare industry [5]. These devices have a variety of characteristics that can be used to their advantage, such as quick information entry, improved organization, and instant contact [6], and can undoubtedly be used to improve schooling [7]. However, smartphone addiction is a serious problem that affects people all over the world. It can cause both physical and psychological issues, such as aural and tactile delusions and muscle discomfort, and eye diseases [8].

In the bulk of industrialized nations, smartphone usage rates surpassed 50% [9]. By 2023, there will be over 911 million internet consumers in India, compared to 389 million in 2018. A mobile-oriented nation is created by the fact that smartphones continue to be the most common device used to access the internet [10]. Numerous studies that examined smartphone obsession have been conducted over the past few years [11,12,13,14]. The majority of these studies concentrated on smartphone obsession and its possible effects on people [15]. According to several studies, smartphone addiction is very common. For instance, the incidence was 46.9% in a Malaysian school [16] [17], 48% in a Saudi Arabian institution [18], 71.9% in a Saudi Arabian dental school [19], and 85.4% in an Indian school [20]. Addiction to smartphones was discovered to occur frequently, with modest in some studies, however, with Saudi Arabian students having a prevalence of 36.5% [22], Saudi Arabian students having a prevalence of 33.2%, and Chinese college students having a prevalence of



29.8% [4]. Given that over twenty percent of students enrolled in higher learning suffer from smartphone addiction, more research into the causes of the addiction and its impacts on students' well-being is required.

Previous research has linked smartphone addiction to neuroticism [27, 31], stress [11, 30], anxiety [26, 27, 28, 29, 30], melancholy [23, 24, 25, 31], and stress and anxiety. These investigations, however, involved both university students and the broader community. Additionally, to the best of our understanding, there are no studies linking smartphone addiction, psychiatric distress, and neurotic characteristics in school-going teenage students. Smartphones are used by students to access knowledge tools more easily [32,33,34]. Students studying almost universally own smartphones [35]. Applications for cell phones in education have reportedly improved feedback procedures, increased student engagement, and improved student-teacher contact [36,37,38,39]. Groups of students can communicate and learn more effectively by using instant messaging mobile apps like WhatsApp [40]. It's critical to understand how greater smartphone use affects students' psychological well-being.

## Literature Review

**Farah Madkhan (2022)** performed a study on Addiction to social media And Depression Among High School Students. This research examines the connection between social media consumption and depressive symptoms in Thai high school students. The study also examines how buddy and family ties affect addiction to social media. Two public high schools in the Uttaradit area conducted a survey of 1000 Thai high school pupils using a questionnaire. Structural equation modeling technique used for data analysis. The study's first important finding provided strong evidence for the beneficial impacts of online social networking addiction on melancholy. Therefore, melancholy is more likely to strike teenagers who use social media extensively. The study also discovered that relationships with friends and family have a detrimental impact on social media obsession.

**Alena Dolgoplova (2022)** conducted a study to investigate the relationship between smartphone usage and the prevalence of worry in Hong Kong. As our lives have become more and more reliant on and centered around the excessive usage of technology, the issue of smartphone overuse and its impact on the individual's well-being has lately come to light.



Numerous cross-sectional studies have shown a strong link between problematic smartphone use and elevated levels of worry and melancholy. The goal of the current study was to determine whether smartphone use, as a variable, is associated with another variable, anxiety level, in a sample of the population of Hong Kong during the Covid-19 pandemic epidemic, Summer of 2021. The study's results showed how such a strong correlation between the two factors might be cause for worry in terms of mental health.

**Poonam Vats, Palak Aggarwal (2019)** performed the study on Mobile phone addiction and personality. Mobile phones are a useful human creation, but it is also frequently observed that they are one of the main sources of addiction. The purpose of the current research is to analyse the personality characteristics of young masculine adults and examine mobile phone addiction. The study's factors were measured using two psychological instruments. 150 third-year undergraduate students from various institutions in the Delhi/NCR area were chosen for the research. Two scales, the Mobile Phone Addiction and the NEO Five Factor Inventory, were used. There were two stages to the study's execution. The two criterion groups were chosen using a method called non-probability purposive selection. (addicted & non-addicted). Statistics, both descriptive and inferential, were used to analyse the data. In contrast to men without mobile addiction, the results revealed that men with mobile addiction were less scrupulous, less receptive to new experiences, and more disagreeable. The research has the potential to be a future development in the fields of cyberpsychology and applied social psychology with the aim of educating Indian society about the negative effects of mobile phone addiction.

**Adriana Bianchi1, James G. Phillips (2005)** conducted the study to investigate indicators of problematic cell phone use. In many situations and places, using a mobile phone is prohibited or forbidden. Nevertheless, despite known security risks, laws, and unofficial restrictions, some people continue to use cell phones. This study used neuroticism to determine the outcome of hazardous cell phone use and potential indicators from the research on addiction. The Addiction Possibility Scale and degrees of general usage of mobile phones were independently used to verify the Mobile Chat Issue Use Scale, which was developed to assess the use of issues. Age, extraversion, and poor self-esteem were related to problem use, but not neuroticism.



## Research Methodology

The goal of this paper is to study smartphone addiction proneness and neuroticism among school-going teenagers. Data was collected from 125 school going teenagers from the northern region of India. Each volunteer received an assurance that their answers would be kept private and never used for any other reason. In this research study, a descriptive survey method was employed to find the smartphone addiction proneness and neuroticism level among school-going teenagers. To find out the research objective data was analyzed by Pearson correlation and chi sq test.

## Objectives:

- To measure the levels of smartphone addiction proneness and neuroticism among school-going teenagers.
- To measure the correlation between smartphone addiction proneness and neuroticism among school-going teenagers.
- To measure the effect of smartphone addiction proneness on neuroticism among school-going teenagers.

## Hypothesis Testing

H0 - The levels of Smartphone addiction proneness and Neuroticism will be low among school-going teenagers.

H1- The levels of Smartphone addiction proneness and Neuroticism will be high among school-going teenagers.

			Frequency	Percent	Valid Percent	Cumulative Percent
Smart Phone Proneness	Valid	Low	51	40.8	40.8	40.8
		High	74	59.2	59.2	100.0
		Total	125	100.0	100.0	
Neuroticism	Valid	Low	47	37.6	37.6	37.6



			Frequency	Percent	Valid Percent	Cumulative Percent
Smart Phone Proneness	Valid	Low	51	40.8	40.8	40.8
		High	74	59.2	59.2	100.0
		High	78	62.4	62.4	100.0
		Total	125	100.0	100.0	

Table no 1 depicts that the level of Smart Phone Proneness in 40.8 % of respondents is low and 59.2 % of respondents is high and the level of Neuroticism in 37.6 % of respondents is low and 62.4 % of respondents is high.

H0- There is no correlation between Smartphone addiction proneness and Neuroticism among school-going teenagers.

H2- There is a significant correlation between Smartphone addiction proneness and Neuroticism among school-going teenagers.

		Neuroticism
Smartphone addiction proneness	Pearson Correlation	-.272**
	Sig. (2-tailed)	.00
	N	125

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

Table no 2 depicts that there is a negative relation between Smartphone addiction proneness and Neuroticism among school-going teenagers and the sig value is 0.00.



H0- There is no effect of Smartphone addiction proneness on Neuroticism among school-going teenagers.

H3- There is a significant effect of Smartphone addiction proneness on Neuroticism among school-going teenagers.

		<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Smartphone addiction proneness * Neuroticism	Pearson Chi-Square	1371.210 <sup>a</sup>	945	.000
	Likelihood Ratio	371.210	945	1.000
	Linear-by-Linear Association	14.175	1	.000
	N of Valid Cases	125		

As shown in Table 3 above the p-value for the effect of Smartphone addiction proneness on Neuroticism among school-going teenagers is 0.00.

<b>Frequency</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std Error Mean</b>	<b>Lower</b>	<b>Upper</b>	<b>t</b>	<b>df</b>	<b>Sig (2-tailed)</b>
Smartphone addiction proneness * Neuroticism	-102.10	28.120	1.312	-105.190	101.383	54.121	124	.000

As shown in Table 4 above the p-value using the t test for the effect of Smartphone addiction proneness on Neuroticism is 0.00



## Findings

Table no 1 depicts that the level of Smart Phone Proneness in 40.8 % of respondents is low and 59.2 % of respondents is high and the level of Neuroticism in 37.6 % of respondents is low and 62.4 % of respondents is high, thus here rejecting null hypothesis H<sub>0</sub> and alternate hypothesis is accepted which claims that the levels of Smartphone addiction proneness and neuroticism will be high among school-going teenagers.

Table no 2 shows that among school-going adolescents, there is a negative correlation between being prone to smartphone obsession and neuroticism, with a sig value of 0.00, which is below 0.05. As a result, alternative hypothesis H<sub>2</sub>, which claims significant correlation between Smartphone addiction proneness and Neuroticism among school-going teenagers is accepted over null hypothesis H<sub>0</sub>

As shown in Table 3 above the p-value using chi sq for the effect of Smartphone addiction proneness on Neuroticism among school-going teenagers is 0.00. Further as depicted in Table 4, the p value using the t test for the effect of Smartphone addiction proneness on Neuroticism is 0.00. Thus, we reject the null hypotheses H<sub>0</sub> because the P value is below 0.05 and adopt the alternative hypothesis H<sub>3</sub>, which says that there is a significant effect of Smartphone addiction proneness on Neuroticism among school-going teenagers.

## Implications and future research

According to study hypothesis 3, neuroticism considerably predicts the degree of smartphone addiction. The findings indicate that smartphone obsession is very common among adolescents. This shows that a sizable portion of students is affected by excessive smartphone use, highlighting an issue that requires attention from all stakeholders. The reality that so many students are dependent on their smartphones raises serious concerns because it may affect how well they perform academically. People who are addicted to their smartphones may experience problems with time management, social interactions, and scholastic success as a result of their addiction. [45]. This could have an impact on the academic success of the institution as a whole. This study's high incidence of smartphone obsession demonstrates that these people are vulnerable to issues. Students who exhibit severe smartphone obsession should be watched and provided additional support. Since prevention is always preferable to



treatment, it is advised to identify smartphone addiction in young people as soon as possible [46]. The study's findings have ramifications for intervention by serving as a baseline for studies integrating strategies specifically designed for students with smartphone addiction. This should target the pupils who exhibit the neuroticism psychological trait, who are the most at risk.

## Conclusions

According to this research, smartphone addiction is very common among adolescents. Students who possess the neuroticism personality characteristic were found to be the most susceptible to the potential psychological effects of smartphone addiction. To lessen the harmful impacts on psychological health, it is necessary to develop and execute programs that encourage responsible smartphone use. By doing this, one can apply successful methods for intervention and protection with groups of pupils who are addicted to their smartphones. We think that with the right instruction, pupils might be able to use their smartphones in a more responsible manner.



## References

1. Masters K, Ellaway RH, Topps D, Archibald D, Hogue RJ. Mobile technologies in education: AMEE guide no. 105. *Med Teach*. 2016;38(6):537–49.
2. Joshi N, Lin M. The smartphone: how it is transforming education, patient care, and professional collaboration. *African J Emergency Med*. 2013;4(3):152–4.
3. Kwon M, Kim D-J, Cho H, Yang S. The smartphone addiction scale: development and validation of a short version for adolescents. *PLoS One*. 2013;8(12):e83558.
4. Chen B, Liu F, Ding S, Ying X, Wang L, Wen Y. Gender differences in factors associated with smartphone addiction: a cross-sectional study among college students. *BMC Psychiatry*. 2017;17(1):341.
5. Sandholzer M, Deutsch T, Frese T, Winter A. Predictors of students' self-reported adoption of a smartphone application for education in general practice. *BMC Med Educ*. 2015;15(1):91.
6. Robinson T, Cronin T, Ibrahim H, Jinks M, Molitor T, Newman J, et al. Smartphone use and acceptability among students: a questionnaire-based study. *J Med Syst*. 2013;37(3):9936.
7. Almunawar MN, Anshari M, Susanto H, Chen CK. Revealing customer behavior on smartphones. *Int J Asian Business Information Manage (IJABIM)*. 2015;6(2):33–49.
8. De-Sola J, Talledo H, Rubio G, de Fonseca FR. Development of a mobile phone addiction craving scale and its validation in a Spanish adult population. *Front Psych*. 2017;8:90.
9. Van Deursen AJ, Bolle CL, Hegner SM, Kommers PA. Modeling habitual and addictive smartphone behavior: the role of smartphone usage types, emotional intelligence, social stress, self-regulation, age, and gender. *Comput Hum Behav*. 2015; 45:411–20.
10. Malaysian Communications and Multimedia Commission. Hand phone users Survey 2017; 2017. Available from: <https://www.mcmc.gov.my/skmmgovmy/media/-/General/pdf/HPUS2017.pdf>.



11. Chiu S-I. The relationship between life stress and smartphone addiction on Taiwanese university student: a mediation model of learning self-efficacy and social self-efficacy. *Comput Hum Behav.* 2014;34:49–57.
12. Demirci K, Akgönül M, Akpınar A. Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *J Behav Addict.* 2015;4(2):85–92.
13. Ghosh A, Jha R, Malakar SK. Pattern of smartphone use among MBBS students in an Indian college. *IJAR.* 2016;2(5):389–92.
14. Gowthami S, Kumar S. Impact of smartphone: a pilot study on positive and negative effects. *Int J Scientific Eng Appl Sci (IJSEAS).* 2016;2(3):473–8.
15. Toda M, Monden K, Kubo K, Morimoto K. Mobile phone dependence and health-related lifestyle of university students. *Soc Behav Personal Int J.* 2006;34(10):1277–84.
16. Ching SM, Yee A, Ramachandran V, Lim SMS, Sulaiman WAW, Foo YL, et al. Validation of a Malay version of the smartphone addiction scale among students in Malaysia. *PLoS One.* 2015;10(10):e0139337.
17. Nikmat AW, Hashim NA, Saidi MF, Zaki NSM, Shukri NNH, Abdulla NB. The use and addiction to smart phones among students and staffs in a public University in Malaysia. *Asean J Psychiatry.* 2018;19(1):98–104.
18. Aljomaa SS, Qudah MFA, Albursan IS, Bakhiet SF, Abduljabbar AS. Smartphone addiction among university students in the light of some variables. *Comput Hum Behav.* 2016;61:155–64.
19. Venkatesh E, Al Jemal MY, Al Samani AS. Smart phone usage and addiction among dental students in Saudi Arabia: a cross sectional study. *Int J Adolesc Med Health.* 2017;31(1). <https://doi.org/10.1515/ijamh-2016-0133>.
20. Sethuraman AR, Rao S, Charlette L, Thatkar PV, Vincent V. Smartphone addiction among college students in the Andaman and Nicobar Islands. *Int J Commun Med Public Health.* 2018;5(10):4273–7.



21. Qudah MFA, Albursan IS, Bakhiet SFA, Hassan EMAH, Alfnan AA, Aljomaa SS, et al. Smartphone Addiction and Its Relationship with Cyberbullying Among University Students. *Int J Ment Health Ad.* 2019;17(3):628–43.
22. Alhazmi AA, Alzahrani SH, Baig M, Salawati EM, Alkatheri A. Prevalence and factors associated with smartphone addiction among students at king Abdulaziz University, Jeddah; 2018.
23. Tran TD, Tran T, Fisher J. Validation of the depression anxiety stress scales (DASS) 21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. *BMC Psychiatry.* 2013;13(1):24.
24. Alosaimi FD, Alyahya H, Alshahwan H, Mahyijari NA, Shaik SA. Smartphone addiction among university students in Riyadh, Saudi Arabia. *Saudi Med J.* 2016;37(6):675–83.
25. Matar Boumosleh J, Jaalouk D. Depression, anxiety, and smartphone addiction in university students- a cross sectional study. *PLoS One.* 2017;12(8): e0182239.
26. Yusoff MSB, Rahim AFA, Aziz RA, Pa MNM, Mey SC, Ja'afar R, et al. The validity and reliability of the USM personality inventory (USMaP-i): its use to identify personality of future students. *Intern Med J.* 2011;18(4):283–7.
27. Kwon M, Lee J-Y, Won W-Y, Park J-W, Min J-A, Hahn C, et al. Development and validation of a smartphone addiction scale (SAS). *PLoS One.* 2013;8(2): e56936.
28. Alhassan AA, Alqadhib EM, Taha NW, Alahmari RA, Salam M, Almutairi AF. The relationship between addiction to smartphone usage and depression among adults: a cross sectional study. *BMC Psychiatry.* 2018;18(1):148.
29. Bian M, Leung L. Linking loneliness, shyness, smartphone addiction symptoms, and patterns of smartphone use to social capital. *Soc Sci Comput Rev.* 2015;33(1):61–79.
30. M-o K, Kim H, Kim K, Ju S, Choi J, Yu M. Smartphone addiction: (focused depression, aggression and impulsion) among college students. *Indian J Sci Technol.* 2015;8(25):1–6.
31. Hong ENC, Hao LZ, Kumar R, Ramendran C, Kadiresan V. An effectiveness of human resource management practices on employee retention in institute of higher learning: a regression analysis. *Int J Bus Res Manag.* 2012;3(2):60–79.



32. Jamal A, Temsah M-H, Khan SA, Al-Eyadhy A, Koppel C, Chiang MF. Mobile phone use among residents: a cross-sectional multicenter survey in Saudi Arabia. *JMIR Mhealth Uhealth*. 2016;4(2): e61.
33. Robinson R. Spectrum of tablet computer use by students and residents at an academic center. *PeerJ*. 2015;3: e1133.
34. Pulijala Y, Ma M, Ju X, Benington P, Ayoub A. Efficacy of three-dimensional visualization in mobile apps for patient education regarding orthognathic surgery. *Int J Oral Maxillofac Surg*. 2016;45(9):1081–5.
35. Browne G, O'Reilly D, Waters C, Tummon O, Devitt D, Stewart B, et al. Smart-phone and app use amongst Irish students: a survey of use and attitudes. In: *BMC proceedings*; 2015. BioMed Central.
36. Cochrane T, editor *Mobile social media as a catalyst for pedagogical change*. EdMedia+ innovate learning; 2014: Association for the Advancement of computing in education (AACE).
37. Makoe M. Exploring the use of MXit: a cell-phone social network to facilitate learning in distance education. *Open Learning*. 2010;25(3):251–7.
38. Nicholson S. Socialization in the “virtual hallway”: instant messaging in the asynchronous web-based distance education classroom. *Internet High Educ*. 2002;5(4):363–72.
39. Rambe P, Bere A. Using mobile instant messaging to leverage learner participation and transform pedagogy at a South African University of Technology. *Br J Educ Technol*. 2013;44(4):544–61.
40. Raiman L, Antbring R, Mahmood A. WhatsApp messenger as a tool to supplement education for students on clinical attachment. *BMC Med Educ*. 2017;17(1):7.
41. Madkhan, F., & Charoensukmongkol, P. (2022). SOCIAL MEDIA ADDICTION AND DEPRESSION IN HIGH SCHOOL TEENAGERS: THE ROLE OF FAMILY AND PEER ATTACHMENT.



42. Dolgoplova, A., Marchant, R., & Brown, A. (2022). Association between smartphone addiction and the level of anxiety in the Hong Kong population.
  43. Vats, P., & Aggarwal, P. (2019). Mobile phone addiction and personality. *IAHRW International Journal of Social Sciences Review*, 7(6-I), 2028-2034.
  44. Bianchi, A., & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *Cyberpsychology & behavior*, 8(1), 39-51.
  45. Hong F-Y, Chiu S-I, Huang D-H. A model of the relationship between psychological characteristics, mobile phone addiction and use of mobile phones by Taiwanese university female students. *Comput Hum Behav*. 2012;28(6):2152-9.
  46. Kim H. Exercise rehabilitation for smartphone addiction. *J Exercise Rehabilitation*. 2013;9(6):500.
-